

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0206

NPDES NO. CAS082597

WASTE DISCHARGE REQUIREMENTS
FOR
COUNTY OF SACRAMENTO AND
CITIES OF CITRUS HEIGHTS, ELK GROVE, FOLSOM, GALT AND SACRAMENTO
STORM WATER DISCHARGES FROM
MUNICIPAL SEPARATE STORM SEWER SYSTEMS
SACRAMENTO COUNTY

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

1. The County of Sacramento and the Cities of Citrus Heights, Elk Grove, Folsom and Galt jointly submitted a Report of Waste Discharge dated 3 November 2000. The City of Sacramento submitted a separate Report of Waste Discharge also dated 3 November 2000. These reports were submitted to request renewal of waste discharge requirements under the National Pollutant Discharge Elimination System (NPDES) to permit discharge of storm water from municipal separate storm sewer systems (MS4s) within their jurisdictions.
2. Prior to issuance of this Order, the County of Sacramento and the Cities of Folsom, Galt and Sacramento were covered under the NPDES area-wide municipal storm water permit (NPDES No. CAS082597, Order No. 96-105) that was adopted on 3 May 1996.
3. The incorporated Cities of Citrus Heights, Elk Grove, Folsom, Galt and Sacramento (hereafter Cities) and Sacramento County (hereafter County) are each referred to separately as a Permittee (collectively Permittees). On 28 July 1992, the Permittees (except the Cities of Citrus Heights and Elk Grove) entered into a Memorandum of Understanding (MOU) to share costs and other resources for implementing NPDES program activities. The MOU will be updated to include the recently incorporated Cities of Citrus Heights and Elk Grove in accordance with this Order.
4. The County and the City of Sacramento are defined as large municipalities (i.e., those with populations greater than 250,000) in the Code of Federal Regulations (40 CFR 122.26(b)(7)). As such, the County and the City of Sacramento must obtain an NPDES municipal storm water permit.
5. The City of Folsom is an urbanized area with a population of about 50,000. Because of its proximity to the urbanized areas of the County, and the location of its storm sewer system discharges relative to discharges from the County's system, Folsom was designated in 1990 as part of the large MS4 (40 CFR 122.26(b)(4)(iii)).

6. The City of Galt is an urbanized area with a population of about 20,000. Galt is unlike the other Permittees in that its MS4 is non-contiguous with the other MS4s; it is also surrounded by rural and agricultural areas that are not subject to the NPDES regulations. Galt became part of the Phase I Sacramento Storm Water Management Program voluntarily in 1990.
7. The Cities of Citrus Heights and Elk Grove are recently incorporated Cities, each with a population of less than 100,000 and with contiguous urbanized areas within the County. Therefore, the Cities of Citrus Heights and Elk Grove are designated as part of the large MS4.
8. The incorporation of Rancho Cordova was approved by the voters in the 5 November 2002 election. The incorporation is scheduled to take effect 1 July 2003. The newly incorporated City of Rancho Cordova will have a population of approximately 52,000 and will be contiguous with the main urbanized area of Sacramento County. The area to be incorporated as the City of Rancho Cordova was covered under the County of Sacramento's Report of Waste Discharge dated 3 November 2000. Effective 1 July 2003, or as soon thereafter as Rancho Cordova is incorporated, the City of Rancho Cordova is designated as part of the large MS4 and covered under this Order.
9. Additional cities located in Sacramento County may be incorporated during the life of this Order. If that occurs, the Order may be reopened to consider designating those cities as part of the large MS4, and subject to the requirements of the Order.
10. The Permittees have jurisdiction over and/or maintenance responsibility for their respective MS4s that they own and operate in Sacramento County. The storm water discharge consists of urban runoff generated from various land uses discharging from MS4s into smaller tributary watercourses and the primary rivers flowing through Sacramento County. The quality and quantity of these discharges varies considerably due to the effects of land use, season, geology, and the sequence and duration of hydrologic events.
11. This Order is not intended to restrict or control local land use decision-making authority. The Permittees retain authority to make the final land-use decisions and retain full statutory authority for deciding what land uses are appropriate at specific locations within each Permittee's jurisdiction. The Regional Board recognizes that the Permittees' land use authority allows urban developments that may generate pollutants and runoff that could impair receiving water quality and adversely impact beneficial uses. The Permittees are therefore responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Federal Clean Water Act (CWA) requirement to reduce the discharge of pollutants in municipal storm water to the maximum extent practicable (MEP).
12. 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., mosquitoes and rodents). This Order expects the Permittees to 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.

13. There are portions of the County and Cities that are mainly agricultural, rural and open space land. 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 of the County and Cities are exempt from the requirements of this Order.
14. 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, thereby 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.
15. 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 of 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

16. 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 discharges may contain pollutants that may lower the quality of receiving

waters and adversely impact beneficial uses of the Sacramento River and Delta. Studies indicate that there may be increases in pollutant levels and aquatic toxicity in receiving waters as a result of urban storm water discharges.

17. 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.
18. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Sacramento Region. The causes of impairments include pollutants of concern identified by the Permittees in local municipal storm water discharges. Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.
19. The discharge of wash waters and contaminated storm water from industries and businesses specified in this Order for inspection by Permittees is considered by the Regional Board to be an environmental threat that can adversely impact public health and safety. The pollutants of concern in such wash waters include food waste, suspended solids, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. Illicit discharges from automotive service facilities and food service facilities have been identified elsewhere as a major cause of widespread contamination and water quality problems (Washtenaw County Statutory Drainage Board - 1987 Huron River Pollution Abatement Program).
20. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that the Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective sources are: polycyclic aromatic hydrocarbons (PAHs) which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, pesticides from urban applications, and naturally occurring minerals from local geology. However, 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 to the MEP.
21. The Permittees have been monitoring receiving water and urban runoff discharges in Sacramento County since 1991. The Permittees have also developed a target pollutant reduction strategy that compiles available data from this and other programs, identifies and prioritizes target pollutants, identifies the most probable sources of those pollutants, and systematically implements control measures to control those sources. This process has indicated that the following, among others, are not currently pollutants of concern for Sacramento County waterways: cyanide, total phenols, dissolved phosphorus, fluoride, methyl tertiary butyl ether (MTBE), aluminum, antimony, beryllium, hexavalent chromium, selenium, silver and thallium. Because they are not constituents of concern, these constituents have a reduced monitoring frequency under the

Monitoring and Reporting Program component of this Order. The target pollutant reduction strategy has indicated that the following, among others, are target pollutants for this area: diazinon, chlorpyrifos, copper, lead, mercury and coliform/pathogens.

Statutory and Regulatory Considerations

22. 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.
23. The CWA authorizes the U.S. Environmental Protection Agency (USEPA) to permit a state to serve as the NPDES permitting authority in lieu of the USEPA. The State of California has in-lieu authority for the NPDES program. The Porter-Cologne Water Quality Control Act 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. The State Board entered into a Memorandum of Agreement with the USEPA, on 22 September 1989, to administer the NPDES Program governing discharges to waters of the United States.
24. The Water Quality Act of 1987 added Section 402(p) to the federal CWA (33 U.S.C. § 1251-1387). Section 402(p)(3)(B) of this act requires that NPDES permits for discharges from MS4s shall require controls to reduce the discharge of pollutants to the MEP. Section 402(p) also requires the USEPA to establish regulations setting forth NPDES requirements for storm water discharges in two phases:
 - The USEPA 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 16 November 1990 (*55 Fed. Reg.* 47990).
 - The USEPA 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 USEPA 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 8 December 1999 (*64 Fed. Reg.* 68722).
25. Section 402 (p) of the CWA (33 U.S.C. § 1342(p)) provides that MS4 permits must “require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design engineering method and such other provisions as the [USEPA] Administrator or the State determines appropriate for the control of such pollutants.” The State Board’s 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 BMP costs would exceed any benefit to be derived (dated 11 February 1993).

26. The State Board, on 17 June 1999, adopted Order No. WQ 99-05, which, in a precedent-setting decision, identified 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, USEPA policy, and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th Cir, 1999). In a memorandum dated 14 October 1999, the State Board OCC determined that the federal court decision did not conflict with State Board Order No. WQ 99-05.
27. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to protect beneficial uses and to reduce the discharge of pollutants in storm water to the MEP to the waters of the United States from the permitted areas in the County of Sacramento subject to the Permittees' jurisdiction.
28. Section 402(p)(3)(B)(ii) of the CWA requires NPDES permits to effectively prohibit non-storm water discharges into MS4s. The CWA's corresponding regulations (40 CFR 122.26(d)(2)(iv)(B)(1)) require control programs to prevent illicit discharges to the MS4s. Certain categories of non-storm water discharges or flows are allowed to enter the MS4s provided that the Permittees have not identified such categories as sources of pollutants to waters of the United States.
29. The State Board has issued NPDES General Permits for the regulation of storm water discharges associated with industrial activities (including construction activities). 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 the Permittees. This Order requires the Permittees to conduct local compliance inspections at industries or construction sites covered under State NPDES General Permits that discharge to their MS4s. The Permittees are not authorized to enforce these NPDES permits. However, the Permittees, through inspection of these facilities for compliance with their local regulations, can bring apparent General Permit compliance problems to the attention of Regional Board staff as a means of attaining more widespread compliance.
30. Federal regulations (40 CFR 122.26(d)(2)(iv)(B)(1) 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 loading to the MS4. This permit, consistent with the USEPA policy, incorporates a cooperative partnership, including the specifications of minimum expectations, between the Regional Board and the Permittees for the inspection of priority industrial facilities and commercial facilities to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).
31. When industrial or construction site discharges occur in violation of local permits and ordinances, the Regional Board will first rely on the municipality where the discharge occurred to take 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 General Permits. If the municipality has been negligent in its enforcement efforts in compliance with this Order, 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 an adequate level of enforcement action against illegal discharges from other land uses (e.g., commercial and residential development) covered by this Order and authorized by the Permittee.

32. It is the Regional Board's intent that this Order shall ensure reasonable further progress toward the attainment of applicable water quality standards and protection of beneficial uses of receiving waters. In order to accomplish this, this Order therefore prohibits discharges from causing violations of applicable water quality standards or causing conditions to occur that create a condition of nuisance or water quality impairment in receiving waters as a result of MS4 discharge. Accordingly, this Order requires the effective implementation of BMPs to reduce pollutants in storm water discharges to the MEP.
33. Federal, state, regional or local entities within the Permittee's boundaries not currently named in this Order operate storm drain facilities and/or discharge storm water to the storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under the state and federal regulations. Consequently, the Regional Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges. Caltrans is a state agency that is currently designated as one of the entities. On 15 July 1999, the State Regional Board issued a separate NPDES storm water permit to Caltrans, NPDES No. CAS000003 (Order No. 99-06-DWQ). The Regional Board 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 Permittee.
34. The Regional Board adopted a *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 standards, and contains implementation programs and policies to achieve water quality standards for all waters of the Basin. This Order implements the Basin Plan through the effective implementation of BMPs to reduce pollutants in storm water discharges to the MEP.
35. The beneficial uses of the American River, Cosumnes River, Mokelumne River, Sacramento River, and the Delta downstream of the discharge as identified in Table II-1 of the Basin Plan are municipal, domestic, industrial and agricultural supply; water contact and non-contact recreation; aesthetic enjoyment; navigation; groundwater recharge; fresh water replenishment; and preservation and enhancement of fish, wildlife and other aquatic resources. Tributaries of the waters may have similar beneficial uses.
36. The beneficial uses of the underlying groundwater beneath the Sacramento County urbanized areas, as specified in the Basin Plan, are municipal and domestic water supply, industrial service, industrial process and agricultural supply.
37. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on 26 August 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. The policy states that, “the CWA does not say that effluent limitations need be numeric.” As a result, the policy concludes that USEPA and the States have flexibility in terms of how to express effluent limitations. This position was subsequently upheld in court when the Ninth Circuit’s decision in *Defenders of Wildlife vs. Browner* found that the establishment of numeric effluent limits is not required.

38. 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. This Order requires the implementation of BMPs and performance standards identified in the Permittees’ Storm Water Quality Improvement Plans (SQIP) 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’ SQIPs and their schedules constitutes compliance with the MEP standard.
39. 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. The effluent limitations in this Order are therefore narrative, and include the requirement to effectively prohibit non-storm water discharges into the storm sewers. Until such time that effluent limits are developed, implementation of the iterative BMP approach constitutes compliance with CWA Section 402 for effluent limitation standards.
40. Federal regulations (40 CFR 122.42(c)(7)) require the Permittees to submit an annual report that identifies water quality improvements or degradation.
41. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (Public Resources Code, § 21100, et. seq.) in accordance with Section 13389 of the California Water Code.
42. 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 the hearing, provided that USEPA has no objections.

Storm Water Quality Improvement Plan

43. Federal regulations (40 CFR 122.26(d)(2)(iv)) require that a storm water management program (a.k.a., Storm Water Quality Improvement Plan or SQIP) be implemented during the term of this Order. During this period, the Permittees shall demonstrate implementation of the SQIP and compliance with this Order through the information and data supplied in the Annual Reports.
44. This Order requires evaluation of existing water quality impacts from storm water discharges, and the implementation and evaluation of the Permittees’ SQIPs to reduce the discharge of pollutants from MS4s to the MEP and to improve water quality and protect beneficial uses. Implementation of the Permittees’ SQIPs and programs to reduce pollutant loads from industrial

and construction sites, new development, and existing urbanized areas is required as part of this Order. Additionally, this Order requires evaluation of the effectiveness of the Permittees' SQIPs and programs in reducing the discharge of pollutants, attaining water quality standards and protecting beneficial uses.

45. The Permittees submitted their SQIPs in November 2000. The SQIPs include 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 within each Permittee's jurisdiction. Each SQIP is a site-specific modification of the existing Comprehensive Storm Water Management Program required under the previous MS4 permit, Order No. 96-105. The County and the Cities of Citrus Heights, Elk Grove, Folsom, and Galt jointly submitted a SQIP (County SQIP). The City of Sacramento submitted a separate SQIP (City SQIP). On 10 April 2001, Regional Board staff sent a letter to all Permittees to express agreement with the SQIPs subject to the condition that the SQIPs be revised in accordance with this Order.
46. The SQIPs describe the framework for management of storm water discharges during the five-year term of this Order. The SQIPs describe the goals and objectives, legal authority, source identification process, funding sources, fiscal analysis, performance standards, Best Management Practice evaluation and improvement process, and monitoring plan of the Permittees' storm water management program.
47. The Permittees' SQIPs contain comprehensive activities that provide the framework and direction for each Permittee to implement BMPs. The Permittees' SQIPs include joint program and individual Permittee activities as described below.
 - a. Joint Program Activities:
 - i. Target Pollutant Reduction Strategy – Based on the Permittees methodologies, Target Pollutants have been identified and prioritized that have the potential to cause exceedances of water quality standards and impairment of beneficial uses. Many of these Target Pollutants are also 303(d) listed constituents. Pollutant sources and control measures are identified and strategies developed to focus joint program resources and activities.
 - ii. Monitoring Program - This program provides information to characterize storm water discharge and receiving water quality, evaluate BMP performance, and assess SQIP effectiveness.
 - iii. Program Evaluation Activities - Evaluation activities are a required and important aspect of the Program. Conducting assessments and evaluating performance standards and BMP studies allow for modification and continued improvement of program activities.

b. Individual Permittee-Specific Activities

The Permittees' SQIPs each include a description of each Permittee's program organization, legal authority and funding. Implementation activities for the following program elements are also described:

- i. Program Management (includes planning, staffing and fiscal analysis)
- ii. Construction Element
- iii. Illegal Discharge Element
- iv. Industrial Element
- v. Municipal Operations and Facilities Element
- vi. New Development Element
- vii. Public Outreach Element
- viii. Watershed Stewardship Element
- ix. Target Pollutant Reduction Strategy
- x. Monitoring Program
- xi. Performance and Effectiveness Evaluations

48. The goal of the Permittees' SQIPs is to reduce the degradation, by urban runoff, of the beneficial uses of natural resources of the metropolitan areas of Sacramento County. These natural resources include major waterways and tributary streams, and regional groundwater aquifers. The objectives of the SQIPs are:
- a. To identify and control those pollutants in urban runoff that pose a potential threat to waters of the state and their beneficial uses;
 - b. To comply with the federal NPDES mandate to eliminate or control, to the MEP, the discharge of pollutants in storm water runoff from the MS4s, and to effectively eliminate unauthorized non-storm water discharges;
 - c. To achieve compliance with water quality standards;
 - d. To develop a cost-effective program that focuses on pollution prevention of urban storm water runoff;
 - e. To seek cost-effective alternatives where prevention is not a practical solution for a significant problem; and
 - f. To coordinate implementation of control measures with other agencies.
49. The Permittees' SQIPs contain BMPs that will be implemented 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 SQIPs. 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.

50. Performance standards include implementation of recommended BMPs (source and treatment controls) for new development and redevelopment projects as required by local Development Standards (see below) and included in applicable standard specifications, design and procedures, and guidance documents. Each Permittee's Development Standards will be revised in accordance with the requirements of this Order.
51. This Order includes a Monitoring Program that incorporates analytical Minimum Levels (MLs) established under the State Board's *Policy for Implementation of Toxic 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.
52. Each Permittee's SQIP and modifications or revisions to it that are approved pursuant to this Order are integral and enforceable components of this Order.
53. This Order provides for an increase in urban storm water discharge because of continuing development within each Permittee's jurisdiction. The continued revisions and implementation of each Permittee's SQIP in compliance with this Order will reduce the potential for discharges from MS4s to cause or contribute to the degradation of receiving water quality. This Order is therefore consistent with any applicable anti-degradation provisions of 40 CFR 131.12 and the State Board Resolution 68-16.
54. 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 and appropriate, be pursued only against the individual Permittee responsible for specific violations of this Order.

Development Standards

55. On 5 October 2000, the State Board adopted Order WQ 2000-11, a precedential decision concerning the use of Standard Urban Storm Water Mitigation Plans (hereafter Development Standards) in MS4 permits for new development and significant redevelopment projects. The Development Standards were initially adopted by the Los Angeles Regional Water Quality Control Board to require treatment controls for new and significant redevelopment projects. The State Board recognized that the decision includes significant legal or policy determinations that are likely to recur (Gov. Code §11425.60). Because of the precedent set by 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. The State Board's Chief Counsel interprets WQ 2000-11 to encourage regional solutions and endorses a mitigation fund or "bank" that may be funded by developers who obtain waivers from the numerical design standards for new development and significant redevelopment.
57. Federal regulations (40 CFR 131.10(a)) prohibit 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.
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 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 vehicular traffic and are similar to parking lots and urban roads. Studies in other areas indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals (*Schueler and Shepp [1992]*).
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*. 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. Because of the potential threat to storm water quality from RGOs, Development Standards for RGOs are included in this Order.

Impaired Water Bodies

62. 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 and assimilated by a water body while still meeting water quality standards. The Regional Board is currently in the process of developing TMDLs for listed water bodies within the Region. Once the Regional Board and USEPA approve TMDLs, the Permittees' discharge of storm water into an impaired water body will be subject to waste load allocations. The Regional Board will take a separate action, outside of the approval of this Order, to establish the TMDLs and waste load allocations.
63. The American, Mokelumne, and Sacramento Rivers are listed as impaired water bodies pursuant to Section 303(d) of the CWA. The Delta waterways, which are the downstream receiving waters for these rivers, are listed. Further, several tributaries of the American, Mokelumne, and Sacramento Rivers are also listed. The State's 1998 CWA Section 303(d) list identifies Arcade Creek, Chicken Ranch Slough, Elder Creek, Elk Grove Creek, Morrison Creek, Natomas East Main Drain, and Strong Ranch Slough as not attaining water quality standards due to elevated levels of diazinon and/or chlorpyrifos (303(d) listed urban waters). The 303(d) listed "urban" waters not in attainment of standards are all within Sacramento County. Certain actions and/or assessments by the Permittees are needed to begin addressing the identified impairments. Additional actions and/or assessments may be required of the Permittees to comply with waste load allocations, once established by the Regional Board.
 - a. The data is not available at this time to quantify the relative contribution of the urban discharge (compared to upstream and atmospheric contributions from non-urban sources) to the diazinon and chlorpyrifos levels in the 303(d) listed urban waters.
 - b. The phase-out of the sale of diazinon and chlorpyrifos for most residential/commercial uses should significantly reduce or eliminate, over time, the contribution of the urban discharge to the non-attainment of water quality objectives in the 303(d) listed urban waters.
 - c. Monitoring of diazinon and chlorpyrifos is needed to determine the significance of the urban runoff contribution to diazinon and chlorpyrifos levels in 303(d) listed urban waters. Monitoring is also needed to determine the effectiveness of the phase-out of urban uses of diazinon and chlorpyrifos and to assess whether water quality objectives are met.
64. Morrison Creek has been identified as a toxic hot spot due to the presence of diazinon and chlorpyrifos (Regional Board Resolution No. 99-001 and State Water Resources Control Board Resolution No. 99-065). An urban storm water pesticide cleanup plan is required for diazinon and chlorpyrifos as a result of the hot spot designation.
 - a. Section 13395 of the California Water Code requires the reevaluation of waste discharge requirements for dischargers who have discharged pollutants causing all or part of a 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, "the

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.”

- b. The data is not available at this time to quantify the relative contribution of the urban discharge (compared to upstream and atmospheric contributions from non-urban sources) to the diazinon and chlorpyrifos levels in the toxic hot spot areas.
 - c. The phase-out of the sale of diazinon and chlorpyrifos for most residential/commercial uses should significantly reduce or eliminate, over time, the contribution of the urban discharge to the maintenance of the diazinon and chlorpyrifos hot spots.
 - d. Monitoring of diazinon and chlorpyrifos is needed to determine the significance of the urban runoff contribution to diazinon and chlorpyrifos levels in the toxic hot spot areas. Monitoring is also needed to determine the effectiveness of the phase-out of urban uses of diazinon and chlorpyrifos; to assess whether the hot spot is maintained; and to assess whether water quality objectives are met.
65. California Water Code Section 13263(a) requires waste discharge requirements to implement the Basin Plan. The Basin Plan contains numeric and narrative water quality objectives to protect the beneficial uses of surface water and groundwater. The Basin Plan contains the “Policy for Application of Water Quality Objectives” that specifies how the Regional Board will ensure compliance with narrative water quality objectives. That Policy states that the Regional Board will consider:

“relevant numerical criteria and guidelines developed and/or published by other agencies and organizations (e.g., California Department of Fish and Game, . . .). In considering such criteria, the Board evaluates whether the specific numerical criteria, which are available through these sources and through other information supplied to the Board, are relevant and appropriate to the situation at hand and, therefore, should be used in determining compliance with the narrative objective.” (Basin Plan at IV-18.00.)

The Basin Plan contains a narrative toxicity objective that states: “All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.” (Basin Plan at III-8.00.)

Discharges regulated by this permit contain organo-phosphorus pesticides including chlorpyrifos and diazinon. These pesticides cause toxicity in aquatic life. There are no California Toxics Rule or National Toxics Rule criteria for either of these pollutants. In March 2000, the California Department of Fish and Game (DFG) published acute and chronic criteria for these compounds applicable to fresh water aquatic life protection. DFG followed the approved US EPA Clean Water Act Section 304(a) guidance for deriving water quality criteria for the protection of aquatic organisms and their uses. Based on the Policy for Application of Water Quality Objectives, the Regional Board determines that it is relevant and appropriate to use the chlorpyrifos and diazinon criteria developed by the DFG to interpret attainment of the applicable narrative water quality

objectives. The DFG criteria can be used to assess the effectiveness of the Permittees' pesticide reduction efforts and the phase out of residential uses of diazinon and chlorpyrifos. 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.

66. On 12 March 2001, the U.S. Court of Appeals ruled that it is necessary to obtain a NPDES permit for application of aquatic pesticides to waterways (*Headwaters, Inc. vs. Talent Irrigation District*, 243 F.3d. 526 (9th Cir. 2001)). This decision is controlling in California for nonagricultural applications of pesticides to waterways. The State Board adopted a general NPDES permit (Order No. 2001-12-DWQ) on 19 July 2001, 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 this general permit.

Public Process

67. 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.
68. The Regional Board has considered the information in the attached Fact Sheet, which is an informational part of this Order, in developing the Findings of this Order.
69. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED that Order No. 96-105 is rescinded, and that each Permittee, 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 CWA and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharges from MS4s in a manner causing, or threatening to cause, a condition of pollution, contamination, or nuisance (as defined in § 13050 of the California Water Code) in waters of the state are prohibited.
2. Discharges from MS4s that cause or contribute to the violation of water quality objectives or water quality standards are prohibited.
3. Discharges from MS4s containing pollutants that have not been reduced to the MEP are prohibited.

4. Each Permittee, within its jurisdiction, shall effectively prohibit all types of non-storm water discharges into its MS4 unless such discharges are either authorized by a separate NPDES permit or not prohibited in accordance with this Order.
5. 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 an MS4 if such categories of discharges are identified by the Permittee 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. Lawn and landscape irrigation
 - m. Planned and unplanned discharges from potable water sources
 - n. Irrigation water
 - o. Individual residential car washing
 - p. De-chlorinated swimming pool water
 - q. Street wash water
6. When a non-storm water discharge category listed above is identified as a source of pollutants to waters of the State, the Permittee shall either:
 - a. Prohibit the discharge category from entering its MS4; or
 - b. Not prohibit the discharge category and implement, or require the responsible party(ies) to implement, BMPs that will reduce pollutants to the MEP; and
 - c. Submit the following information to the Regional Board for approval of the Executive Officer within 90 days upon identification of such discharge category:
 - i. The non-storm water discharge category listed above that the Permittee elects not to prohibit; and
 - ii. The BMPs for each discharge category listed above that the Permittee will implement, or require the responsible party(ies) to implement, to prevent or reduce pollutants to the MEP.

7. Each Permittee shall examine all dry weather analytical monitoring results collected in accordance with the Monitoring 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 prohibit or control, as described above, 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.

B. Receiving Water Limitations

1. Receiving water limitations are site-specific interpretations of water quality standards from applicable water quality control plans (i.e., the Sacramento River and San Joaquin River Basin Plan). As such they are required as part of this Order. 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 that a violation has occurred.

The discharge from MS4s shall not cause or contribute to the following in the receiving water:

- a. Concentrations of dissolved oxygen to fall below 7.0 mg/l.
- 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 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 units.
 - 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; harm human, plant, animal or aquatic life; or 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; produce detrimental response in human, plant, animal, or aquatic life; or bioaccumulate in aquatic resources at levels 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 there under.
 2. The Permittees shall comply with Discharge Prohibitions A.1 and A.2 and Receiving water Limitations B.1 through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQIP (or SQIPs) and other requirements of this Order, including any modifications. The SQIP shall be designed to achieve compliance with Receiving Water Limitation B.1. If exceedance(s) of water quality objectives or water quality standards (collectively, WQS) persist notwithstanding implementation of the SQIP and other requirements of this Order, the Permittees shall assure compliance with Discharge Prohibitions A.1 and A.2 and Receiving Water Limitation B.1 by complying with the following procedure:
 - a. Upon a determination by either the Permittees or Regional Board that discharges are causing or contributing to an exceedance of an applicable WQS, the Permittees shall submit a report to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of WQSs. This report of water quality exceedance (RWQE) shall be incorporated in the Annual Report unless the Regional Board directs an earlier submittal. The RWQE shall include proposed revisions

to the SQIP and an implementation schedule for new or improved BMPs, if applicable. The Regional Board may require modifications to the RWQE.

- b. The Permittees shall 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 Permittees shall revise the SQIP and their monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.
- d. The Permittees shall implement the revised SQIP and monitoring program in accordance with the approved schedule.

So long as the Permittees have complied with the procedures set forth above and are implementing the revised SQIP, the Permittees do not have to rerepeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

C. Provisions

1. Within its jurisdiction, each Permittee shall:
 - a. Comply with the requirements of this Order and the SQIP, including any Regional Board-approved modifications to either document;
 - b. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQIP applicable to each Permittee in an efficient and cost-effective manner; and
 - 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 SQIP.

Storm Water Quality Improvement Plan

2. Upon adoption of this Order, each Permittee shall review and modify its SQIP to address the requirements of this Order and submit the revised SQIP by **1 July 2003** for public review and comment, and Regional Board approval. Each Permittee shall implement or require implementation of performance standards and BMPs in the approved SQIP to ensure that pollutant discharges from its MS4 are reduced to the MEP. The approved SQIP shall serve as the framework for identification, assignment, and implementation of BMPs. Any revisions and/or improvements to the approved SQIP shall be included in the Annual Report. Each Permittee shall ensure that its SQIP contains the following elements:

- a. Fiscal Analysis
- b. Legal Authority
- c. Program Management
- d. Construction Element
- e. Commercial/Industrial Element
- f. Municipal Operations Element
- g. Illicit Discharge Detection and Elimination Element
- h. Public Outreach Element
- i. Performance and Effectiveness Evaluation
- j. Water Quality Based Programs
- k. Monitoring and Reporting Program
- l. Development Standards Element

The SQIP shall include a section that identifies all departments within the applicable jurisdiction that conduct storm water pollution prevention related enforcement activities and their roles and responsibilities under this Order.

Fiscal Analysis

3. Each Permittee shall secure the resources necessary to meet the requirements of this Order. In order to demonstrate sufficient financial resources to implement the conditions of this Order, each Permittee shall include the following in its Annual Work Plan:
 - a. An annual budget summary applied toward implementing its SQIP. This summary shall identify the storm water budget for the applicable fiscal year using estimated percentages and written explanations, where necessary, for program management, including administrative costs and program Implementation. Where information is available and especially for those tasks required by this Order, each Permittee shall provide an estimated percent breakdown of expenditures for the various program elements and tasks within these elements.
 - b. A description of the source(s) of funds for the above budget, including any legal restrictions on the use of such funds.

Legal Authority

4. Each Permittee shall establish, maintain and enforce adequate legal authority to control pollutant discharges from its MS4 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 activities to its MS4. This requirement applies to industrial and construction sites covered under the statewide general industrial or construction storm water permits as well as to those sites that do not require permit coverage. Grading ordinances shall be upgraded and enforced as necessary to comply with this Order;

- b. Prohibit unauthorized non-storm water discharges where pollutants have not been reduced to the MEP, including but not limited to the following:
 - i. Sanitary sewage overflows except as authorized or in compliance with Waste Discharge Requirements, General Permits or their equivalent that may be established by the Regional Board, the State Board, or USEPA;
 - ii. Discharges of wash water resulting from the hosing off or cleaning of gas stations, vehicle repair services, or other types of automotive service facilities;
 - iii. Discharges resulting from the storage, cleaning, repair, or maintenance of any type of equipment, machinery, or facility including, but not limited to, motor vehicles, cement-related equipment, and portable toilet servicing;
 - iv. Discharges of wash water from mobile operations including, but not limited to, mobile vehicle washing, steam cleaning, power washing, and carpet cleaning;
 - v. Discharges of wash water from the cleaning of impervious surfaces in municipal, industrial and commercial areas including, but not limited to, parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas;
 - vi. Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
 - vii. Discharges of pool or fountain water containing chlorine, biocides, or other chemicals and 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);
 - 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 MS4;
- d. Prohibit the discharge of spills, dumping, or disposal of materials other than storm water to its MS4;

- e. Use enforcement mechanisms, including monetary fines, to obtain compliance with the Permittees' storm water ordinances, permits, contracts and orders;
 - f. Control the contribution of pollutants from one portion of the shared MS4 to another portion of the MS4 through interagency agreements among Permittees (and other state and federal agencies such as Caltrans);
 - g. Carry out all inspections, surveillance, and monitoring necessary to determine compliance and noncompliance with local ordinances and permits, including the prohibition of illegal discharges to the MS4. Each Permittee must have authority to enter, sample, inspect, review and copy records, and require regular reports from industrial facilities and construction sites discharging into its MS4;
 - h. Require the use of BMPs to prevent or reduce the discharge of pollutants to MS4s; and
 - i. Require that treatment control BMPs be properly operated and maintained.
5. Each Permittee shall adopt a storm water and urban runoff ordinance, or amend its existing ordinance as needed, to enforce all requirements of this Order as soon as practicable.
 6. Each Permittee shall provide to the Regional Board a statement certified by its chief legal counsel that the Permittee 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, including any modifications thereto in effect when the certified statement is provided. This statement, which shall be included in Permittees' revised SQIP(s), shall include the following:
 - a. Citation of storm water related ordinances adopted by the Permittee and the reasons the ordinances are enforceable;
 - b. Identification of the local administrative and legal procedures available to mandate compliance with the Permittees' storm water related ordinances, which incorporate the conditions of this Order;
 - c. Description of how these ordinances are implemented and how enforcement actions under these ordinances may be appealed; and
 - d. 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

7. The purpose of program management is to ensure that all elements of the SQIP are implemented on schedule and that all requirements of this Order are met. The program management tools required by this Order are presented below.

- a. **Annual Work Plan:** The Permittees shall submit an Annual Work Plan by **1 May** of each year. The Annual Work Plan shall provide the Permittee's proposed activities for the upcoming fiscal year beginning 1 July of the current year and ending 30 June the following year. The Permittees may submit combined Annual Work Plans that cover more than one Permittee's jurisdiction, or they may submit separate Annual Work Plans.
- b. **Annual Report:** The Permittees shall submit an Annual Report by **1 October** of each year. Requirements for the Annual Report are provided in the Monitoring and Reporting Program component of this Order.
- c. **SQIP Implementation:** Each Permittee, except the City of Galt, shall commence full implementation of all requirements of its SQIP and this Order upon approval of the modified SQIP by the Regional Board, with the exception of the Development Standards provisions of this Order (see provisions under "Development Standards" heading for the deadline on implementing this program element). The City of Galt shall meet this requirement no later than **1 September 2004**.
- d. **SQIP Modification:** The Permittees' SQIPs 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 revision of certain elements of the Permittees' SQIPs. Proposed SQIP revisions will be part of the annual review process and incorporated in the Annual Reports. In addition, and as warranted by modifications of this Order, the Permittees shall revise their SQIPs 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. Significant SQIP revisions shall be brought before the Regional Board for approval. Minor SQIP revisions may be approved by the Executive Officer following a 30-day public comment period.
- e. **Memorandum of Understanding:** Each Permittee shall collaborate with all other Permittees regulated under this Order to address common issues, promote consistency among the Permittees' SQIPs, coordinate resources in regional monitoring and public outreach programs, and plan and coordinate activities required under this Order.

All Permittees shall jointly execute and submit to the Regional Board no later than **1 April 2003**, an updated Memorandum of Understanding, or other instrument of formal agreement, which, at a minimum, provides a management structure for the following:

- i. Designation of Joint Responsibilities;
- ii. Decision making and cost sharing;
- iii. Information management of data and reports, including the requirements under this Order; and

iv. Any and all other collaborative arrangements for compliance with this Order.

Additional Program Elements

8. **Construction Element:** This element of the Permittee's SQIP includes performance standards and BMPs intended to ensure reduction of construction site related pollutants to the MEP. Each Permittee shall continue to implement and improve the Construction Element of its SQIP to reduce pollutants in runoff from construction sites during all construction phases. At a minimum, the Construction Element shall address the following:
- Pollution prevention
 - Grading ordinance modification
 - Construction and grading approval process modifications
 - Pollutant source identification
 - Prioritization of sites for inspection based on presumed threat to water quality prioritization
 - BMP implementation
 - Construction site inspections
 - Enforcement measures for construction sites
 - Reporting of non-compliant sites
 - Education focused on construction activities

Additional Construction Program requirements are presented below.

- a. For construction sites one acre or more, each Permittee shall:
- i. Implement a program to control runoff from applicable construction sites within its jurisdiction. The program shall ensure that the following minimum requirements are effectively implemented at applicable construction sites:
 - a) Sediments generated at the project site shall be controlled using adequate source control and/or structural BMPs;
 - b) Construction-related materials and wastes shall be retained at the project site to avoid discharge to the MS4 and waters of the state;
 - c) Unauthorized non-storm water runoff shall be contained at the project site; and
 - d) 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.

- ii. Prior to issuing a grading permit for a given construction site, require proof that a Notice of Intent (NOI) for coverage under the General Construction Permit has been submitted, if applicable.
- iii. 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) A vicinity map showing nearby roadways, the construction site perimeter, and the geographic features and general topography surrounding the site;
 - b) 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);
 - c) A detailed, site-specific listing of the potential sources of storm water pollution;
 - d) A description of the type and location of erosion and sediment control BMPs to be employed at the site;
 - e) The name and telephone number of the qualified person responsible for implementing the SWPPP; and
 - f) Certification/signature by the landowner or an authorized representative.
- iv. Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of a database or geographical information system (GIS) is encouraged, but not required.
- v. By 1 July 2003, establish priorities for inspection of construction sites one acre or more. Priorities, which shall be explained in detail in the SQIPs, shall be based on at least the following factors:
 - a) Project size;
 - b) Soil erosion potential;
 - c) Proximity to waters of the State and 303(d) listed water bodies;
 - d) Previous violations of local storm water ordinances.

Construction sites shall be rated as high or moderate threats to water quality and prioritized lists of applicable sites within each Permittee's jurisdiction shall be made available to the Regional Board for review and approval upon request.

- vi. Beginning **1 July 2003**, inspect construction sites for compliance with local ordinances as follows: sites rated as high priority, **a minimum of once every two weeks during the wet season** (1 October to 30 April) and **once a month during the remainder of the year**; sites rated as moderate priority, **a minimum of once a month year round**. The Permittees shall inspect applicable sites for compliance with the local ordinances and the SWPPP components described above. Each Permittee shall use its legal authority to promptly and effectively enforce its storm water ordinance to correct any violations observed during inspections. If noncompliance persists for a given construction site, the Permittee shall notify the Regional Board for further joint enforcement action.
 - b. For construction sites requiring coverage under the General Construction Permit, the Permittees shall refer non-filers (i.e., those projects that cannot demonstrate that they have submitted an NOI or received a WDID number) to the Regional Board within five business days of discovery. In making such referrals, the Permittees shall include, at a minimum, the following information:
 - Project location;
 - Developer;
 - Estimated project size; and
 - Records of communication with the developer regarding filing requirements.
 - c. Each Permittee shall provide annual training for employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of this Order commencing **1 July 2003**.
9. **Commercial/Industrial Program:** Each Permittee shall require implementation of pollutant reduction and control measures at industrial and commercial facilities to effectively prohibit unauthorized non-storm water discharges and to reduce 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. The Regional Board recognizes that property owners are responsible for selecting and implementing BMPs since the Permittees do not have the authority to specify BMPs. At a minimum, the Commercial/Industrial Program shall include requirements to: (1) track, (2) inspect, and (3) ensure compliance with local storm water ordinances at industrial and commercial facilities.
- a. Track pollutant sources

- i. Each Permittee shall develop and submit, as part of its modified SQIP, a list of top priority industries and businesses in its jurisdiction that will be subject to inspection or business outreach programs as specified below during the term of the Order. The SQIP shall include a description of the factors considered in prioritizing the industries and businesses, including but not limited to:
 - Significance as a potential target pollutant source;
 - Potential for or known history of unauthorized 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 develop and maintain an inventory or database of potentially 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 (to be inspected as specified below): auto body shops, auto dealers, auto repair shops, equipment rentals, nurseries, kennels, restaurants, and RGOs.
 - c) For educational outreach purposes, the inventory or database shall include the following businesses that may 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 sweeping, swimming pool contractors, and swimming pool maintenance providers.
 - d) Facilities that require coverage under the NPDES General Permit for Storm Water Discharges Associated with Industrial Activity (hereafter 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 at least annually 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. Commercial and industrial facilities identified by the Permittees as potentially significant sources of storm water pollution; these facilities shall include, at a minimum, auto body shops, auto dealers, auto repair shops, equipment rentals, nurseries, kennels, restaurants, and RGOs.
 - a) **Frequency of Inspections:** Once every three years starting on 1 July 2004; the first inspection for each facility shall occur by **30 June 2007**. The Permittees need not perform additional inspections at those facilities determined by the Permittee to have no pollutant exposure to storm water from commercial or industrial activity; however, Permittees shall continue to track these businesses/facilities, noting in their pollutant source inventories their determination to discontinue inspections.

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:** Once every three years starting on 1 July 2004; the first inspection for each facility shall therefore occur by **30 June 2007**. The Permittees need not perform additional inspections at those facilities determined by Permittee inspection to have no significant risk of pollutant exposure to storm water from industrial activity; however, Permittees shall continue to track these facilities, noting in their pollutant source inventories their determination to discontinue inspections.

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) has a Storm Water Pollution Prevention Plan available on site, and (3) is effectively implementing BMPs in compliance with local ordinances.

c. Ensure compliance of pollutant sources through the following:

- i. **BMP Implementation:** The Permittee shall require through ordinance or other means, that commercial/industrial dischargers control pollutants in storm water discharges, and eliminate unauthorized non-storm water discharges to the MS4. The Permittees shall make BMP guidance information available to the discharger; however, the Regional Board recognizes that 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 storm water ordinances 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 control significant sources of pollution discharges to the MS4, the Permittee shall take progressive enforcement action that, at a minimum, shall include a follow-up inspection within eight weeks of the date of the initial inspection.

- b) In the event that a Permittee determines that an operator has failed to control sources of pollution discharges to the MS4 after a follow-up inspection, the Permittee shall 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 with local storm water ordinances or requirements.

iii. Interagency Coordination

- a) **Referral of Violations of Municipal Storm Water Ordinances:** 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 site. 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.
- b) **Investigation of Complaints:** Each Permittee shall initiate, within three business days, investigation of complaints transmitted by the Regional Board regarding facilities within its jurisdiction. The initial investigation shall include, at a minimum, a limited inspection of the facility to investigate the complaint and determine if the facility is out of compliance with municipal storm water ordinances.
- c) **Support of Regional Board Enforcement Actions:** As directed by the Executive Officer, the Permittees shall support Regional Board enforcement actions by assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available and as appropriate, 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.

- d) **Participation in a Task Force:** The Permittees, the Regional Board, and other stakeholders may form a Storm Water Task Force, the purpose of which is to communicate concerns regarding special cases of storm water violations by industrial and commercial facilities and to develop a coordinated approach to enforcement action.

10. **Municipal Operations Program:** Each Permittee shall implement a Municipal Operations Program to prevent or reduce pollutants in runoff from all municipal land use areas, facilities, and activities. At a minimum the Municipal Operations Program shall consist of:

- Sanitary sewage system maintenance, overflow, and spill prevention
- Public construction activities management
- Vehicle maintenance/material storage facilities/corporation yards management
- Landscape and recreational facilities management
- Storm drain operation and maintenance
- Streets and roads maintenance
- Detention basin maintenance
- Parking facilities management
- Emergency procedures
- Non-emergency fire fighting flows

A discussion of each component is provided below.

a. **Sanitary Sewage System Maintenance, Overflow, and Spill Prevention**

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

b. Public Construction Activities Management

- i. Each Permittee shall implement the Development Standard requirements as they apply to the construction of applicable public projects.
- ii. Each Permittee shall implement the Construction Program requirements at Permittee-owned construction sites.
- iii. Each Permittee shall obtain coverage under the General Construction Permit for applicable public construction sites.

c. Vehicle Maintenance/Material Storage Facilities/Corporation Yards Management

- i. Each Permittee shall prepare and implement SWPPPs for public vehicle maintenance facilities, material storage facilities, and corporation yards having the potential to discharge pollutants to the MS4 and/or the waters of the state. This requirement shall only apply to those facilities not already covered under the General Industrial Permit.
- ii. Each Permittee shall implement BMPs to minimize pollutant discharges in storm water, including but not limited to good housekeeping practices, material storage control, vehicle leak and spill control, and illicit discharge control.
- iii. Each Permittee shall implement the following measures to prevent the discharge of pollutants to the MS4:
 - a) 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.
 - b) For new facilities, or during significant redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and, if necessary, equipped with a pre-treatment device in accordance with the requirements of the sewer agency.

d. Landscape and Recreational Facilities Management

Each Permittee shall prepare and implement a standardized protocol for routine and non-routine application of pesticides, herbicides (including pre-emergents), and fertilizers that:

- i. Is consistent with the State Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ);

- ii. Implements requirements and procedures prohibiting application of pesticides or fertilizers immediately before, during, or immediately after a predicted rain event or when water is flowing off the application area;
 - iii. Implements requirements and procedures prohibiting application or storage of banned or unregistered pesticides;
 - iv. Requires that staff applying pesticides are licensed by the California Department of Pesticide Regulation, or under the direct supervision of a certified pesticide applicator;
 - v. Implements procedures to (1) encourage retention and planting of native vegetation and (2) to reduce water, fertilizer, and pesticide needs;
 - vi. Requires the storage of fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;
 - vii. Minimizes the use, storage, and handling of hazardous materials to reduce the potential for spills; and
 - viii. Requires the regular inspection of storage areas.
- e. **Storm Drain Operation and Maintenance**
- i. Each Permittee shall stencil or label (e.g., “No Dumping – Drains to Creek”) drain inlets within its jurisdiction and the urbanized permit area. A Permittee with stenciling at 95 percent of its drain inlets at the end of the term of this Order shall be deemed to be in compliance with this requirement.
 - ii. The Permittees’ revised SQIPs shall include maintenance procedures for catch basins and sumps, including 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.
 - iii. For any special event that can be reasonably expected to generate substantial quantities of trash and litter, each Permittee shall include provisions, as part of the

special use permit issued for the event, requiring the proper management of trash and litter.

- iv. As part of the storm drain system maintenance program, 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.
- v. Each Permittee shall keep inspection, cleaning, and maintenance records for its drain inlets.
- vi. Each Permittee shall implement BMPs for storm drain maintenance that include:
 - a) A program to visually monitor Permittee-owned open channels and associated drainage structures for debris at least annually before the wet weather season (October 1), clean as needed based on visual inspections, and identify and prioritize problem areas of illicit discharge for additional inspections;
 - b) A review of current maintenance activities to ensure that appropriate storm water BMPs are being used to protect water quality;
 - c) Minimize the discharge of pollutants during MS4 maintenance and clean outs;
 - d) Proper disposal of material removed; and
 - e) Record keeping for cleaning and maintenance of open channels and associated drainage structures.

f. Streets and Roads Maintenance

- i. By 1 July 2003, 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.
- ii. Beginning 1 July 2003, 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 once per month.
- Priority B: These streets and/or street segments shall be swept at least once every other month.
- Priority C: These streets and/or street segments shall be swept as necessary but in no case less than once per year.
- iii. Each Permittee shall ensure that wash water from street sweeping and street sweeper rinse out is not discharged to the MS4 unless pollutants are removed to the MEP.
- iv. Each Permittee shall review and revise as needed its maintenance practices to include the following:
- a) Sawcutting wastes shall 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;
 - b) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and
 - c) The washout of concrete trucks and chutes shall only occur in designated areas; concrete rinse shall not be discharged to storm drain inlets, open ditches, or streets.
- v. Each Permittee, except the City of Galt, shall provide annual training commencing **1 July 2003** for its employees in targeted positions (whose interactions, jobs, and activities affect storm water quality) regarding the requirements of the storm water management program to (1) promote a clear understanding of the potential for maintenance activities to pollute storm water, and (2) identify and select appropriate BMPs. The City of Galt shall meet this requirement by **1 July 2004** and annually thereafter.

g. Detention Basin Operation and Maintenance

The Permittees shall prepare and implement guidelines for operating and 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 sediment, trash and debris; and (3) maintenance and stabilization of basin side slopes to prevent erosion and incorporation of additional sediment into outflow. The guidelines shall be based on the Brown Road Basin study¹ and other applicable detention basin studies.

¹ Sacramento Storm Water Management Program, Water Quality Detention Basin Study Report (Brown Road Basin), 1997-2001, Draft Final, December 2001

h. Parking Facilities Management

The Permittees shall propose parking facility inspection and maintenance requirements in their SQIPs for Permittee-owned parking lots exposed to rainfall. The proposed requirements shall include categories of parking facilities and corresponding inspection and maintenance frequencies to prevent the buildup of debris and excessive oil to the MEP.

i. Emergency Procedures

Each Permittee shall repair essential public services and infrastructure in a manner that minimizes 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 by this Order.

j. Non-emergency Fire Fighting Flows

Each Permittee shall coordinate with other agencies to develop a response plan to minimize the impact of non-emergency 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 with a fire protection agency within their jurisdictional control.

11. Illicit Discharge Detection and Elimination Program:

a. General: Each Permittee shall implement an Illicit Discharge Detection and Elimination Program containing measures to identify, report and eliminate illicit discharges and connections. At a minimum the Illicit Discharge Detection and Elimination Program shall address:

- i. Review of applicable dry weather analytical monitoring data
- ii. Investigation/inspection and follow-up procedures
- iii. Elimination of discovered illicit discharges and connections
- iv. Enforcement against parties responsible for illicit discharges
- v. Response, containment, and clean up procedures for spills (including sewage spills from private laterals)
- vi. Public reporting of illicit discharges and connections (public hotline)
- vii. Appropriate disposal of used oil and toxic materials
- viii. Elimination of discovered incidents of infiltration from sanitary sewer to MS4s

- b. **Tracking and Reporting:** By **1 December 2003**, each Permittees shall develop and maintain a map of all identified illicit discharges, and provide this information in the Annual Reports. The Permittees shall use this information to identify potential “hot spots” and priority areas for future investigations. Each Permittee shall also provide in the Annual Report a list of illicit connections under investigation or eliminated.
- c. **Training:** By **1 December 2003** and annually thereafter, each Permittee 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
 - a) With the exception of the City and County of Sacramento, which have already met this requirement, each Permittee shall field screen its storm drain system for illicit connections. Permittees having areas within their jurisdiction that were screened for illicit connections as part of the County of Sacramento’s field screening efforts are not required to re-screen these previously screened areas. Field screening activities shall comply with the following schedule:
 - Open channels: No later than **1 July 2004**;
 - Underground pipes in priority areas no later than **1 December 2005**;
and
 - Underground pipes with a diameter of 36 inches or greater no later than **1 December 2006**.
 - b) The Permittees shall develop, as part of their revised SQIPs, procedures to conduct ongoing field screening activities during the life of the Order, including areas or locations that will be evaluated by such field screens.
 - 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: For illicit discharges that are known or suspected to contain hazardous substances (as defined by California law), the Permittees shall respond, within one business day of discovery or a report of a suspected illicit

discharge, with activities to abate, contain, and clean up such illicit discharges. For illicit discharges not known or suspected to contain hazardous substances, the Permittees shall respond within five days of discovery or report, and at a minimum require the identified responsible party(s) to immediately cease such discharges.

- ii. Investigation: The Permittees shall perform follow up investigations of illicit discharges as soon as practicable, and take enforcement action as appropriate.

12. **Public Outreach Program:** The Permittees shall implement a Public Outreach Program using any media appropriate to increase the knowledge of target businesses and communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience. The intended outcome of public outreach is a change in the behavior of targeted groups to reduce pollutant discharges in storm water runoff to the MS4 to the MEP. Each Permittee shall incorporate a mechanism for public participation in the implementation of the SQIP (e.g., programs that engage the public in cleaning up creeks, removal of litter in river embankments, and storm drain stenciling). To meet the SQIP objectives and requirements of this Order, at a minimum, public outreach shall include the following:

- a. Each Permittee shall (1) continue the education-oriented volunteer stenciling program for storm drain inlets, and (2) install signs with language discouraging illegal dumping at selected high use public access points to creeks, channels and other relevant water bodies, particularly areas with a history of dumping problems. Storm water protection postings shall be legible and maintained as necessary during the term of this Order.
- b. The Permittees shall continue to use a **HOTLINE** that serves as the public reporting contact for reporting any storm water-related problems, including clogged drain inlets, illicit discharges/dumping, and faded or lack of drain inlet stencils. Each Permittee shall include this information, updated when necessary, in public outreach material and the government pages of the telephone book, as they are developed/published.
- c. The Public Outreach Program, as presented in the SQIP, shall include at least 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 tie-ins; and
 - vi. Events targeted to specific activities and population subgroups.
- d. The Public Outreach Program shall target at least the following groups:
 - i. Municipal departments and personnel
 - ii. Construction site contractors, developers and landowners

- iii. Industrial owners and operators
 - iv. Commercial owners and operators
 - v. Residential community, general public, and school children
 - vi. Communities and businesses with primary languages other than English
 - vii. Quasi-governmental agencies and districts (e.g., educational institutions, water districts, and sanitation districts).
- e. For residential communities, public outreach shall include the following activities:
- i. Automobile repair and maintenance;
 - ii. Automobile washing;
 - iii. Home and garden care and product use;
 - iv. Disposal of household hazardous waste (e.g., paints and cleaning products);
 - v. Disposal of pet waste;
 - vi. Disposal of green waste; and
 - vii. Any other residential source that the Permittees determine may contribute a significant pollutant load to the MS4.
- f. The Permittees shall ensure that a minimum of 2.3 million impressions per year are made on the general public about storm water quality issues via print, local TV access, local radio, or other appropriate media.
- g. The Permittees shall offer educational opportunities to a minimum of 50 percent of all school children in the third through sixth grades every two years on storm water pollution prevention through classroom presentations or other activities.
- h. 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 July 2004**.
- Businesses targeted for outreach shall include those identified in the Commercial/Industrial Element. At a minimum, the business outreach program shall include (1) educating owners and operators about storm water regulations; (2) distributing and discussing educational materials 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.
- i. The Permittees shall conduct outreach to residential and commercial builders with construction sites smaller than one acre. 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.

- j. To monitor the effectiveness of the Public Outreach Program in increasing public awareness and changing attitudes about storm water pollution, the Permittees shall conduct public awareness surveys at a minimum frequency of twice during the five-year term of this Order. Survey results shall be presented in the Annual Reports.

13. **Performance and Effectiveness Evaluation:** The Permittees shall assess the effectiveness of their SQIPs 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 SQIPs 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 SQIP accomplishments, and funds expended or staff hours used. In order to complete this assessment, the Permittees shall propose performance standards for BMPs included in their SQIPs.

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 SQIP effectiveness evaluation. Annual Reports shall also include a compliance status update that summarizes each Permittee's compliance with this Order and the elements of the SQIP.

Water Quality Based Programs

14. The Permittees have completed a Target Pollutant Reduction Strategy process, which has identified target pollutants for the Sacramento area. The Permittees shall continue or initiate implementation of control programs for pollutants that have been identified to cause or contribute to exceedances of water quality standards and potential impairment of beneficial uses. These control programs shall be incorporated into each Permittee's SQIP and revised in accordance with the directives of the Executive Officer. At a minimum, these control programs shall include the following:
 - a. **Mercury:** To address the impairment of the Sacramento River Watershed for mercury, the Permittees shall implement a mercury pollution prevention plan (Mercury Plan). The draft Mercury Plan shall be submitted to the Executive Officer with the Annual Work Plan on **1 May 2004**. The plan will then be distributed to interested parties for a 30-day review period. Interested parties may send comments on the Mercury Plan to the Executive Officer during the review period. At its conclusion, the Executive Officer will consider the proposed plan and any comments received. The Executive Officer may accept or reject the plan, or schedule the proposed plan for a hearing before the Regional Board. In any case, Regional Board staff will provide (1) a response to any objection to approval of the Mercury Plan, or (2) comments to the Permittees if the plan is rejected.

The Mercury Plan shall address the following concepts:

- i. Development and adoption of policies, procedures, and/or ordinances to implement the Mercury Plan;
- ii. The reduction, to the maximum extent practicable, of mercury from controllable sources in storm water, including the identification of mercury-containing products used by the Permittees and a schedule for their timely control;
- iii. Study the feasibility and benefits to local storm water quality of residential and commercial programs for diverting mercury-containing waste products (potentially including thermometers and other gauges, batteries, fluorescent and other lamps, switches, relays, sensors and thermostats) from the waste stream;
- iv. Coordination with Regional Board staff, to the extent appropriate, in conducting an assessment of the contribution of air pollution sources to mercury in the Permittees' storm water;
- v. A public education, outreach and participation program designed to reach residential, commercial and industrial users or sources of mercury-containing products or emissions; and
- vi. Participation with other organizations to develop programs to reduce or eliminate sources of mercury within the Sacramento River watershed.

The Mercury Plan shall include a schedule for implementation, although implementation of cost effective early action priorities should take place before the due date of the Mercury Plan. This plan shall also include provisions addressing training and technical assistance needed to help municipalities implement the Mercury Plan. To facilitate the development of the actions specified above, the Permittees may coordinate with publicly owned treatment works and other agencies to develop cooperative plans and programs.

- b. **Pesticides:** To address pesticide impairment of urban streams, the Permittees shall continue implementation of a pesticide toxicity control plan (Pesticide Plan) that addresses their own use of pesticides including diazinon, chlorpyrifos, and other lower priority pesticides, 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 the Sacramento River Watershed Program (SRWP), and 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 also include (1) goals and implementing actions to replace the use of banned pesticides with less toxic alternatives, and minimize the use of pesticides whenever possible; and (2) a schedule for implementation and a mechanism for reviewing and amending the plan, as necessary, in subsequent years.

The Permittees shall adopt and verify implementation of policies, procedures, and/or ordinances requiring the minimization of pesticide use and the use of Integrated Pest Management (IPM) techniques in the Permittee's operations that have the potential to reach waters of the State. The policies, procedures, and/or ordinances shall include commitments to not increase the Permittee's use of pesticides without justifying their necessity and minimizing their adverse water quality impacts. The Permittees shall ensure that municipal employees who apply pesticides in their jurisdictions receive annual training and apply pesticides only 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 updated as needed and submitted with the Annual Reports.

To address other pesticide users within the Permittees' jurisdictions, the Pesticide Plan shall include the following:

- i. Public outreach programs. Such programs shall be designed for residential and commercial pesticide users and pest control operators. These programs shall provide targeted information concerning proper pesticide use and disposal, potential adverse impacts (see Attachment A for definition) on water quality, and alternative, less toxic methods of pest prevention and control, including IPM. These programs shall also target pesticide retailers to encourage the sale of the less toxic alternatives and to facilitate point-of-sale public outreach efforts. These programs may also recognize local less toxic pest management practitioners.
- ii. Periodic surveys of the local or regional sales and use of residential and commercial pest control products potentially found in storm water runoff. The first survey shall be conducted by **1 December 2004**. A second survey shall be conducted by **1 December 2006**. The surveys may be conducted in conjunction with other municipalities in the Central Valley or Bay Area as long as residences and retailers from the Sacramento County area are included. The proposed survey design and protocols shall be submitted for approval with the Annual Work Plan for the year in which the survey is to be conducted.
- 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. Coordination with household hazardous waste collection agencies. The Permittees shall support, enhance, and help publicize programs for proper pesticide disposal.

The Permittees shall review and revise as needed, their Pesticide Plan for submittal in draft form with the Annual Work Plan due on **1 May 2004**. The plan will then be

distributed to interested parties for a 30-day review period. Interested parties may send comments on the Pesticide Plan to the Executive Officer during the review period. At its conclusion, the Executive Officer will consider the proposed plan and any comments received. The Executive Officer may accept or reject the plan, or schedule the proposed plan for a hearing before the Regional Board. In any case, 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 plan is rejected.

Based on the evaluation required in II.E.4 of the Monitoring and Reporting Program, the Permittees may be required to revise the Pesticide Plan to include a Diazinon and Chlorpyrifos Mitigation Program. The purpose of this revision would be 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 water bodies. The Regional Board will make its determination as to the necessity and schedule for a Diazinon and Chlorpyrifos Mitigation Program no later than **30 June 2006**.

The Permittees shall coordinate with the pesticide control stakeholders and other municipal storm water management agencies to assess which pesticide products and uses pose the greatest risks to surface water quality. The Permittees shall also monitor USEPA and Department of Pesticide Regulation (DPR) activities related to the registration of pesticide products and uses.

The Permittees shall provide technical assistance to the Regional Board and other agencies in developing TMDLs for pesticide impaired urban creeks and other tributaries to the Sacramento River receiving runoff from the urbanized portions of Sacramento County. The Permittees will participate in stakeholder forums and collaborative technical studies necessary to assist the Regional Board in completing the TMDLs. These studies may include, but shall not be limited to, additional diazinon and chlorpyrifos monitoring and toxicity testing in Arcade Creek, Chicken/Strong Ranch Sloughs, Elder Creek, Elk Grove Creek, Morrison Creek, and Natomas East Main Drain.

15. The Permittees shall comply with Monitoring and Reporting Program No. 5-2002-0206, which is part of this Order, and any revisions thereto approved by the Regional Board. Because the Permittees operate facilities that discharge waste subject to this Order, a Monitoring and Reporting Program is necessary to ensure compliance with waste discharge requirements.

Development Standards

16. The Permittees shall minimize the short and long-term impacts on receiving water quality from new development and significant redevelopment. In order to reduce pollutants in runoff flows from these sources to the MEP, each Permittee shall review and update its existing program, which shall, at a minimum, address the following:

- a. Each Permittee shall incorporate water quality and watershed protection principles into planning procedures and policies such as: the General Plan or equivalent plans (e.g., Comprehensive, Master or Community Plan) to direct land use decisions and require implementation of consistent water quality protection measures for all development projects. Such water quality and watershed protection principles and policies shall consider the following:
 - i. Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and use on-site infiltration of runoff in areas with appropriate soils where the infiltration of storm water would not pose a potential threat to groundwater quality.
 - ii. Implement pollution prevention methods supplemented by pollutant source controls and/or treatment controls. 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 storm water 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 existing drainage master plans or studies to estimate increases in pollutant loads and flows resulting from projected future development and require incorporation of structural and non-structural BMPs to mitigate the projected increases in pollutant loads in runoff.
 - 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. Implement source and/or treatment controls as necessary to protect downstream receiving water quality from increased pollutant loads in runoff flows from new development and significant redevelopment.
 - viii. Control the post-development peak storm water run-off discharge rates and velocities to prevent or reduce downstream erosion, and to protect stream habitat.
 - b. Prior to project approval and issuance of local permits for new development and significant redevelopment, each Permittee shall review the proposed project plan and require measures to ensure that all development is in compliance with the Permittee's storm water ordinances, local permits, and other applicable requirements.
17. By **1 December 2003**, each Permittee, except the City of Galt, shall develop and submit for public review and comment, and Executive Officer approval a **Development Standards**

Plan (DSP) which describes measures to reduce pollutant discharges to the MEP from all new development and significant redevelopment projects. The City of Galt shall meet this requirement by **1 July 2004**. To ensure consistency with the applicable portions of State Board Order WQ 2000-11, the DSP shall provide the following information:

- a. A description of existing Development Standards, if any, including project categories, BMP requirements and numeric sizing criteria;
 - b. A comparison of existing development standards to the requirements established under State Board Order WQ 2000-11 and/or other applicable directives; and
 - c. A description of the proposed modifications to the Development Standards to ensure that, at a minimum, they are consistent with the requirements of State Board Order WQ 2000-11 and this Order.
18. Within one year of approval of the DSP, each Permittee shall amend, or adopt if needed, its own local Development Standards, including amendment of ordinances as needed.
19. Upon amendment or adoption of local Development Standards, each Permittee shall ensure that all new development and significant redevelopment projects falling under the priority project categories listed below are reviewed and conditioned for compliance with the Development Standards. The local Development Standards shall apply to all priority projects or phases of priority projects that do not have the following by the adoption date for the local Development Standards: approval by the City or County Engineer, permit for development or construction, an approved special permit, 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 listed below. The term “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 replacement of a structure; replacement of impervious surface that is not part of a routine maintenance activity; and land-disturbing activities related to structural or impervious surfaces. Where significant redevelopment results in an increase of less than 50 percent of the impervious surfaces of a previously existing development, and the existing development was not subject to Development Standards, the BMP design standards discussed below apply only to the addition, and not to the entire development. Priority Development Project Categories are listed below.
 - i. Home subdivisions with ten housing units or more. This category includes single-family homes, multi-family homes, condominiums, and apartments.
 - ii. Commercial developments. This category is defined as any development on private land that is not for heavy industrial or residential uses where the impervious land area for development 100,000 square feet or more. The category includes, but

is not limited to hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, commercial nurseries, 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 by 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 5,000 square feet or more.
 - 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) and has 5,000 or more feet of impervious area.
 - v. Hillside developments 5,000 square feet or more of impervious area. This category is defined as any development that creates 5,000 square feet of impervious surface in an area with known erosive soil located in an area with natural slopes having a twenty-five percent or greater grade.
 - vi. Parking lots exposed to rainfall that are 5,000 square feet or more, or with 25 or more parking spaces. This category is defined as an uncovered impervious area for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
 - vii. Street, roads, highways, and freeways. This category includes any paved surface five acres or greater used by automobiles, trucks, motorcycles, and other vehicles.
 - viii. 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.
- b. BMP Requirements: The Development Standards Plan shall include a list of recommended source and/or structural treatment control BMPs for all new development and significant redevelopment projects falling under the above priority project categories or locations. At a minimum, Retail Gasoline Outlets shall be required to use the BMPs listed in the California Storm Water Quality Task Force, March 1997 BMP Guide for Retail Gasoline Outlets.
 - c. Numeric Sizing Criteria: As a part of the DSP, the Permittees shall review their existing numeric sizing criteria for structural treatment BMPs and ensure that it is comparable to the following 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 percent or more volume treatment by the method recommended in California Storm Water Best Management Practices Handbook – Industrial/Commercial, (1993).
- 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: The Permittee may develop or use any equivalent numeric sizing criteria or performance-based standard for post-construction structural treatment BMPs as part of these requirements. Such equivalent sizing criteria may be authorized for use in place of the above criteria. In the absence of an equivalent numeric sizing criteria, the criteria contained above shall be implemented.
- e. Pollutants and Activities of Concern: The DSP shall consider pollutants of concern or activities of concern in identifying appropriate BMPs for new development or significant redevelopment projects. In selecting BMPs, the following shall be considered: (1) the target pollutants; (2) land use and pollutants associated with that land use type; (3) pollutants expected to be present on site at concentrations that would pose potential water quality concerns; and (4) 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: The DSP shall describe the process used to implement the Development Standards and all proposed modifications to the process. The process shall also include identification of the roles and responsibilities of various municipal departments in implementing these standards, as well as any other measures necessary for the implementation of these standards.
- g. Infiltration and Groundwater Protection: To protect groundwater quality, the Permittee shall apply restrictions to the use of structural BMPs designed to primarily function as infiltration devices (such as infiltration trenches and infiltration basins). Such

restrictions shall ensure that the use of such infiltration structural treatment BMPs shall not cause a violation of applicable groundwater quality standards.

- h. **Downstream Erosion:** The DSP shall include any existing criteria or proposed modifications to ensure that discharges from new development and significant redevelopment address the potential for downstream erosion and protect stream habitat. At a minimum, the Permittees' Development Standards process shall consider the need for measures to control peak storm water discharge rates and velocities in order to protect downstream erosion and stream habitat. Storm water discharge volumes and durations should also be considered in the Development Standards.
- i. **Waiver Provision:** The Permittee may provide for a project to be waived from the requirement of implementing structural treatment BMPs if infeasibility can be established as described below.
- j. **Conflicts with Local Practices:** The DSP shall include a description of necessary modifications to existing codes and ordinances and an implementation schedule for these modifications.

20. **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 for Development Standard requirements. Upon review and a determination by the Executive Officer that the proposal is technically valid and appropriate, 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 via secured 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 required by this Order.

21. **Waiver Program:** Anytime during the term of the Order, a Permittee may propose a waiver program that would require any developers receiving waivers to transfer the savings in cost, as determined by the Permittee, to a storm water mitigation fund. Any proposed waiver program shall be subject to the approval of the Executive Officer. Any Permittee may consider a waiver for projects where structural treatment BMPs are infeasible. The Permittee shall only grant a waiver when all appropriate structural treatment BMPs have been considered and rejected as infeasible. The Permittee shall notify the Regional Board **within one month** of each waiver issued and shall include the name of the person granting each waiver. Funds may be used for projects to improve urban runoff quality within the watershed of the waived project. At a minimum, a proposed waiver program shall identify the following:

- a. The entity or entities that will manage (i.e., assume full responsibility for) the storm water mitigation fund;
 - b. The range and types of acceptable projects for which mitigation funds may be expended;
 - c. The entity or entities that will assume full responsibility for each mitigation project, including its successful completion; and
 - d. How the dollar amount of fund contributions will be determined and managed.
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 post-construction structural and treatment control BMPs. Verification shall include one or more of the following as applicable:
- a. The developer's signed statement accepting responsibility for maintenance until the maintenance responsibility is legally transferred to another party; or
 - b. Written conditions in the sales or lease agreement that require the recipient to assume responsibility for maintenance; or
 - c. Written text in project conditions, covenants and restrictions for residential properties assigning maintenance responsibilities to a home owner's association, or other appropriate group, for maintenance of structural and treatment control BMPs; or
 - d. Any other legally enforceable agreement that assigns responsibility for maintenance of structural or treatment control BMPs.
23. **California Environmental Quality Act Document Update:** Each Permittee shall incorporate into its CEQA process, within 180 days of the effectiveness date of this Order, 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 material storage areas, 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.

24. **General Plan Update:** Each Permittee shall do the following:

- a. Evaluate and amend, revise, or update as necessary, 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: land use, housing, conservation, and open space.
- b. 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.*

25. **Targeted Employee Training:** Each Permittee shall provide annual training for its employees in targeted positions (whose jobs or activities are engaged in development planning), regarding the requirements of this Order that affect development planning beginning no later than **1 September 2004**.

26. **Technical Guidance and Information for Developers**

- a. Each Permittee shall make Development Standards available to developers as they are adopted/approved.
- b. Within one year of adopting Development Standards, each Permittee shall issue new or amended technical guidance manuals to the development community in that Permittee's jurisdiction for the siting and design of storm water quality BMPs. The technical manual(s) shall at a minimum include:
 - i. Source and treatment control BMP design criteria for BMPs acceptable for use in the local area;
 - ii. Peak flow control criteria to control peak discharge rates, velocities and duration;
 - iii. Expected pollutant removal performance ranges for the BMPs (or references to national databases, technical reports and/or scientific literature); and
 - iv. Maintenance considerations.

Additional Requirements

27. This Order may be modified or alternatively revoked or reissued prior to the expiration date as follows: (1) to address a significant change in conditions identified in technical reports required by the Regional Board that was unknown at the time of the issuance of this Order; (2) 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; (3) to incorporate applicable requirements of future State Board orders, or (4) 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.

28. 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 (Attachment B) and its individual paragraphs are referred to as “Standard Provisions.”
29. This Order expires on **1 December 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 reissuance of waste discharge requirements.

I, THOMAS R. PINKOS, 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 **6 December 2002**.

THOMAS R. PINKOS, Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2002-0206

NPDES NO. CAS082597

MONITORING AND REPORTING PROGRAM

COUNTY OF SACRAMENTO AND
CITIES OF CITRUS HEIGHTS, ELK GROVE, FOLSOM, GALT AND SACRAMENTO
SACRAMENTO COUNTY

I. **MONITORING AND REPORTING PROGRAM REQUIREMENTS**

This Monitoring and Reporting Program (MRP) is issued pursuant to the California Water Code Section 13267 and 13383. Because the Permittees operate facilities that discharge waste subject to storm water regulations, this MRP is necessary to ensure compliance with Order No. R5-2002-0206 (hereafter "Order").

The Permittees shall not cease or reduce any monitoring required by this MRP unless and until the Central Valley Regional Water Quality Control Board (hereafter "Regional Board") or the Regional Board's Executive Officer issues a revised MRP.

- A. **Annual Monitoring Plan:** The Permittees shall submit by **1 May** of each year a proposed joint-Permittee Annual Monitoring Plan, that includes clearly defined tasks, responsibilities, and schedules for implementation of monitoring activities for the next fiscal year. The Annual Monitoring Plan shall be deemed to be final and enforceable under this Order as of **1 July** of each year unless determined to be unacceptable by the Executive Officer. Each Permittee shall address any comments or conditions of acceptability received from the Executive Officer on the Permittees' Annual Monitoring Plan.
- B. **Annual Report:** The Permittees shall submit, in both electronic and paper formats and no later than **1 October** of each year, an Annual Report documenting the progress of the Permittees' implementation of the Storm Water Quality Improvement Plan (SQIP) and the requirements of this Order. The Annual Report shall discuss each Permittee's status of compliance with this Order and the SQIPs, including a compilation of deliverables and milestones completed during the previous fiscal year, and a discussion of program effectiveness relative to performance standards defined in the SQIPs. In each Annual Report, the Permittees may propose pertinent updates, improvements, or revisions to the SQIPs, which shall be complied with under this Order unless disapproved by the Executive Officer or acted upon in accordance with this Order.

Each Permittee shall complete and submit the attached form (MRP Attachment A) as part of the Annual Report, or propose an alternative, comparable form in the SQIP to be used instead of the attached form.

The Annual Reports shall also include the following:

1. Documentation of compliance with requirements for annual reports listed in 40 CFR 122.42(c);
2. An executive summary discussing the effectiveness of the SQIP to reduce storm water pollution to the maximum extent practicable (MEP) and to achieve compliance with water quality standards in receiving waters;
3. A summary of activities conducted by the Permittees;
4. Identification of BMPs and a discussion of their effectiveness at reducing urban runoff pollutants and flow, where applicable;
5. A summary of monitoring data for the effective year of the Annual Report and all previous years' data for years covered under this Order. The summary shall include a comparison of monitoring data with applicable water quality standards in the Basin Plan, the California Toxics Rule (CTR), and Title 22 of the California Code of Regulations (Title 22);
6. Any Reports of Water Quality Exceedance prepared pursuant to Receiving Water Limitations of this Order;
7. A map or maps showing all monitoring station locations and descriptions of each location, major waterways, and urbanized areas within Sacramento County; and
8. Recommendations to improve the monitoring program, BMPs, performance standards, and the SQIP to address water quality exceedances and potential pollutant sources, and to meet the MEP requirement.

In addition to the requirements listed above, the final Annual Report of this Order (i.e., the Annual Report for the fiscal year ending **30 June 2007**) shall include:

1. An estimate of total pollutant loads attributable to urban runoff for each monitoring station; and
2. An evaluation of the long-term trends in MS4 discharges and receiving water quality.

3. An evaluation of any correlation between target pollutants identified by the Permittees (including but not limited to metals and PAHs) and TSS loadings for the sampling events that are analyzed for the full suite of constituents.
- C. **Notification of Water Quality Exceedance:** The Permittees shall notify the Regional Board, in writing, of any exceedance of applicable water quality standards within **90 days** of the monitoring event from which the exceedance was detected.
- D. **Report of Water Quality Exceedance:** Upon a determination by either the Permittees or the Regional Board that discharges are causing or contributing to exceedance(s) of an applicable water quality standard, the Permittees shall prepare a RWQE pursuant to the procedure described in Receiving Water Limitation B.2 of this Order.
- E. **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 _____, 20__.

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 each 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:

- Provide data necessary to assess compliance with this Order;
- Measuring and improving the effectiveness of the SQIP and implemented BMPs;
- Assessing the physical, chemical, and biological impacts of urban runoff on receiving waters;
- Characterizing urban runoff discharges;
- 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 SQIP to reduce pollutant loadings and protect and enhance the beneficial uses of the receiving waters in the urbanized areas of Sacramento County.

The Permittees shall implement the Monitoring Program as follows:

A. Sampling Protocol

1. Samples collected from the receiving water and urban discharge monitoring stations described below shall be analyzed for constituents listed in Table 1 for all sampling events unless otherwise noted.
2. Samples collected from the monitoring stations described below shall be analyzed for constituents listed in Table 2 during the first storm event of the 2nd and 5th years of this Order.
3. If a Table 1 constituent is not detected at the method detection limit for its respective test method in more than 75 percent of the first 12 sampling events, the Permittees may request that the constituent be moved from Table 1 to Table 2; however, if the constituent is detected at any time at or above state water quality standards, it must continue to be monitored.

4. 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. Environmental Protection Agency (USEPA) methods¹ at sites where flow measurement devices are not in place.
5. All sample collection and analyses shall follow standard USEPA protocol.
6. To meet a monitoring requirement, the Permittees may support (financially or otherwise) another agency or monitoring program that will conduct the monitoring.

B. Receiving Water Monitoring

The new receiving water monitoring requirements described herein will require the Permittees to establish new monitoring stations, develop new operating procedures, and train personnel. The new receiving water monitoring requirements shall therefore take effect on **1 July 2003** allow the Permittees adequate time to accomplish the necessary tasks.

Receiving water monitoring as part of this MRP includes regular monitoring of the American and Sacramento Rivers and three tributaries: Arcade, Morrison and Willow Creeks. Receiving water monitoring may be postponed if a given monitoring station cannot be safely accessed because of hazardous weather, high river flow conditions or any other reasonable condition. Receiving water monitoring requirements for rivers and creeks are described below.

1. American and Sacramento River Monitoring

Each year, samples shall be collected **during two wet season storm events**, targeting the first storm of the wet season, and **two dry season events**. Monitoring shall be conducted at the following locations:

American River

- (1) Between the Capitol City Freeway (a.k.a. Business 80) and the Strong Ranch Slough urban discharge point
- (2) West of Sump 111 (Discovery Park Station)

Sacramento River

- (1) Veteran's Bridge Station (upstream of urban area)
- (2) Just south of the Sump 34 urban discharge point (Freeport Bridge Station)

¹ NPDES Storm Water Sampling Guidance Document, USEPA 833-B-92-001, July 1992

The precise locations of these monitoring stations shall be presented in the SQIP and Annual Monitoring Plans.

American and Sacramento River monitoring shall be conducted in a manner that measures the maximum anticipated water quality impacts from MS4 discharges from the following pump stations: Chicken/Strong Ranch Slough and Sumps 34, 104 and 111.

Receiving water samples shall be cross-sectional, depth-composite samples unless a particular parameter analysis requires grab samples, or low flow or dangerous flow conditions warrant the collection of grab samples.

2. Urban Tributary Monitoring at Arcade, Morrison and Willow Creeks
 - a. Samples shall be collected during **three wet season storm events**, targeting the first storm of the wet season, and **one dry weather event** per year shall also be monitored at each station. If a given tributary is dry or has only standing water during a scheduled sampling event, then sampling is not required; however, Permittees shall attempt to sample tributaries at times when water flows are more likely, such as the early part of the dry season.
 - b. Tributary receiving water samples shall be either grab collected at mid-depth and mid-stream or time-composite samples collected using an automated sampler.
 - c. Samples shall be taken just upstream of the tributary's confluence with the main stem of creeks or rivers. Constituents to be analyzed for each location shall include the following:
 - i. Priority pollutants listed in Table 1 for the first sampling event of the wet season only;
 - ii. Constituents listed in Table 2 for the first sampling event of the wet season for the 2nd and 5th years of this Order;
 - iii. Dissolved oxygen, pH, temperature, conductivity, and total suspended solids;
 - iv. Indicator bacteria; and
 - v. Constituents for which the water body is impaired downstream of the monitoring station²;

² The current California 303(d) List and TMDL Priority Schedule lists pollutants for each impaired water body.

C. **Urban Discharge Monitoring**

Consistent with the established urban discharge monitoring program, the Permittees shall monitor urban discharges from the following monitoring stations: Strong Ranch Slough, Sump 104 and Sump 111. Monitoring shall alternate on a schedule of two years of monitoring with the following year off. For each monitoring year, samples shall be collected during **three wet season storm events**, targeting the first storm of the wet season, and from **two dry season events** for each monitoring station. Any storm event monitoring missed because of a lack of rain shall be made up the following event or year.

Whenever possible, urban discharge monitoring events shall be conducted during the same storm event, or on the same day for dry season monitoring, as receiving water monitoring events.

Samples shall be flow-weighted composites collected for the duration of the storm, with a maximum composite period of 24 hours. Because of the inherent difficulty in fully capturing an entire storm event, the Permittees shall report the portion of the storm event “captured” or during which samples were collected. Samples may be collected manually or automatically.

D. **Water Column Toxicity Monitoring**

The Permittees shall analyze samples to evaluate the extent and causes of toxicity in receiving waters, and to provide information to support identification of practices that eliminate sources of toxicity or remove them to the MEP.

The Permittees shall conduct short-term chronic toxicity testing at each downstream receiving water monitoring station during the second of the five fiscal years (July 1 of the current year to June 30 of the following year) of this Order. Toxicity testing shall include (1) analysis of samples from **two wet season storm events**, targeting the first storm of the wet season, **and two dry season events** 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*) and water flea (*Ceriodaphnia dubia*). If new toxicants are discovered in the first toxicity testing, the Permittees will perform additional toxicity tests as directed by the Executive Officer.

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 six 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.³ Alternatively, the Permittees may employ directed TIE methods in parallel to the toxicity testing (e.g., PBO addition) instead of a Phase I TIE when there are strong indications as to the cause(s) of toxicity.

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 percent 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. The potential sources of pollutant(s) causing toxicity;
 - ii. A list of Permittees having jurisdiction over sources of pollutant(s) causing toxicity;
 - iii. Recommended BMPs to reduce the pollutant(s) causing toxicity;
 - iv. Proposed changes to the SQIP to reduce the pollutant(s) causing toxicity; and
 - v. Suggested follow-up monitoring to demonstrate that toxicity has been removed.
- b. The Permittees do not need to prepare a TRE if the identified pollutant is already being addressed in the Permittees' Target Pollutant Reduction Process and/or through the Pollutant Control Strategy. If this is the case, the toxicity found shall be noted and addressed through on-going implementation of that Pollutant Control Strategy.

³ Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. Toxic Units are calculated by dividing 100 by the calculated median test response value (e.g., LC50 or EC50). For example, a LC50 of 50% sample equals 2 Toxic Units. Ceriodaphnia TIEs require at least 50% mortality in undiluted sample (1 Toxic Unit) at any time during the 7-day duration of the initial chronic bioassay (SCCWRP).

- c. If TRE implementation for a specific pollutant coincides with Total Maximum Daily Load (TMDL) implementation for that pollutant, the efforts may be coordinated.
- d. 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.
- e. 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.
- f. The Permittees shall report on the development, implementation, and results for each TRE in the Annual Reports, beginning the year following the identification of each pollutant or pollutant class causing toxicity.

E. Additional Pesticide Monitoring

In addition to the pesticide monitoring associated with receiving water and urban discharge monitoring, the Permittees shall do the following:

- 1. Monitor trends in the levels of diazinon and chlorpyrifos in 303(d) listed waters within the Permittees' jurisdictions (in addition to receiving waters identified in Section B, Elder Creek, Elk Grove Creek, and Natomas East Main Drain will be monitored);
- 2. Monitor for diazinon and chlorpyrifos in Morrison Creek prior to its entry into high density residential/commercial areas;
- 3. 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 complete program 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 the additional four water bodies. The Permittees shall submit such an evaluation and formal request to Regional Board staff for the reduction or discontinuation of additional pesticide monitoring;

4. Monitor diazinon and chlorpyrifos in rainwater at one site within and one site outside of the Sacramento urban area, beginning in the second year of this Order. This monitoring shall be done during five wet season storm events (if possible) per year and shall only be required if it can be performed in conjunction with other rainwater monitoring to be performed by others outside of Sacramento County (e.g., Regional Board or U.S. Geological Survey). The Permittees may request that rainwater monitoring be discontinued or reduced after the third year of this Order. The Permittees shall submit an evaluation and formal request to Regional Board staff for the reduction or discontinuation of rainwater monitoring. Discontinuation of monitoring may be granted if diazinon and chlorpyrifos are not found in rainwater or if diazinon and chlorpyrifos in urban streams are below receiving water limitations.
5. Should the Regional Board determine that a Diazinon and Chlorpyrifos Mitigation Program is required per the Order, the Permittees shall prepare a diazinon and chlorpyrifos monitoring and surveillance plan as part of that mitigation strategy to identify and quantify the remaining urban sources of diazinon and chlorpyrifos. This monitoring and surveillance may be based on known remaining uses of diazinon and chlorpyrifos in the Sacramento urban area; and
6. The Permittees shall provide 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 Section 13394 of California Water Code) or are on the Federal Clean Water Act (CWA) 303(d) list. This assessment should take into account the contribution of the sources outside of the urban area (including contributions via atmospheric transport). This assessment should 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 water bodies. The results of this assessment shall be reported in the **1 October 2005 Annual Report**. Updates to the initial assessment results shall be conducted as needed as part of subsequent Annual Reports unless the Regional Board determines that diazinon and chlorpyrifos in urban storm water runoff no longer causes or contributes to the maintenance of a toxic hot spot or non-attainment of water quality standards in CWA 303(d) listed water bodies.

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

F. **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). 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 Sacramento County's urbanized areas.
2. The Permittees shall submit a bioassessment monitoring plan by **1 September 2003**. Monitoring shall begin as soon as practicable after approval of the monitoring plan and stations by the Executive Officer. A minimum of three replicate samples shall be collected at each station during each sampling event.
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 made available to the Executive Officer upon request.
4. Field sampling must conform to the SOPs established for the California Stream Bioassessment Procedure (CSBP)⁴ when appropriate. For sampling of aquatic environments where the CSBP is not appropriate (e.g., an estuary or unswimmable 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. Field data and sample Chain-of-Custody (COC) forms shall be examined for completion and errors by the field crews, the Permittees, and the receiving laboratory. These forms shall be made available to DFG or the Executive Officer upon request.

⁴ California Stream Bioassessment Procedure (Protocol Brief for Biological and Physical/Habitat Assessment in Swimmable Streams), California Department of Fish and Game - Aquatic Bioassessment Laboratory, May 1999. Located at www.dfg.ca.gov/cabw/protocols.html.

5. Field sampling events shall be (1) planned at random intervals, and (2) performed by personnel (i.e., consultants, Permittee employees, or citizen volunteers) properly trained in field and quality assurance procedures, and CSBP methods.
6. A professional environmental laboratory shall perform all laboratory, quality assurance, and analytical procedures. Taxonomic identification laboratories shall process the biological samples; this usually 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 sub-sampling, 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 percent for the first two years of the program. If there are no substantial QA/QC problems, the level of external validation may be decreased to 10 percent in the third year of monitoring upon approval by the Executive Officer. External QA/QC should be arranged through the DFG's Aquatic Bioassessment Laboratory in Rancho Cordova.
7. The following results and information shall be included in each Annual Report beginning with the **1 October 2004** 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
 - g. Copies of all QA/AC documents from laboratories.

III. SPECIAL STUDIES

A. Water Quality Detention Basin Effectiveness Study

The Permittees previously completed a multi-year study to assess the effectiveness of a local dry extended detention basin (Brown Road Basin on Strawberry Creek). The Permittees shall submit by **1 September 2003** a work plan to similarly assess the pollutant removal performance of a representative wet water quality detention basin.

The County shall continue its multi-year study of sediment quality for several water quality detention basins.

B. Erosion Potential Study

The Permittees have implemented development standards that include control of peak runoff rates, velocities, volumes, and durations of flow. The primary objective is flood control, but there may also be water quality benefits, depending on the area and/or project. In conjunction with the preparation of the Development Standards Plan, the Permittees shall review the existing standards and determine if modifications are needed to better address downstream erosion impacts. This work will include a representative field investigation to determine whether or not the existing standards are protective of downstream creek stability and habitat⁵. The Permittees shall submit this report by **1 December 2004**.

C. Dry Weather Flow Study

The Permittees shall conduct a study evaluating the feasibility of routing dry weather urban runoff discharges from collection sumps (e.g., Sumps 34, 104, 111 and Chicken Ranch Slough) into the sanitary and/or combined sewer systems. The report shall include discussions of technical issues, any jurisdictional or legal issues, a cost-benefit analysis, and any recommendations for further action. The report shall be submitted with the **1 October 2006** Annual Report.

D. Structural BMP Effectiveness Studies

The Permittees shall continue the investigation of structural control measures (BMPs) in an effort to require manufacturers to produce adequate field test data to verify their claims of product performance. The study shall be updated biannually and results shall determine which BMPs are acceptable for more widespread use in the Sacramento region.

Concurrently, the Permittees shall continue to work with manufacturers of structural BMPs to encourage, support and/or cost-share on local studies to evaluate the effectiveness of selected BMPs. The objectives of these studies shall include the following:

1. Monitor the reduction of pollutants of concern in site runoff. Monitoring shall be continued until the effectiveness of the BMP is determined;
2. Evaluate the requirements and costs for installation and maintenance cost of the BMP; and

⁵ Order No. R5-2002-0206 (under "Development Standards") requires the development of numerical criteria for peak flow control in natural drainage systems.

3. Develop recommendations for more widespread use of the BMP in the Sacramento region.

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 USEPA 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 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. 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.
- 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 numeric 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(1)(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 this 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(1)(4)(iii)]

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

L. 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, Executive Officer

Date