STATE OF CALIFORNIA
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER No. 90-079

NPDES NO. CA0061654 (CI 6948)

WASTE DISCHARGE REQUIREMENTS STORMWATER/URBAN RUNOFF DISCHARGE for LOS ANGELES COUNTY and CO-PERMITTEES

The California Regional Water Quality Control Board, Los Angeles, (Regional Board) finds :

1. The County of Los Angeles, in cooperation with the following cities : Agoura Hills, Beverly Hills, Culver City, El Segundo, Hermosa Beach, Inglewood, Los Angeles, Manhattan Beach, Rancho Palos Verdes, Redondo Beach, Rolling Hills Estates, Rolling Hills, Santa Monica, Torrance, West Hollywood, and Westlake Village, has submitted a report of waste discharge (NPDES permit application) dated March 15, 1990 for issuance of waste discharge requirements for the County of Los Angeles and other cities tributary to Los Angeles County (excluding Antelope Valley) under the National Pollutant Discharge Elimination System (NPDES Permit No. CA0061654).

2. The discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins which discharge into water courses flowing into water bodies in Los Angeles County. The quality of these discharges varies considerably and is affected by land use, basin hydrology and geology, season, and the frequency and duration of storm events. The constituents of concern and significance in these discharges are: total and fecal coliform and enterococci bacteria, total suspended solids, biochemical oxygen demand, oil and grease, heavy metals, nutrients, polychlorinated biphenyls, polycyclic aromatic hydrocarbons, pesticides and herbicides, and petroleum hydrocarbons.

ATTACHMENT A

3. The objective of this permit is to develop a timely, comprehensive, and cost-effective stormwater pollution control program to minimize pollutants in urban runoff/stormwater discharges to water bodies in Los Angeles County.

4. Due to the complexity and networking of drainage facilities within and tributary to Los Angeles County, the county and adjacent areas discharging storm water into Los Angeles County are divided and prioritized into five drainage basins for the implementation of the permit. The owners/operators of all facilities impacting stormwater quality will be ultimately a party to these waste discharge requirements. The County of Los Angeles together with the cities identified above, the initial parties filing for the system-wide permit, are 'Permittees', with the County of Los Angeles as the 'Principal Permittee' and the rest as 'Co-Permittees'. All other cities and recognized entities such as Caltrans, college/university campuses, hospitals, parks, agricultural areas, real estate developments and waste disposal facilities identified in this Order, are designated 'Co-Participants'. A 'Co-Participant' will be a 'Co-Permittee' upon becoming an active party to the permit.

   Attachments 1 and 2 show, respectively, the list of cities and a partial list of entities designated as Co-Participants for this permit. The list of entities will be revised as necessary.

5. The County of Los Angeles, as the 'Principal Permittee', will obtain the cooperation of 'Co-Participants' to become 'Co-Permittees'. The Regional Board has the discretion and authority to require non-cooperating cities and/or entities to become 'Co-Permittees' or obtain individual stormwater discharge permits, pursuant to 40 CFR 122.26 (a).

6. Los Angeles County as the 'Principal Permittee' is the permit coordinator responsible for general administration of this Order, and coordinating cooperation by 'Co-Permittees', including but not limited to the implementation of local self-monitoring programs and Best Management Practices, and the preparation and submittal of reports required by this Order.

7. Los Angeles County obtains its authority to :

   - control pollutants in stormwater discharge
   - prohibit illegal discharges and control spills
   - require compliance and carry out inspections

of drainage facilities in the County of Los Angeles from the Los Angeles County Flood Control Act and various county ordinances which address industrial wastes and waste discharges within the unincorporated areas of Los Angeles County and contract cities. 'Co-Permittees' with the status of incorporated cities have various forms of legal authority in place, such as charters, State Code provisions for General Law cities, city ordinances and applicable portions of Municipal Codes and the State Water Code, to regulate stormwater/urban runoff discharges.

8. The division and prioritization of Los Angeles County and adjacent areas into five drainage basins for program implementation are based on hydrological characteristics of the watersheds, perceived importance and beneficial uses of water bodies, and the existence of an adequate infrastructure for program implementation. The five drainage basins are :

I	:	Santa Monica Bay Drainage Basin
II	:	Upstream Los Angeles River Drainage Basin, to and including Sycamore Canyon Channel (San Fernando Valley);
III	:	Upper San Gabriel River (San Gabriel Valley) Drainage Basin.
IV	:	Lower Los Angeles River Drainage Basin
V	:	Lower San Gabriel River Drainage Basin; and Santa Clarita Valley Basin.

Attachment 3 shows a map of Los Angeles County with the boundary delineations of the five drainage basins.

Attachment 4 shows Co-Participant cities in Los Angeles County (and their respective populations).

[Note: Detailed maps of the Los Angeles County storm drain system with boundary delineations of drainage basins are available for review at the Regional Board Office.]

9. A number of studies on stormwater/urban runoff pollution in the permit areas has been conducted by agencies such as the City of Los Angeles, the Southern California Coastal Water Research Project and the Southern California Association of Governments. These studies indicate stormwater/urban runoff contributes significantly to the deterioration of the quality of water bodies in Los Angeles County.

   The University of California at Los Angeles, under the sponsorship of the Santa Monica Bay Restoration Project, is currently compiling and summarizing data and information on stormwater/urban runoff discharges for the Santa Monica Bay watershed.

10. The Los Angeles County Department of Public Works has an active surface water quality monitoring program in the permit area, comprising twenty-eight monitoring stations located at principal storm drains and water conservation facilities. The Surface Water Quality Monitoring Program comprises the collection and analysis of dry weather water samples for general minerals, pesticides, total petroleum hydrocarbons, heavy metals and bacteria (total and fecal coliform, KF streptococci and enterococci). Volatile organic constituents are tested semi-annually at selected stations. Stormwater runoff is monitored three to four times annually at twenty-one stations for minerals, pesticides, heavy metals (total and dissolved), bacteria, total and organic suspended solids, oil and grease, biochemical oxygen demand, total organic carbon and volatile organics.

11. The Los Angeles County Department of Public Works and some cities have on-going activities that reduce stormwater/urban runoff pollutant loads. These activities include periodic catch-basin cleaning and street sweeping, public information on proper disposal of household hazardous waste, and emergency responses to reports of illegal dumping, illicit disposal, illegal connections, and industrial waste spills. The Los Angeles County Department of Public Works also participates and coordinates action with local, State, and Federal agencies responding to spills and illegal dumping reports that threaten surface waters.

12. The Regional Board currently regulates industrial process and point source non-process wastewater and stormwater discharges to storm drain systems through NPDES permits. Point source discharges including stormwater will continue to be regulated by the Regional Board. An information system will be developed and maintained to update pollutant loadings to designated

drainage facilities and water bodies from permitted point source discharges.

13. The State Water Resources Control Board (State Board) adopted a Water Quality Control Policy for the Enclosed Bays and Estuaries of California on May 16, 1974. The policy provides that the discharge of industrial process waters to enclosed bays and estuaries shall be prohibited. Storm water and urban runoff are not considered industrial process waters for the purpose of that policy.

14. The State Board adopted a revised Water Quality Control Plan for Ocean waters of California (Ocean Plan) on March 22, 1990, which amended the Plan adopted on September 22, 1988. The Plan contains water quality objectives for the coastal waters of California.

15. The Regional Board adopted a revised Water Quality Control Plan for the Los Angeles River Basin (Basin Plan) on November 27, 1978. The Basin Plan incorporates the Ocean Plan, and contains water quality objectives for the basin, including the beneficial uses of water bodies.

16. The beneficial uses of water bodies in Los Angeles County and their tributary streams include contact water recreation, non-contact water recreation, wildlife habitat, preservation of rare and endangered species, marine habitat, estuarine habitat, fish migration, fish spawning, industrial service and process supply, agricultural water supply, shellfish harvesting, navigation, commercial and sport fishing, and groundwater recharge.

17. Section 405 of the Water Quality Act of 1987 added Section 402(p) to the Clean Water Act of 1972 to require the Environmental Protection Agency (EPA) to establish regulations for stormwater/urban runoff discharge under the National Pollutant Discharge Elimination System (NPDES).

18. The Federal Clean Water Act allows EPA to delegate its NPDES permitting authority to States with an approved environmental regulatory program. The State of California is one of the delegated States. The Porter-Cologne Act (State Water Code) authorizes the State Board, through its Regional Boards, to regulate and control the discharge of pollutants into waters of the state and tributaries thereto.

19. Although Water Code Section 13263 (a) requires that waste discharge requirements issued by Regional Boards shall include provisions to implement water quality based objectives, numerical water quality standards

are not provided in this Order. Information is not available to establish appropriate numerical limits, and determine locations where permittees shall be made accountable. The requirements in this Order will provide the necessary information while concurrently achieving reductions in pollutant loads to water bodies from stormwater/urban runoff discharges. Numerical water quality objectives will be developed by Board staff for consideration in the permit renewal process and utilized for the evaluation of Best Management Practices.

20. Due to the significance of the Los Angeles County Stormwater/Urban Runoff Program, the Regional Board, in recognition of the need for public involvement and participation in the development and implementation of an effective program will conduct at a minimum an annual workshop, prior to approving plans submitted by Permittees, to solicit comments and to inform the public of the progress of the program. Comments presented will be referred to Los Angeles County for response.

21. Stormwater/urban runoff discharges to drainage facilities that cross County boundaries and Regional Board jurisdictions, and which are regulated under NPDES permits, are the regulatory responsibility of those agencies issuing the permits.

22. The issuance of waste discharge requirements for this discharge is exempt from the provisions of the California Environmental Quality Act (CEQA); Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code in accordance with Water Code Section 13389.

The Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge and has provided them with an opportunity to submit their written views and recommendations.

The Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

This Order shall serve as a National Pollutant Discharge Elimination System permit pursuant to Section 402 of the Federal Clean Water Act, or amendments thereto, and shall take effect at the end of ten days from the date of its adoption provided the Regional Administrator, EPA, has no objections.

IT IS HEREBY ORDERED that the Permittees, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder,

and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder, shall comply with the following:

1.0 COMPLIANCE

1.1 The Permittees and Co-Permittees shall comply with the requirements contained in this Order according to the following schedule:

	DRAINAGE BASIN	STARTING DATE FOR COMPLIANCE WITH REQUIREMENTS
I.	Santa Monica Bay	July 1, 1990
II.	Upper Los Angeles River (San Fernando Valley)	July 1, 1992
III.	Upper San Gabriel River (San Gabriel Valley)	July 1, 1992
IV.	Lower Los Angeles River	July 1, 1993
V.	Lower San Gabriel River and Santa Clarita Valley	July 1, 1993

2.0 REQUIREMENTS - YEAR 1

2.1 For each Drainage Basin, prepare and submit to the Regional Board within 12 months of the starting date for compliance, according to the schedule under 1.1:

2.1.1 Water quality data and flow data from 1980 to the present to facilitate identification of sources of pollutants present in discharges from the prioritized drainage basin. "Drainage areas" in the drainage basin are to be reported and the "drainage areas" associated with each drainage basin clearly identified.

For purposes of stormwater/urban runoff, a "drainage area" is defined as a subdivision of a drainage basin which is unique in land use patterns, and pollutant characteristics and loadings.

2.1.2 The 90th percentile value for the water quality parameters, (i) Total Suspended Solids (TSS), and (ii) Oil and Grease, from the data set of all wet weather samples collected from 1980 to the present. These data will be used to establish guidance for early action control of stormwater pollution.

The 90th percentile for a given water quality parameter is defined as the concentration value exceeded in ten percent of the samples of the reference data set.

2.1.3 Additional information of a qualitative nature that would contribute to isolating and identifying sources of problems. Such information should include but not be limited to visual observations of factors exacerbating stormwater contamination, principal land use classifications and Standard Industrial Code (SIC) categories of facilities in "drainage areas", and a description of soils, dumps, landfills, waste disposal sites and Resource Conservation and Recovery Act (RCRA) facilities associated with each area.

2.1.4 Monthly precipitation data from rain gauge stations, relevant to the drainage basin, for the years 1980 to the present, and an estimate of the area of impervious surfaces (including paved areas and building roofs) within each "drainage area".

2.1.5 Documentation of existing procedures to detect and address illegal discharges and illicit disposal practices.

2.1.6 Documentation of existing practices and improvement plans to control pollutants in stormwater/urban runoff from construction sites.

2.1.7 Documentation of existing stormwater/urban runoff management practices and existing Best Management Practices (BMPs) for the control of pollutants in discharges from residential, commercial and industrial areas.

For purposes of this permit, a Best Management Practice is defined as a stormwater quality management practice that has been demonstrated to reduce stormwater/urban runoff constituents of concern in studies in the United States and elsewhere, or a stormwater/urban runoff quality management practice that can significantly control stormwater/urban runoff pollution.

2.1.8 Plan with schedule of implementation, for approval by the Executive Officer, of early action BMPs.

For purposes of this permit, an early action BMP is defined as an existing stormwater/urban runoff quality management practice that is optimized to the maximum extent practicable (MEP) in efficiency for the control of stormwater runoff pollution, such as improving the frequency of storm drain catchment basin cleaning or the stricter enforcement of existing regulations, or a BMP that is not specific to stormwater/urban runoff constituents or "drainage area" in its constituent removal capacity and can be applied on a system-wide basis, such as public outreach and educational programs.

For purposes of this permit, maximum extent practicable means to the maximum extent possible, taking into account equitable considerations of synergistic, additive and competing factors, including but not limited to gravity of the problem, fiscal feasibility, public health risks, societal concern, and social benefits.

The Principal-Permittee, in the submittal of plans and schedules to the Executive Officer, shall demonstrate that public input has been obtained.

For purposes of this permit, public input is demonstrated by, (i) disseminating the notice of availability of plans for review and comment, to the public at large, environmental groups, Federal, State and local officials and other interested parties, and (ii) addressing concerns expressed by the public.

The Board may modify the plans in response to public input received at the Board during its comment/review period. Permittees are required to implement the original or modified plan on approval by the Executive Officer.

2.1.9 A workplan for the development of a stormwater/urban runoff monitoring program, for approval by the Executive Officer, to include but not be limited to the following information :

- o listing of constituents and parameters to be monitored and the rationale for their choice.
- o listing of monitoring locations and the rationale for their choice.
- o listing of sampling methodology of choice and frequency of sampling for both wet weather and dry weather flow.
- o supplementary information that influences the design of the monitoring plan.

The Principal-Permittee, in the submittal of the workplan to the Executive Officer, shall demonstrate that public input has been obtained.

2.1.10 Documentation that each Permittee, individually and/or jointly, through the establishment of a joint powers authority or a stormwater utility, possesses adequate legal authority to operate and manage stormwater/urban runoff quality management programs, and/or plans to obtain the necessary legal authority to regulate illegal discharges and illicit disposal practices into storm drains, and to prosecute violators.

3.0 REQUIREMENTS - YEAR 2

3.1 For each Drainage Basin, prepare and submit to the Regional Board, for approval by the Executive Officer, within 24 months of the starting date of compliance, according to the schedule under 1.1:

3.1.1 A monitoring program based on the approved workplan. This program shall be designed to:

- o detect accurately the constituents and parameters of concern, in discharges indicated in the workplan, and to identify their possible sources.
- o identify illegal dischargers and/or locations of illicit disposal practices.

Monitoring reports for this program shall be submitted according to the format and frequency to be approved by the Executive Officer.

3.1.2 Plan with schedule of implementation for additional BMPs, judged appropriate for each city or drainage basin, to control pollutants from residential, commercial and industrial sites to the maximum extent practicable.

Both structural and non-structural BMP measures are to be evaluated at the MEP standard. Examples of non-structural measures include catch basin cleaning, street sweeping and public education, while controls such as detention/retention basins, first flush diversions, grassy swales and porous pavements are examples of structural measures.

3.1.3 Plan with schedule of implementation of procedures to detect and eliminate illegal discharges and illicit disposal practices.

3.1.4 Plan with schedule of implementation of measures to control pollutants in surface runoff from construction sites.

The Principal Permittee, in the submittal of plans and schedules (items 3.1.2, 3.1.3, and 3.1.4) to the Executive Officer shall demonstrate that public input has been obtained. The Board may modify the plans in response to public input received at the Board during its comment/review period. Permittees are required to implement the original or modified plans on approval by the Executive Officer.

3.2 Evidence of satisfactory progress of implementation of plan and schedule for early action BMPs.

3.3 Evidence of all requisite legal authority to regulate illegal discharges and illicit disposal practices to drainage facilities, and to prosecute violators.

4.0 REQUIREMENTS - YEAR 3

4.1 For each Drainage Basin, submit to the Regional Board, within 36 months of the starting date of compliance, according to the schedule under 1.1, the following:

4.1.1 Evidence of satisfactory progress of implementation of plan and schedule for early action BMPs and additional BMPs.

4.1.2 Evidence of implementation and progress of procedures to detect and eliminate illegal discharges and eliminate illicit disposal practices.

4.1.3 Evidence of implementation and progress of measures to control pollutants in surface runoff from construction sites.

5.0 EXPIRATION AND RENEWAL

5.1 This Order expires on June 18, 1995.

5.2 The Permittees shall file a report of waste discharge (ROWD), not later than 180 days before the expiration date, as application for reissuance of waste discharge requirements. This report of waste discharge shall include but not be limited to the following:

5.2.1 Summary of the results of the monitoring program.

5.2.2 Summary of BMPs implemented and evaluations of their effectiveness.

5.2.3 Summary of procedures implemented to detect illegal discharges and illicit disposal practices and an evaluation of their effectiveness.

5.2.4 Summary of measures implemented to control pollutants in surface runoff from construction sites and an evaluation of their effectiveness.

5.2.5 Evaluation of the need for additional BMPs, source control, and/or structural control measures.

5.2.6 Proposed plan of stormwater/urban runoff quality management activities that will be undertaken during the term of the next permit.

I, Robert P. Ghirelli, 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, Los Angeles Region, on June 18, 1990.

ROBERT P. GHIRELLI, D.Env.
Executive Officer

CA0061654

ATTACHMENT 1

LIST OF CO-PARTICIPANT CITIES

Agoura Hills
Arcadia
Avalon
Baldwin Park
Bellflower
Beverly Hills
Burbank
Cerritos
Commerce
Covina
Culver City
Downey
El Monte
Gardena
Glendora
Hawthorne
Hidden Hills
Industry
Irwindale
La Habra Heights
La Mirada
La Verne
Lawndale
Long Beach
Lynwood
Maywood
Montebello
Norwalk
Palos Verdes Estates
Pasadena
Pomona
Redondo Beach
Rolling Hills Estates
San Dimas
San Gabriel
Santa Clarita
Santa Monica
Signal Hill
South Gate
Temple City
Torrance
Walnut
West Hollywood
Whittier

Alhambra
Artesia
Azusa
Bell
Bell Gardens
Bradbury
Carson
Claremont
Compton
Cudahy
Diamond Bar
Duarte
El Segundo
Glendale
Hawaiian Gardens
Hermosa Beach
Huntington Park
Inglewood
La Canada Flintridge
Lakewood
La Puente
Lancaster
Lomita
Los Angeles
Manhattan Beach
Monrovia
Monterey Park
Palmdale
Paramount
Pico Rivera
Rancho Palos Verdes
Rolling Hills
Rosemead
San Fernando
San Marino
Santa Fe Springs
Sierra Madre
South El Monte
South Pasadena
Thousand Oaks
Vernon
West Covina
Westlake Village

mp:LCPCI

ATTACHMENT 2

LIST OF ENTITIES (PARTIAL LIST)

Caltrans
Army Corps of Engineers
Railroad Rights of Way
Federal Hospitals

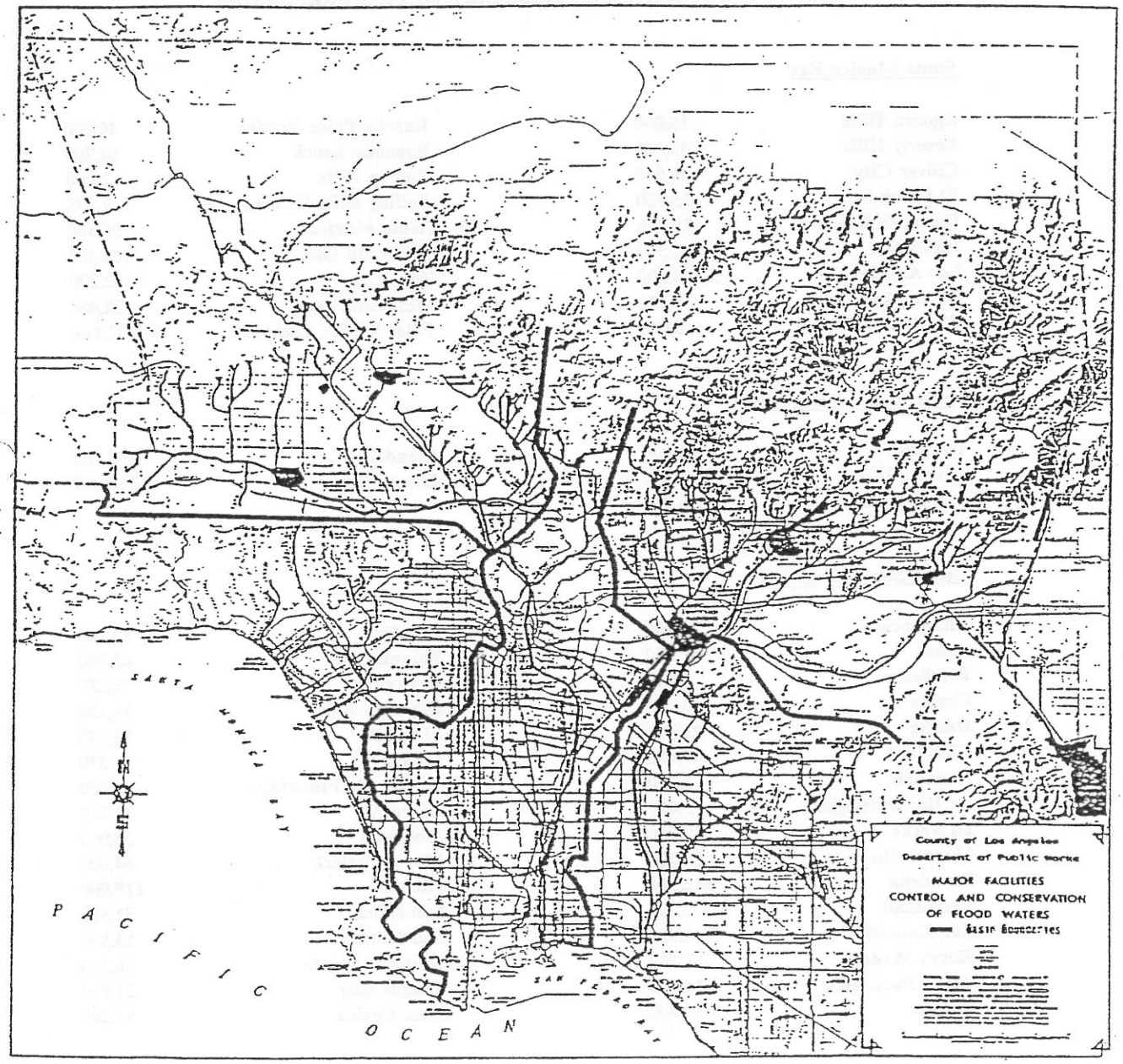
The State University System
University of California Campuses
National Forest Service
Federal Military Facilities

[This list will be updated during the permit process to indicate actual identity of agencies and entities.]

CA0061654

ATTACHMENT 3

DELINEATIONS OF DRAINAGE BASIN BOUNDARIES FOR
LOS ANGELES COUNTY



ATTACHMENT 4

CITIES (AND POPULATIONS) TRIBUTARY TO DRAINAGE BASINS

Santa Monica Bay

Agoura Hills	19,000	Rancho Palos Verdes	46,000
Beverly Hills	34,000	Redondo Beach	64,700
Culver City	40,950	Rolling Hills	2,090
El Segundo	15,750	Rolling Hills Estates	7,875
Hermosa Beach	19,750	Santa Monica	96,500
Inglewood	102,300	Thousand Oaks	104,400
Los Angeles	3,400,500	Torrance	142,200
Manhattan Beach	35,300	West Hollywood	38,400
Westlake Village	8,025	Palos Verdes Estates	15,000

Upper Los Angeles River

Burbank	93,800	Glendale	166,100
Hidden Hills	1,950	Los Angeles	3,310,057
San Fernando	20,700		

Upper San Gabriel River

Alhambra	74,900	Arcadia	49,100
Azusa	38,250	Baldwin Park	63,300
Bradbury	930	Claremont	36,550
Covina	43,250	Diamond Bar	74,120
Duarte	21,350	El Monte	95,400
Glendora	47,400	Industry	370
Irwindale	1,230	La Canada Flintridge	20,800
La Habra Heights	5,450	La Puente	33,550
La Verne	30,500	Monrovia	34,000
Montebello	58,200	Monterey Park	64,600
Pasadena	132,200	Pomona	119,000
Rosemead	47,700	San Dimas	32,500
San Gabriel	34,900	San Marino	13,800
Sierra Madre	11,250	South El Monte	18,700
South Pasadena	24,500	Temple City	31,900
Walnut	26,400	West Covina	94,200

(CONTINUED)

Lower Los Angeles River

Alhambra	74,900	Bell	28,250
Bel Gardens	38,300	Carson	88,800
Commerce	11,700	Compton	93,000
Cudahy	20,700	Downey	86,800
El Segundo	15,750	Gardena	50,900
Glendale	166,100	Hawthorne	67,400
Huntington Park	51,200	Inglewood	102,300
La Canada Flintridge	20,800	Lakewood	76,500
Lawndale	27,300	Lomita	20,300
Los Angeles	3,400,500	Lynwood	53,700
Maywood	24,650	Montebello	58,200
Monterey Park	64,600	Palos Verdes Estates	15,000
Paramount	44,450	Pasadena	132,200
Pico Rivera	57,300	Rancho Palos Verdes	46,000
Redondo Beach	64,700	Rolling Hills	2,090
Rolling Hills Estates	7,875	Signal Hill	8,150
South Gate	79,200	South Pasadena	24,500
Torrance	142,200	Vernon	80

Lower San Gabriel River

Artesia	14,950	Bellflower	60,900
Cerritos	58,400	Downey	86,800
Hawaiian Gardens	12,350	La Habra Heights	5,450
Lakewood	76,500	La Mirada	42,600
Long Beach	419,800	Norwalk	90,800
Paramount	44,450	Pico Rivera	57,300
Santa Clarita	115,700	Santa Fe Springs	16,400
Signal Hill	8,150	Whittier	74,100

Population estimates are taken from Report 89 E-1 published by the State of California Department of Finance.

The cities of Avalon (Pop: 2,490), Lancaster (Pop: 82,200), and Palmdale (Pop: 45,850) which are within Los Angeles County are not part of this permit.

California Regional Water Quality Control Board, Los Angeles Region (1994) Water Quality Control Plan, Los Angeles Region, as amended. Available on line at:

http://www.waterboards.ca.gov/losangeles/water_issues/programs/basin_plan/

State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 96-054
(NPDES NO. CAS614001)

WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 96-054
NPDES NO. CAS614001 (CI 6948)

WASTE DISCHARGE REQUIREMENTS FOR MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES

Findings

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board), finds:

Existing Permit and Report of Waste Discharge

1. The County of Los Angeles and 85 incorporated cities within the County of Los Angeles (see Attachment A, List of Permittees), hereinafter referred to as Permittees, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems, and water courses within the County of Los Angeles into receiving waters of the Los Angeles Basin under countywide waste discharge requirements contained in Order No. 90-079 adopted by this Regional Board on June 18, 1990. That Order also serves as a National Pollutant Discharge Elimination System (NPDES) permit (CA0061654).

2. On December 21, 1994, the Permittees submitted a Report of Waste Discharge (ROWD) as an application for re-issuance of waste discharge requirements and an NPDES permit.

Nature of Discharges and Sources of Pollutants

3. The discharges consist of surface runoff (non-storm water and storm water) from various land uses in all the hydrologic drainage basins that discharge into water bodies in Los Angeles County. The quality and quantity of these discharges vary considerably and are affected by the hydrology, geology, and land use characteristics of the watersheds; seasonal weather patterns; and frequency and duration of storm events.

4. Studies have shown that storm water runoff from urban and industrial areas typically contains the same general types of pollutants that are often found in wastewater in industrial discharges. Pollutants commonly found in storm water runoff include heavy metals, pesticides, herbicides, and synthetic organic compounds such as fuels, waste oils, solvents, lubricants, and grease. [References: *'Surface Runoff to the Southern California Bight'* and, *'Characteristics of Effluents from Large Municipal Wastewater Treatment Facilities in 1990*

and 1991,' SCCWRP Annual Report 1990-1991 and 1991-1992 (1993); Pitt and Field, *Hazardous and Toxic Wastes Associated with Urban Storm Water Runoff*, In Proceedings of the Sixteenth Annual RREL Hazardous Waste Reduction Symposium, Document No. EPA 600-9-90-037 (1990); *Storm Runoff in Los Angeles and Ventura Counties, Final Report*, California Regional Water Quality Control Board, Los Angeles Region (1988).]

These compounds can have damaging effects on both human health and aquatic ecosystems. In addition to pollutants, the high volumes of storm water discharged from MS4s in areas of rapid urbanization have had significant impacts on aquatic ecosystems due to physical modifications such as bank erosion and widening of channels. [References: *Fundamentals of Urban Storm Water Management*, Terrene Institute and USEPA, (1994); *Guidance Manual for the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems*, USEPA, Document No. EPA 833-B-92-002 (1992).]

5. Water Quality Assessments conducted by the Regional Board identified impairment of a number of water bodies in Los Angeles County. [Reference: *Water Quality Assessment 1996*, Regional Water Quality Control Board, Los Angeles Region (1996).] The beneficial uses of certain water bodies specifically identified in these assessments are either impaired or threatened to be impaired. Pollutants found causing impairment include: heavy metals, coliform, enteric viruses, pesticides, nutrients, polycyclic aromatic hydrocarbons, polychlorinated biphenyls, organic solvents, sediments, trash, debris, algae, scum, and odor.

6. An epidemiological study conducted during the summer of 1995 for the Santa Monica Bay Restoration Project (SMBRP) demonstrated that there is an increased risk of acute illnesses caused by swimming near flowing storm drain outlets in Santa Monica Bay. [Reference: *An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay*, SMBRP (1996).]

   Previous investigations conducted for the SMBRP showed pathogens were detected in summer runoff at four storm drain locations. [References: *Pathogens and Indicators in Storm Drains within the Santa Monica Bay Watershed*, SMBRP (1992); *Storm Drains as a Source of Surf Zone Bacterial Indicators and Human Enteric Viruses to Santa Monica Bay*, SMBRP (1991), *An Assessment of Inputs of Fecal Indicator Organisms and Human Enteric Viruses from Two Santa Monica Storm Drains*, SMBRP (1990).]

   Possible sources of pathogen contamination include pet and livestock feces, illicit sewer connections to the storm drains, leaking sewer lines, malfunctioning septic systems, and improper waste disposal by recreational vehicles, campers or transients. Additional potential sources of human pathogens in nearshore waters include sewage overflows into storm drains, small boats waste discharges, and bathers themselves.

7. The Regional Board therefore considers storm water/urban runoff discharges to be significant sources of pollutants that may be causing, threatening to cause, or contributing

to the impairment of the water quality and beneficial uses of the receiving water bodies in Los Angeles County, and, as such, need to be regulated.

Coverage and Exemptions

8. The requirements in this Order cover all areas within the boundaries of the cities as well as unincorporated areas in Los Angeles County within the jurisdiction of the Los Angeles Regional Board except the City of Avalon. The Permittees serve a population of about 11.4 million [Reference: *1990 Census of Population and Housing,* Bureau of the Census, U.S. Department of Commerce (1992)] in an area of approximately 3,100 square miles. Attachment B shows the map of the permitted area in Los Angeles County.

9. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the County of Los Angeles, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. Consequently, the Regional Board recognizes that the Permittees will not be held responsible for such facilities and/or discharges.

   For those entities within the Permittees' boundaries, the Regional Board may consider designating them as Permittees under this Order or issuing separate NPDES permits consistent with this Order. The California Department of Transportation (Caltrans), currently a Co-Permittee to Order No. 90-079, submitted an ROWD on July 3, 1995, for separate waste discharge requirements for its discharges in the County of Los Angeles and the County of Ventura. The waste discharge requirements to be issued to Caltrans will be consistent with this Order.

10. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

    a. About 34 square miles of unincorporated area in Ventura County drain into Malibu Creek, thence to Santa Monica Bay,

    b. About 9 square miles of the City of Thousand Oaks also drain into Malibu Creek, thence to Santa Monica Bay, and

    c. About 86 square miles of area in Orange County drain into Coyote Creek, thence into the San Gabriel River Watershed in the County of Los Angeles.

    The Regional Board will insure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this

Order.

11. The City of Santa Clarita and some unincorporated areas of Los Angeles County drain into the Santa Clara River Watershed, a portion of which is located in Ventura County. Discharges of municipal storm water in Ventura County are regulated under NPDES permit CAS063339 (Order No. 94-082). Successful management of the entire watershed needs coordination among the City of Santa Clarita, the County of Los Angeles, and Ventura County in developing and implementing the storm water management plan for the watershed.

12. Certain pollutants present in storm water and/or urban runoff may be contributed by activities which the Permittees cannot control. Examples of such pollutants and their respective sources are: polycyclic aromatic hydrocarbons which are products of internal combustion engine operation, nitrates from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, and natural-occurring minerals from local geology. However, Permittees can implement measures to minimize entry of these pollutants into storm water.

Bases of Waste Discharge Requirements

Federal Statutes and Regulations

13. Section 402(p) of the federal Clean Water Act (CWA), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges from MS4s to waters of the United States. Section 402(p)(3)(B) requires that permits for MS4s: ..... "(i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."

14. On November 16, 1990, pursuant to Section 402(p) of the CWA, the USEPA promulgated 40 Code of Federal Regulations (CFR) Part 122.26 which established requirements for storm water discharges under the NPDES program. The regulations recognize that certain categories of non-storm water discharges may not be prohibited if they have been determined not to be significant sources of pollutants.

15. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. As required by CZARA, USEPA issued *Guidance Specifying Management Measures For Sources of Non-point Pollution In Coastal Waters*, Document No. EPA-840-B-92-002 (1993). The guidance focuses on five major categories of non-point sources that impair or threaten coastal waters

nationally: (a) agricultural runoff; (b) silvicultural runoff; (c) urban runoff (including developing and developed areas); (d) marinas and recreational boating; and (e) hydromodification. This Order includes management measures for pollution from urban runoff. Thus, it provides the functional equivalence for compliance with CZARA in this area.

State Statutes and Permits

16. To facilitate compliance with federal regulations, in 1992 the State Water Resources Control Board (State Board) issued two statewide general NPDES permits: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activities Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. "Industrial Activities," as defined in 40 CFR § 122.26(b)(14)(i) through (xi), and construction activities with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or be covered by these statewide general permits by completing and filing a Notice of Intent with the State Board.

17. California Water Code (CWC) Section 13263(a) requires that waste discharge requirements issued by Regional Boards shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; and, the need to prevent nuisance.

Regional Board Water Quality Control Plans and Policies

18. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, *'Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994). 'The Basin Plan, which is incorporated in this Order by reference, specifies the beneficial uses of receiving waters and contains both narrative and numerical water quality objectives for the receiving waters in the County of Los Angeles.

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

20. To implement the Watershed Management Approach, as well as facilitate compliance with this Order, the County of Los Angeles is divided into six Watershed Management Areas (WMAs) as follows:

a. Malibu Creek and Rural Santa Monica Bay WMA
b. Ballona Creek and Urban Santa Monica Bay WMA
c. Los Angeles River WMA
d. San Gabriel River WMA
e. Dominguez Channel/Los Angeles Harbor WMA
f. Santa Clara River WMA

Attachment A, shows the list of Permittees under each Watershed Management Area.

Other Bases

21. The SMBRP developed a Bay Restoration Plan to serve as a blueprint for Santa Monica Bay's recovery, *'The Santa Monica Bay Restoration Plan*, SMBRP (1994).' The Plan recommends actions that the Regional Board should integrate into the storm water permit and provides guidance to the Regional Board for the development of a strong, environmentally sound storm water program.

22. The Regional Board is the enforcing authority in the Los Angeles region for the two statewide general permits, described in Finding 16, which regulate discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites are also regulated under local laws and regulations.

23. The ROWD submitted by the Permittees includes:

a. Summary of Best Management Practices (BMP) implemented;
b. Storm water management plans for the six WMAs;
c. Countywide evaluation of existing storm water quality data; and
d. Monitoring Program.

The ROWD served as partial basis for the development of the Storm Water Management Program (SWMP) requirements of this Order.

24. A USEPA review of activities conducted by the automotive service sector indicates that automotive service facilities present a significant potential for the discharge of pollutants into storm water. [Reference: *Storm Water Discharges Potentially Addressed by Phase II of the NPDES, Report to Congress*, USEPA (1995).]

25. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and retail gasoline stations), or facilities which perform vehicle repair, maintenance, or fueling (such as retail gasoline outlets with service bays) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water*

Runoff Study, Western States Petroleum Association and American Petroleum Institute, (1994); Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices, Final Report, County of Sacramento (1993).]

Studies also suggest that the implementation of best management practices can reduce storm water pollutants from these types of facilities. [References: *Storm Water Best Management Practices for Retail Gasoline Outlets*, Western States Petroleum Association, (1996); and *Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters*, Document No. EPA 840-B-92-002 (1992).]

26. A review of industrial waste/pretreatment records in Los Angeles County on illicit discharges indicate that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations.

Objectives and Requirements of this Order

27. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires implementation of BMPs intended to reduce pollutants in storm water and urban runoff such that ultimately their discharge will neither cause violations of water quality objectives nor create conditions of nuisance in receiving waters.

28. The Regional Board recognizes the challenges unique to regulating storm water discharges through municipal storm sewer systems, including intermittent and variable nature of discharges, difficulties in monitoring, and limited physical control over the discharge, and that it will require adequate time to implement and evaluate the effectiveness of best management practices required in this Order and to determine whether they will adequately protect the receiving water.

29. This Order designates the County of Los Angeles as the Principal Permittee. The Principal Permittee will coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for insuring compliance of any individual permittee.

30. Each Permittee is only responsible for the implementation of the appropriate storm water management program developed pursuant to the requirements of this Order, and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. A Permittee is required to comply only with the requirements of this Order applicable to discharges which originate from places within its boundaries over which it has authority to enforce the requirements of this Order.

31. In the ROWD, the Permittees proposed the formation of a countywide Executive Advisory Committee (EAC), and a Watershed Management Committee (WMC) for each of the WMAs.

The EAC and the six WMCs are now functional.

The EAC's main role is to facilitate programs within each watershed and to enhance consistency among all of the programs. Similar to the Principal Permittee, the EAC is not responsible for insuring compliance of any individual permittee with the requirements of this Order.

The WMCs, as required in this Order, will provide the leadership framework to facilitate development of the Watershed Management Area Plans and foster cooperation among Permittees.

32. The USEPA issued a guidance manual for submittal of a Part II application for MS4s. [Reference: *Guidance Manual for the Preparation of Part of the NPDES Applications for Discharges from Municipal Separate Storm Sewer Systems*, EPA Document No. 833-B-92-002 (1992).] The manual describes the components of a municipal storm water program that will meet the requirements of 40 CFR Part 122.26.

33. The SWMP required in this Order builds upon the foundation established in Order No. 90-079, consists of the components recommended in the USEPA guidance manual, and was developed with the cooperation of representatives from the regulated community and environmental groups. The SWMP includes requirements with compliance dates to provide specificity and certainty of expectations. It also includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SWMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable.

34. The main focus of the SWMP is pollution prevention through education, public outreach, planning, and implementation of BMPs. Successful implementation of the provisions of the SWMP will require cooperation and coordination of all public agencies in each Permittees' organization, among Permittees, and the regulated community. To minimize cost, the Permittees are encouraged to utilize their existing organizational framework to implement the various activities required in this Order.

35. As required in Order No. 90-079 and pursuant to 40 CFR Part 122.26(d)(2)(i), this Order requires Permittees to demonstrate that they possess the legal authority to implement and enforce the storm water programs within their respective jurisdictions. If Permittees decide that the legal authority will be through ordinances, Permittees are encouraged to develop a model ordinance to minimize cost and promote countywide consistency.

The Permittees are encouraged to enter into interagency or interjurisdictional agreements or other means to control the discharge of pollutants from one portion of the MS4 to another portion of the MS4.

36. Order 90-079 required the development and implementation of BMPs to minimize pollutants in storm water. In 1993, the Regional Board approved 13 baseline BMPs to facilitate the implementation of countywide minimum requirements, encourage countywide consistency, and provide a minimum measure of progress. These BMPs were selected from Permittees' MS4 programs. Twelve of these 13 BMPs have been incorporated into this Order: a) catch basin labeling; b) public illicit discharges reporting; c) construction storm water ordinance; d) public education and outreach; e) catch basin cleanout; f) roadside trash receptacles; g) street sweeping; h) proper disposal of litter, lawn clippings, pet feces; i) removal of dirt, rubbish and debris at homes and businesses; j) oil, glass, and plastics recycling; k) proper disposal of household hazardous wastes; and l) proper water use and conservation. The thirteenth BMP (inspections of vehicle repair shops, vehicle body shops, vehicle parts and accessories, gasoline stations, and restaurants) has been changed to educational site visits.

37. Each Permittee owns and operates facilities within its jurisdiction that may impact storm water quality. Each Permittee, under this Order is required to implement BMPs to reduce pollutant discharges from these activities and/or facilities.

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

39. This order contemplates that the Permittees are responsible for considering potential stormwater impacts when making planning decisions. However, neither this order nor any of its requirements are intended to restrict or control local land use decision-making authority.

Others

40. The Regional Board will provide the Principal Permittee with an updated list of NPDES permits on a quarterly basis through the Regional Board's electronic bulletin board which may be accessed at (213) 266-7663, or other available methods, for use by each Permittee to identify permitted sources of active non-storm water discharges into the MS4.

41. This action to adopt and issue waste discharge requirements and a NPDES permit is exempt from the provisions of the California Environmental Quality Act; Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code in accordance with Section 13389 of the California Water Code.

Public Process

42. The Regional Board will notify interested agencies and interested persons of the availability of reports, plans, and/or schedules of implementation submitted pursuant to the requirements of this Order. The Regional Board will consider comments prior to taking any

action on the submitted documents as provided for in this Order.

43. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the federal NPDES program, and the California Water Code and Title 23 of the California Code of Regulations for the issuance of waste discharge requirements.

44. The Regional Board staff solicited comments on early drafts of this Order from Permittees, interested agencies, and interested persons. In addition, Regional Board staff met with representatives from Permittees, business associations, environmental groups, and other interested persons to discuss permit requirements and attempt to resolve critical issues. Regional Board staff also solicited feedback from the SMBRP Oversight Committee on early drafts of the Order, attended Permittee watershed meetings, made presentations to government officials, and conducted and/or participated in public workshops to hear concerns.

The Regional Board has notified Permittees, interested agencies, and interested persons of its intent to prescribe waste discharge requirements and an MS4 NPDES permit for storm water discharges, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

The Board, in a public hearing, heard and considered all comments pertaining to the tentative waste discharge requirements. This order shall serve as a National Pollutant Discharge Elimination System (NPDES) Permit pursuant to Section 402 of the federal Clean Water Act, or amendments thereto, and shall take effect at the end of 15 days from the date of its adoption, provided the Regional Administrator of the U.S. Environmental Protection Agency, Region IX, has no objections.

Requirements

IT IS HEREBY ORDERED that the County of Los Angeles and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act, as amended, and regulations and guidelines adopted thereunder, shall comply with the following for the areas within their boundaries and subject to their regulatory jurisdiction, in the County of Los Angeles.

Part 1. DISCHARGE PROHIBITIONS AND RECEIVING WATER LIMITATIONS

I. **Discharge Prohibition**

Each Permittee shall, within its jurisdiction, effectively prohibit non-storm water discharges into the municipal separate storm sewer system (MS4) and watercourses, except where such discharges are:

A. In compliance with a separate individual or general NPDES permit; or

B. Identified and in compliance with Part 2.II.C (Non-storm Water Discharges), of this Order; or

C. Discharges originating from federal, state or other facilities which the Permittee is pre-empted from regulating.

Compliance with this Order through timely development and implementation of programs described herein shall constitute compliance with this prohibition.

II. Receiving Water Limitations

The water quality objectives and water quality standards applicable to receiving waters in Los Angeles County contained in the Basin Plan, '*Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, California Regional Water Quality Control Board, Los Angeles Region, Monterey Park (1994),' and amendments thereto, shall serve as receiving water limitations for discharges covered under this Order. It is the purpose of this Order that the discharge of storm water, or non-storm water, from a municipal separate storm sewer system (MS4) for which a Permittee is responsible not cause nuisance, continuing or recurring impairment of beneficial uses, or exceedances of water quality objectives in the receiving waters.

Timely and complete implementation by a Permittee of the storm water management programs prescribed in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations. However, if the Integrated Receiving Waters Impact Report required in this Order (Part 2.VII.D.) and/or other available information show that discharges authorized under this Order still cause or contribute to the impairment of the beneficial uses or exceedances of water quality objectives, Permittees, as part of their Report of Waste Discharge for the renewal of this Order, shall submit revised storm water management programs that are watershed-specific and will increase the likelihood of preventing future exceedances of water quality objectives.

Part 2. STORM WATER MANAGEMENT PROGRAM REQUIREMENTS

The objective of the Storm Water Management Program requirements prescribed in this Order is to reduce pollutants in discharges to the maximum extent practicable in order to attain the water quality objective and protect the beneficial uses of receiving waters in Los Angeles County. Each Permittee shall implement within its jurisdiction the Storm Water Management Program requirements of this Order and those of the Countywide Storm Water Management Plan (CSWMP) or Watershed Management Area Plan (WMAP) that will be developed pursuant to this Order.

The CSWMP is the unified plan consisting of programs developed under the Storm Water Management Program Requirements of this Order.

The WMAP is the comprehensive implementation plan for a specific Watershed

Management Area (WMA) based on the requirements of this Order, the CSWMP, and any other applicable actions that address pollutants of concern and other water quality issues unique to that WMA toward the objective of reducing pollutants in discharges to the maximum extent practicable. Upon approval by the Executive Officer, the WMAP will supersede the CSWMP.

If there is any conflict or discrepancy between information in the tables and the narrative provisions of this Order, the narrative provisions prevail.

I. Program Management

Table 1 shows the summary of program management requirements and their corresponding compliance dates.

Table 1
Program Management Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Submit completed CSWMP	I.A.8	✓		Upon completion of development of all programs but not later than July 30, 1999.	Executive Officer
Develop a WMAP for the WMA	I.C.3.d	✓	(through WMCs)	Within 180 days prior to expiration of Order (February 1, 2001) (pending the approval of the CSWMP by Executive Officer)	Executive Officer
Identify additional SIC groups	I.C.3.g		(through WMCs)	Established through WMCs	N/A
Prepare budget summary format	I.D.1	✓		3 (October 30, 1996)	Executive Officer
Submit annual budget summary to Principal Permittee	I.D.2		✓	60 days after budget adoption	Executive Officer
Demonstrate legal authority	I.E.2		✓	120 days (November 28, 1996)	Executive Officer

A. Responsibilities of the Principal Permittee

The County of Los Angeles is hereby designated as the Principal Permittee, and as such shall:

1. Coordinate permit activities among permittees and act as liaison between Permittees and the Regional Board on general permit issues;

2. Provide personnel and fiscal resources for the development and update of the CSWMP and WMAPs and their components;

3. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part 2.I.C upon designation of representatives;

4. Provide technical and administrative support for committees that will be organized to implement this Order;

5. Implement the Countywide Monitoring Program required in this Order;

6. Provide personnel and fiscal resources for the preparation and submittal to the Regional Board of annual reports, and summaries of other reports required under this Order;

7. Comply with the "Responsibilities of the Permittees" in Part 2.I.B; and

8. Submit to the Regional Board the CSWMP upon completion of the development of all programs under the SWMP requirements.

B. Responsibilities of the Permittees

Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of SWMP and CSWMP and their amendments;

2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of this Order applicable to such Permittee in an efficient and cost-effective manner;

3. Participate in the development and, if necessary, the update of the CSWMP;

4. Submit in a timely manner to the Principal Permittee an annual report on its implementation of the SWMP and CSWMP;

5. Appoint a technically knowledgeable representative to the appropriate WMC;

6. Participate in the development of the WMAP for its respective watershed management area through its WMC, and shall implement said WMAP upon approval by the Executive Officer; and

7. Work with other agencies, to the extent necessary, and submit a report to the Executive Officer on recommendations to resolve any conflicts identified between the provisions of this Order and the requirements of

other regulatory agencies, if the Permittee considers it necessary.

C. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the WMA.

2. The WMC's chair and secretary shall be chosen by the WMC. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.

3. Each WMC shall:

a. Facilitate cooperation and exchange among Permittees;

b. Establish goals and objectives for the WMA;

c. Prioritize pollution control efforts considering beneficial use impairment as a basis;

d. Participate in the development of the WMAP for its respective WMA after the CSWMP is completed;

e. Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the CSWMP and the WMAP;

f. Coordinate and facilitate the submittal of completed reporting forms to the Principal Permittee for report integration, and assist in the preparation of Annual Reports by the Principal Permittee on storm water management activities within the WMA for submittal to the Executive Officer;

g. Identify, as part of the industrial/commercial Source Identification program, additional SIC industrial/commercial groups selected as priority to be included in the database described in Part 2.V.B.1.a. The following criteria shall be considered in the identification process:

i. Extent of exposure of the industrial/commercial activity to storm water;

ii. Types and quality of non-storm water discharges;

iii. Similarity of industrial/commercial activity to industrial activity

regulated under the USEPA Phase 1 facilities;

iv. Types of chemicals and wastes generated that can contaminate storm water;

v. Existence of duplicate regulatory programs with other agencies that emphasize waste management and minimize exposure of the industrial/commercial activity to storm water;

vi. Number of facilities in the WMA;

vii. Professional understanding of the industrial/commercial sector's waste management practices;

viii. Experience of local agency industrial waste inspection programs; and

ix. Any other information that indicates a significant potential for contamination of storm water.

D. Fiscal Resources

1. The Principal Permittee, in consultation with the Permittees, shall prepare a budget summary format not later than October 30, 1996 for use by each Permittee to report resources available to implement the SWMP.

2. Each Permittee shall submit to the Principal Permittee a summary of resources dedicated for storm water program implementation, not later than 60 days after budget adoption by the Permittee's elected local governing body. A Permittee may provide all necessary data in an alternate format which includes the same information unless directed otherwise by the Executive Officer.

E. Legal Authority

1. Pursuant to the time frame established in E.2, each Permittee shall demonstrate that it possesses the legal authority necessary to control discharges to and from those portions of the Municipal Separate Storm Sewer System (MS4) over which it has jurisdiction so as to comply with this Order. This legal authority may be demonstrated by either a single ordinance or a single guidance document containing all the applicable statutes, ordinances, permits, contracts, orders or agreements which govern a Permittee's storm water management activities, as required by 40 CFR 122.26(d)(2)(i).

Each Permittee shall either individually or collectively possess the legal authority to:

a. Control the contribution of pollutants to the MS4 by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity, unless permitted under a separate NPDES permit, through the following prohibitions and requirements:

i. Prohibit the discharge of untreated wash waters to the MS4 when gas stations, auto repair garages, or other types of automotive service facilities are cleaned;

ii. Prohibit the discharge of untreated wastewater to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;

iii. Prohibit to the maximum extent practicable, discharges to the MS4 from areas where repair of machinery and equipment, including motor vehicles, which are visibly leaking oil, fluid or antifreeze is undertaken;

iv. Prohibit the discharges of untreated runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;

v. Prohibit the discharge of commercial/municipal swimming pool filter backwash to the MS4;

vi. Prohibit the discharge of untreated runoff from the washing of toxic materials from paved or unpaved areas to the MS4;

vii. Prohibit or control to the maximum extent practicable washing impervious surfaces in industrial/commercial areas which results in a discharge of untreated runoff to the MS4, unless specifically required by State or local health and safety codes;

viii. Prohibit the discharge from washing out of concrete trucks to the MS4;

ix. Require regular sweeping or other equally effective measures to remove debris from industrial/commercial motor vehicle parking lots with more than twenty-five parking spaces that are

located in areas potentially exposed to storm water; and,

x. Require the use of BMPs or placement of machinery/ equipment that is to be repaired or maintained such that leaks, spills and other maintenance-related pollutants are not discharged to the MS4;

b. Prohibit illicit discharges and illicit connections to the MS4 and require removal of illicit connections.

c. Control spills, dumping, or disposal of materials, including the following, to the MS4 through the following prohibitions and requirements:

i. Prohibit littering;

ii. Prohibit the disposal of leaves, dirt, or other landscape debris into a storm drain;

iii. Prohibit the discharge to the MS4 of any pesticide, fungicide, or herbicide banned by the USEPA or the California Department of Pesticide Regulation;

iv. Require proper disposal of food wastes;

v. Prohibit the disposal of hazardous wastes into trash containers used for municipal trash disposal so as not to cause a discharge to the MS4; and

vi. Require, in areas exposed to storm water, the use of BMPs and/or removal and lawful disposal of all fuels, chemicals, fuel and chemical wastes, animal wastes, garbage, batteries, and other materials which have potential adverse impacts on water quality.

The above requirements (Part 2.I.E.1.) do not require inspection of private property. Legal authority is necessary, however, so that if the Permittee becomes aware of situations associated with private property that cause obvious discharges of prohibited materials to the MS4 or pose the potential for such discharges, the Permittee has the legal authority to abate such discharges.

2. Each Permittee shall:

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Provide to the Principal Permittee for submittal to the Executive Officer, not later than November 28, 1996, copies of ordinances, regulations, and other legal documents establishing legal authority, or in the alternative:

a. A statement by its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order, referencing that legal authority with specificity; and/or

b. If Part 2.I.E.2.a. is only partially fulfilled, a timely schedule for obtaining adequate legal authority to comply with this Order, enumerating, with specificity, the legal authority that remains to be obtained.

F. Best Management Practice (BMP) or Program Substitution or Elimination

A Permittee may petition the Executive Officer to:

1. Substitute any BMP or program identified in this Order, the CSWMP, or the WMAP, if the Permittee can document that:

   a. The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or

   b. The fiscal burden of the original BMP or program is substantially greater than the proposed alternative, but does not achieve a substantially greater improvement in storm water quality; and,

   c. The proposed alternative BMP or program will be implemented within a similar period of time.

2. Eliminate any BMP or program identified in this Order, the CSWMP, and/or the WMAP, if the Permittee can document that:

   a. The BMP or program is not technically feasible and no substitute is available; or

   b. The cost of implementation outweighs the pollution control benefits; or

   c. The BMP or program is not applicable in the Permittee's jurisdiction.

The Executive Officer may approve or disapprove the petition in accordance with

Part 2.I.G and 2.I.H.

G. Administrative Review

The administrative review process formalizes the procedure for review and acceptance of reports and documents submitted to the Regional Board under this Order. In addition, it provides a method to resolve any differences in compliance expectations between the Regional Board and Permittees, prior to initiating enforcement action.

1. Storm water program documents, including progress reports, guidelines checklists, BMPs, databases, program summaries, and implementation and compliance schedules, developed by the Principal Permittee or a Permittee under the provisions of this Order, shall be submitted to the Executive Officer or the Regional Board, where required for approval. The process is as follows:

   a. For documents that require Executive Officer's approval, the Executive Officer will notify the Principal Permittee and/or Permittee of the results of the review and approval or disapproval within 120 days. If the Executive Officer has not responded within 120 days following submittal, the Permittee shall notify the Regional Board of its intent to implement the program components as submitted. If after 10 days the Executive Officer has not responded, the Permittee will implement the submitted program and the Executive Officer may not make modifications; and,

   b. Documents that require formal Regional Board approval will undergo public review and comment before Board consideration at a public meeting.

2. If the Executive Officer determines that a Permittee's storm water program is insufficient to meet the provisions of this Order, the Executive Officer shall send a "Notice of Intent to Meet and Confer (NIMC)" to the Permittee, with specific information in support of the determination. The NIMC shall include a time frame by which the Permittee must meet with Regional Board staff. The processes are as follows:

   a. The Permittee, upon receipt of a NIMC, shall meet and confer with Regional Board staff to demonstrate that the Permittee's program is sufficient to meet the requirements of this Order; and, if not, seek clarification on the steps to be taken to completely meet the provisions of this Order. The meet and confer period will conclude with either a notice of program sufficiency to the Permittee, or the

submittal to and acceptance by the Executive Officer of a written "Storm Water Program Compliance Amendment (SPCA)" which shall include implementation deadlines. The Executive Officer may terminate the meet and confer period after a reasonable period due to a lack of progress on issues and may order submittal of the SPCA by a specified date. Failure to submit an acceptable SPCA by the specified date shall constitute a violation of this Order;

b. The Executive Officer will approve or reject the submitted SPCA or an amended SPCA within 120 days. Rejection of an SPCA by the Executive Officer shall state the reasons for the failure to approve the SPCA. A Permittee that receives a rejection of an SPCA shall have sixty (60) days to remedy the specified deficiency and resubmit the SPCA. If the Executive Officer has not responded within 120 days following submittal of an SPCA, the Permittee shall notify the Executive Officer of its intent to implement the SPCA as submitted. If after 10 days the Executive Officer has not responded, the Permittee will implement the submitted SPCA and the Executive Officer may not make modifications;

c. The Permittee shall comply with the terms of the SPCA. The Permittee shall submit reports to the Executive Officer on progress made under the SPCA. The frequency of progress report submittal shall be quarterly unless otherwise prescribed by the Executive Officer. Failure to comply with the terms and conditions of the SPCA shall constitute a violation of this Order and shall be cause for enforcement action by the Regional Board; and,

d. The Executive Officer shall not take enforcement action against a Permittee until the Executive Officer has notified the Permittee in writing that the Administrative Review Process has been exhausted and that the Executive Officer has determined that a violation exists warranting enforcement.

H. Public Review

1. The Principal Permittee shall maintain a current mailing list of interested parties, organized by WMAs, for distribution of documents that require the Executive Officer's approval. The Executive Officer will provide the Principal Permittee with the initial list of interested parties.

2. The Principal Permittee shall distribute for public comment the initial CSWMP, WMAPs, and other storm water program requirements that are submitted to the Executive Officer or the Regional Board for approval.

Interested parties wishing to have their comments considered prior to Regional Board action on these documents must submit their comments in writing to the Regional Board not later than 45 days after the Principal Permittee has made the document available to the public. The date of public release is also the date of submittal to the Regional Board. This 45-day comment period is part of the 120 day review period for documents submitted for Executive Officer's approval.

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II. Illicit Connections and Illicit Discharges

Table 2 on the following page shows the summary of requirements under this section and corresponding compliance dates.

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Table 2
Illicit Connections and Discharges Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Develop model illicit connection elimination program	II.A.1	✓		8 months (March 31, 1997)	Executive Officer
Implement illicit connection elimination program	II.A.2		✓	≤ 36 months (July 30, 1999)	N/A
Develop model illicit discharge elimination program	II.B.1	✓		8 months (March 31, 1997)	Executive Officer
Implement illicit discharge elimination program	II.B.2		✓	≤ 36 months (July 30, 1999)	N/A
Conduct a study of municipal street and municipal sidewalk washing	II.C.3		✓ City of Los Angeles	Within 12 months from Executive Officer date of determination	Executive Officer
Submit BMPs and schedule for implementation	II.C.3		✓ City of Los Angeles	Within 12 months from Executive Officer date of determination	Regional Boarr'
Implement non-storm water management program BMPs	II.C.3		✓	In accordance with RB approved schedule ≤ 36 months (July 30, 1999)	N/A
Develop standard program for public reporting of illicit discharges and illicit disposal practices	II.D.1	✓		8 months (March 31, 1997)	Executive Officer
Implement standard program to facilitate public reporting of illicit discharges and illicit disposal practices	II.D.2		✓	≤ 36 months (July 30, 1999)	N/A
Develop standard program for reporting hazardous substances	II.D.3	✓		8 months (March 31, 1997)	Executive Officer
Implement standard program for reporting hazardous substances	II.D.4		✓	≤ 36 months	N/A

A. Illicit Connections

1. The Principal Permittee, in consultation with the Permittees, shall develop a countywide model program for elimination of illicit connections to the MS4 not later than March 30, 1997. The program shall include, at a minimum:

   a. Standardized storm drain inspection procedures, and illicit connection identification and elimination procedures;

   b. Methods to prioritize potential problem areas, including, but not limited to old commercial/industrial areas, and areas with heavy industry listed under subchapter N of 40 CFR Parts 405 - 471;

   c. Methods to utilize results of field screening activities, and other appropriate information;

   d. Standardized record keeping to document illicit connections; and

   e. Enforcement procedures to terminate illicit connections.

2. Each Permittee, based on the countywide model program, shall develop and implement as appropriate a program to identify and eliminate illicit connections to the maximum extent practicable not later than four (4) months after the commencement of its next fiscal year following approval of the model program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

B. Illicit Discharges

The primary responsibility for cleanup and removal of illicit discharges of pollutants to the MS4 shall be with the owner/operator of the discharging facility or site. Nothing in this Order shall be interpreted to limit or in any way prevent action by a Permittee against the party responsible for the illicit discharge.

1. The Principal Permittee, in consultation with the Permittees, shall develop a countywide model illicit discharges elimination program not later than March 31, 1997. The program shall include, at a minimum:

   a. Standardized enforcement procedures, including administrative and judicial, to eliminate illicit discharges;

b. Standardized procedures for investigation, containment and cleanup of spills, which include a procedure to ensure that sewage treated with disinfection agents will not be discharged into the storm drain system to the extent practicable;

c. Methods to prioritize problem areas of illicit disposal where inspection, cleanup, and enforcement are necessary to prevent the discharge of contaminants;

d. Standardized procedures to educate inspectors, maintenance workers, and other field staff to notice illicit discharges during the course of their daily activities, and report such occurrences;

e. Standardized record keeping system to document illicit discharges; and,

f. Industrial/commercial education and outreach materials to inform businesses about the problem of illicit discharges/dumping and proper discharge/disposal practices.

2. Each Permittee shall, based on the countywide model program, develop and implement, as appropriate, a program to identify and eliminate illicit discharges not later than four (4) months after commencement of its next fiscal year following approval of the model program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval, but in no event shall implementation be later than July 30, 1999.

C. Non-Storm Water Discharges

Non-storm water discharges in compliance with a separate NPDES permit/Waste Discharge Requirements (WDR) or granted a discharge exemption by the Regional Board, the Executive Officer, or the State Water Resources Control Board are not prohibited under this Order.

1. Exempted Discharges

The following non-storm water discharges need not be prohibited:

a. Flows from riparian habitats or wetlands;
b. Diverted stream flows;

c. Springs;
d. Rising ground waters;
e. Uncontaminated groundwater infiltration; and
f. Discharges or flows from emergency fire fighting activities.

The Executive Officer, upon presentation of evidence in accordance with Part 2.II.C.4., may include other categories of non-storm water discharges under this subsection.

2. Conditionally Exempted Discharges

The following non-storm water discharges need not be prohibited. However, if they are identified by either a Permittee or the Executive Officer as being significant sources of pollutants to receiving waters, then appropriate BMPs to minimize the adverse impacts of these sources shall be developed and implemented under the CSWMP or the WMAPs:

a. Landscape irrigation;
b. Water line flushing;
c. Potable water sources provided the discharges are managed in accordance with an approved Industry-wide Standard Pollution Prevention Practices developed by the American Water Works Association, California-Nevada Section, or equivalent document; and in compliance with any requirements established by the Permittee(s);
d. Foundation drains;
e. Footing Drains;
f. Air conditioning condensate;
g. Irrigation water;
h. Lawn watering;
i. Water from crawl space pumps;
j. Dechlorinated swimming pool discharges;
k. Individual residential car washing; and,
l. Street washing (including sidewalk washing).

The Executive Officer, upon presentation of evidence in accordance with Part 2.II.C.4., may include other categories of non-storm water discharges under this subsection.

3. Designated Discharges

Municipal street washing and municipal sidewalk washing discharges have been determined by the Executive Officer to be potential sources of pollutants of concern. The City of Los Angeles will conduct a study to characterize municipal street washing and sidewalk washing, assess the

impacts of such activities, and recommend appropriate BMPs to control any adverse impact. The City of Los Angeles will submit its recommendations to the Executive Officer not later than one year from adoption of this Order. A BMP implementation schedule shall be included where appropriate.

The Regional Board will determine within four (4) months of the City of Los Angeles' submittal which BMPs, if any, the Permittees shall implement, and approve any necessary schedule of implementation, provided the implementation date is not later than July 30, 1999.

The Executive Officer, upon presentation of evidence, may include other categories of non-storm water discharges under this subsection.

4. Procedures for Exemption

A Permittee may identify and describe additional categories of non-storm water discharges to be considered by the Executive Officer for exemption from the Discharge Prohibitions. The criteria to be considered for a request for exemption include one or more of the following:

a. Documentation that the discharge is not a significant source of pollutants to receiving waters or does not cause impairment of beneficial uses of receiving waters;

b. Special circumstances that have been defined in which the discharge has been found not to be a significant sources of pollutants to, or does not cause impairment of beneficial uses of receiving waters;

c. Specific BMPs, where determined feasible, that have been identified to reduce pollutants in the discharge to the maximum extent practicable and minimize adverse impacts of such source, with an implementation schedule; or

d. Established procedures to ensure BMP implementation, including an implementation schedule, performance standards, monitoring and record keeping.

The exemption request for additional non-storm water discharges may be submitted, beginning with the first Annual Report. The exemption becomes effective upon approval by the Executive Officer.

D. Public Reporting

1. The Principal Permittee, in consultation with the Permittees, shall develop

a countywide standard program to promote, publicize, and facilitate public reporting of illicit discharges and illicit disposal practices not later than March 31, 1997. The program may include, but not be limited to:

a. A system to receive incoming complaints;

b. A communication network to link Permittees so that action can be coordinated and complaints can be investigated promptly; and

c. A system to notify the complainant of any action taken, if appropriate.

2. Each Permittee shall implement the countywide illicit discharges and illicit disposal reporting program not later than four months after commencement of its next fiscal year following approval of the program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

3. The Principal Permittee, in consultation with the Permittees, shall develop a countywide program not later than March 31, 1997, for reporting incidents of "reportable quantity" of hazardous substances entering the MS4. The incidents shall be reported to the State of California Office of Emergency Services (OES) [current number, (800) 852-7550] and the Federal Hazardous Response Center [current number, (800) 424-8802].

4. Each Permittee shall implement the countywide program for reporting hazardous substances entering the MS4, not later than four months after commencement of its next fiscal year following approval of the program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

III. Development Planning and Construction

A. Development Planning

Table 3 on the following page shows the summary of requirements under this section and corresponding compliance dates.

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Table 3
Development Planning Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Develop a model system for prioritization of development projects	III.A 1.a	✓		18 (January 30, 1998)	Executive Officer
Implement a system for prioritization of development projects	III.A.1.a		✓	≤ 36 months (July 30, 1999)	N/A
Develop list of recommended BMPs for development projects (countywide guidelines)	III.A.1.b	✓		18 (January 30, 1998)	Regional Board
Develop Standard Urban Storm Water Mitigation Plans (SUSMP)	III.A.1.c	✓		6 months after Regional Board approval of countywide guidelines	Executive Officer
Develop and submit a 'hedule of .plementation for a program for planning measures consistent with the Standard Urban Storm Water Mitigation Plan (SUSMP) for priority projects	III.A.2		✓	≤ 36 months (July 30, 1999)	N/A
Develop guidelines for preparing/reviewing CEQA documents	III.A.3.a	✓		18 (January 30, 1998)	Executive Officer
Incorporate CEQA guidelines into internal procedures	III.A.3.a		✓	≤ 36 months (July 30, 1999)	N/A
Include watershed and storm water management consideration into General Plan revisions	III.A.4 3.b		✓	During General Plan revisions	N/A
Develop model program for developers	III.A.4	✓		18 (January 30, 1998)	Executive Officer
Implement developer information program	III.A.4		✓	≤ 36 months (July 30, 1999)	N/A

1. Countywide Development Planning Guidance

The Principal Permittee, in consultation with the Permittees, shall develop the following development planning guidance materials for use during planning and permitting of all development projects requiring discretionary approval:

a. A model documented system, such as a checklist, for determining priority projects as well as a list of specifically exempt projects not later that January 30, 1998. Priority and exempt projects are defined as follows:

i. Priority Projects are development and redevelopment projects requiring discretionary approval which the Building Official (or equivalent municipal authority) determines may have a potential significant effect on storm water quality.

ii. Exempt Projects are development and redevelopment projects which the Building Official (or equivalent municipal authority) determines will not have a potential significant impact on storm water quality.

The documented system shall consider location of the project with respect to designated environmentally sensitive areas and the slope and erosion potential of the site and surrounding areas.

Each Permittee shall incorporate a substantially similar system into its procedures not later than six months after commencement of its next fiscal year following approval of the ~~of the~~ documented system by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

b. A list of recommended BMPs not later than January 30, 1998. The list of BMPs shall include:

i. Site planning practices;
ii. Post-construction best management practices; and
iii. Redevelopment and infill practices.

Consideration shall be given to the type of development and the potential for storm water pollution when determining the applicability of BMPs. Cost effectiveness, ease of maintenance, and consistency with other environmental mandates may also be considered.

For developments where increased storm water discharge rates will result in an increase in downstream erosion potential, the list of recommended BMPs shall include those BMPs which can be used to maintain peak runoff rates at pre-development levels to the maximum extent feasible.

The list of recommended BMPs shall be submitted to the Regional Board for approval.

c. Standard Urban Storm Water Mitigation Plans (SUSMPs) and guidelines for their preparation not later than six months after Regional Board approval of the BMPs in Part 2.III.A.1.b. The SUSMPs shall incorporate the appropriate elements of the recommended BMPs list. At the minimum, SUSMPs and guidelines shall be prepared for the following development categories:

i. a 100+ home subdivision;
ii. a 10-home subdivision;
iii. a 100,000+ square-foot commercial development;
iv. an automotive repair shop;
v. a retail gasoline outlet;
vi. a restaurant; and
vii. a hillside-located single-family dwelling.

2. Planning Control Measures

Each Permittee shall develop a program on planning control measures for priority projects (Part 2.III.A.1.a) consistent with the programs developed under Part 2.III.A.1.b. & c.. Each Permittee shall initiate implementation of its program not later than six months after commencement of its next fiscal year following approval of the model Standard Urban Storm Water Mitigation Plans by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be initiated later than July 30, 1999. Each Permittee shall require that the project applicant submit an Urban Storm Water

Mitigation Plan appropriate and applicable to the project, and that the Permittee approve the Plan prior to the issuance of any grading or building permit. The Urban Storm Water Mitigation Plan shall incorporate by detail or reference appropriate post-construction BMPs to:

a. Implement, to the maximum extent practicable, requirements established by appropriate governmental agencies under CEQA, Section 404 of the Clean Water Act, local ordinances and other legal authorities intended to minimize impacts from storm water runoff on the biological integrity of natural drainage systems and water bodies;

b. Maximize, to the maximum extent practicable, the percentage of permeable surfaces to allow more percolation of storm water into the ground;

c. Minimize, to the maximum extent practicable, the amount of storm water directed to impermeable areas and to the MS4;

d. Minimize, to the maximum extent practicable, parking lot pollution through the use of appropriate BMPs such as retention, infiltration, and good housekeeping;

e. Establish reasonable limits on the clearing of vegetation from the project site including, but not limited to, regulation of the length of time during which soil may be exposed and, in certain sensitive cases, the prohibition of bare soil; and

f. Provide for appropriate permanent controls to reduce storm water pollutant load produced by the development site to the maximum extent practicable.

The Permittee may refer applicants to the *'California Storm Water Best Management Practice Handbooks,* California Storm Water Quality Task Force, Sacramento, CA (1992)' and its revisions; the Countywide Storm Water Management Plan; *'USEPA Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters, Issued under the Authority of Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990,* Document No. EPA 840 B 92-002 (1993),'; and similar manuals for specific guidance on selecting post-construction BMPs for reducing pollutants in storm water discharges.

3. Planning Process

In order to integrate storm water management considerations into

discretionary development projects at the time that they are first proposed to jurisdictions, and to support other provisions of this Order:

a. The Principal Permittee, in consultation with the Permittees, shall develop storm water management guidelines for use in preparing/reviewing CEQA documents, and in linking storm water quality mitigation conditions to local discretionary project approvals not later than January 30, 1998.

The guidelines shall address the preservation of areas that provide water quality benefits such as riparian corridors and wetlands and shall promote protection of the biological integrity of drainage systems and water bodies.

Each Permittee shall review the guidelines for the purpose of making appropriate modifications in their internal procedures not later than six months after commencement of its next fiscal year following approval of the program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

b. Each Permittee shall include watershed and storm water management considerations in the appropriate elements of the Permittee's General Plan, whenever said elements are significantly rewritten. Appropriate elements may include the following:

i. Conservation; and/or
ii. Open space; and/or
iii. Land-use; and/or
iv. Public utilities; and/or
v. Infrastructure; and/or
vi. Other appropriate elements.

4. Developer Information Program

The Principal Permittee, in consultation with the Permittees, shall develop a model program not later than January 30, 1998, to inform developers seeking discretionary approvals about:

a. Development and construction storm water management;

b. Maximization of pervious areas and storm water infiltration (where geology and topography permit); and

c. Cost effective storm water pollution control measures.

The program shall provide specific guidance on selecting BMPs to reduce pollutants in storm water discharges from urbanized areas, and include appropriate BMPs, educational materials, and handbooks and guidelines described in Part 2. III.A.3.

Each Permittee shall implement a developer information program consistent with the model program not later than six months after commencement of its next fiscal year following approval of the model by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999. Each Permittee's program shall include information about its legal authorities. Permittees are encouraged to engage in joint efforts in implementing the program.

B. Development Construction

Table 4 on the following page shows the summary of requirements and corresponding compliance dates under this section.

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Table 4
Development Construction Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Develop minimum requirements, recommended BMPs, and design checklists for construction	III.B.1	✓		14 (September 30, 1998)	Regional Board
Develop and implement a program for construction control measures	III.B.2.a		✓	≤ 36 months (July 30, 1999)	N/A
Require applicants to demonstrate coverage under State Construction General Permit prior to issuance of grading permits	III.B.2.b		✓	6 (January 31, 1997)	N/A
Develop a model construction inspection program	III.B.3.a	✓		14 (September 30, 1997)	Executive Officer
Implement a construction inspection program	III.B.3.b		✓	≤ 36 months (July 30, 1999)	N/A

1. Countywide Development Construction Guidance

The Principal Permittee, in consultation with the Permittees and appropriate stakeholder organizations, shall develop not later than September 30, 1998, the following development construction guidance materials for all development project construction activities: minimum recommended requirements, BMPs appropriate for various activities, and checklists for use in design and inspection. The Countywide minimum requirements and recommended BMPs shall:

a. Include erosion and sediment control practices;

b. Address multiple construction activity-related pollutants;

c. Focus on BMPs such as source minimization, education, good housekeeping, good waste management, and good site planning;

d. Target construction areas and activities with the potential to generate significant pollutant loads;

e. Require retention on the site, to the maximum extent practicable, of sediment, construction waste, and other pollutants from construction activity;

f. Require, to the maximum extent practicable, management of excavated soil on site to minimize the amount of sediment that escapes to streets, drainage facilities, or adjoining properties;

g. Require, to the maximum extent practicable, use of structural drainage controls to minimize the escape of sediment and other pollutants from the site.

h. Require, to the maximum extent practicable, containment of runoff from equipment and vehicle washing at construction sites, unless treated to remove sediments and pollutants.

The lists of BMPs shall be submitted to the Regional Board for approval.

2. Construction Control Measures

a. Each Permittee shall develop a regulatory program for construction activities as defined in Part 2.III.A.1.a. consistent with the Countywide Development Construction Guidance not later than six months after commencement of its next fiscal year following approval of the minimum recommended requirements and BMPs in Part 2.III.B.1. by the Regional Board , provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

The Program shall require, prior to the issuance of any building or grading permit, preparation of appropriate wet weather erosion control and storm water pollution prevention plans which include, by detail or reference, all appropriate construction BMPs developed under Part 2.III.B.1.

Priority Project plans must include a narrative discussion of the reasons used for selecting or rejecting BMPs. In lieu of a narrative, the project architect or engineer of record may sign a statement on the plan to the effect: "As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activities."

b. Each Permittee shall implement a procedure not later than January 31, 1997, whereby the Permittee shall not issue a grading permit for developments with disturbed areas of five acres or greater unless the applicant can show that (i) a Notice of Intent (NOI) to comply with the State Construction Activity Storm Water Permit has been filed and (ii) a Storm Water Pollution Prevention Plan (SWPPP) has been prepared.

3. Site Inspection

a. The Principal Permittee, in consultation with the Permittees, shall develop a model construction activity inspection program, which includes checklists, not later than September 30, 1997. The model program shall include but not be limited to:

i. Procedures for construction site inspections;

ii. Procedures to require corrective action be undertaken by contractors at noncomplying sites;

iii. Procedures for enforcement action against noncomplying construction activity; and

iv. Appropriate training for program staff.

b. Each Permittee shall implement a construction activities inspection program based on the model program not later than six months after commencement of its next fiscal year following approval of the model program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such

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program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999. The program may be integrated with the Permittees regular program of construction inspection for maximum efficiency.

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IV. Public Agency Activities

Table 5 shows the summary of requirements under this section and their corresponding compliance dates.

Table 5
Public Agency Activities Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Evaluate existing public agency activities and develop a model program to reduce storm water impacts	IV.A	✓		16 (December 1, 1997)	Executive Officer
Develop a program to reduce storm water impacts from public agency activities with a schedule for implementation	IV.B		✓	4 months after Executive Officer approval of model ≤ 36 months (July 30, 1999)	N/A

A. Public Agency Model Program

The Principal Permittee, in consultation with the Permittees, shall develop a model program to reduce the impact of public agency activities on storm water quality not later than December 1, 1997. The model program shall include a discussion of the on-going investigation of the feasibility of dry weather flow diversion from the MS4 to municipal waste water treatment plants, where appropriate. The model shall be submitted to the Regional Board for approval.

To minimize costs and avoid duplication of effort, it is encouraged to incorporate and recognize in the model program existing regulations, requirements and plans, such as waste minimization plans, spill prevention control and countermeasures, and business plans.

B. Permittee Public Agency Programs

Each Permittee shall develop and implement a Public Agency Program based on the model program developed by the Principal Permittee not later than four

months after commencement of its next fiscal year following approval of the model program by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

C. Program Requirements

Both the model program and the Permittee programs shall at a minimum include, where applicable:

1. Sewage Systems Operations

   a. Procedures to keep sewage spills or leaks from facilities operated by a Permittee from entering the MS4 to the maximum extent practicable;

   b. Procedures to identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers operated by a Permittee to the MS4;

   c. Procedures to respond to overflows and investigate complaints;

   d. Procedures to insure that the Permittee is able to investigate any suspected connections or cross connections from the sanitary sewer systems to the MS4; and

   e. Procedures to notify public health agencies with discretionary decision authority on beach closures when there is a threat to public health.

2. Public Construction Activities Management

   a. Storm water management requirements for the design and construction of public facilities consistent with the requirements and time lines specified for private development in Part 2.III.A and III.B. ;

   b. Procedures to seek coverage, as an option, under this Order for construction activity with a disturbed area of five acres or more (Phase 1, 40 CFR 122.26) which is under taken by or on behalf of the Permittee, if the Permittee develops:

i. A process for notifying the Executive Officer of Permittee's construction activity;

ii. A checklist of construction activity BMPs using BAT/BCT criteria for public construction activity;

iii. A procedure to verify implementation of construction activity BMPs;

iv. A requirement to prepare and retain site-specific SWPPPs;

v. A procedure to report annually on the effectiveness of SWPPPs at public construction activity sites, and certify compliance with the requirements in this Order.

3. Vehicle Maintenance/Material Storage Facilities Management

a. Model pollution prevention plan for public vehicle maintenance/material storage facilities which have the potential to discharge pollutants into storm water. A public vehicle maintenance/material storage facility is any Permittee-owned or operated facility or portion thereof that:

i. Conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase 1 facilities;

ii. Performs fleet vehicle maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling;

iii. Performs maintenance and/or repair of heavy industrial machinery/equipment; and

iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control, and Counter-measures (SPCC) plan.

b. BMPs to improve site specific pollutant control including but not be limited to:

i. Good housekeeping practices;

ii. Material storage control;

iii. Vehicle leaks and spill control;

iv. Illicit discharge control;

v. Training for employees on proper outdoor loading/unloading of materials;

vi. Vehicle and equipment washing area control;

vii. Regular maintenance of treatment structures such as sumps, oil/water separators, or equivalent; and

viii. Proper waste handling disposal.

4. Landscape and Recreational Facilities Management

a. Procedures for application of pesticides, herbicides, and fertilizers that will include:

i. List of approved pesticides and selective and environmentally responsible uses;

ii. Product and application information;

iii. Application equipment use and maintenance; and

iv. Record keeping.

b. Procedures to minimize storm water pollution by pesticides and fertilizers used for landscape maintenance, including the utilization of Integrated Pest Management (IPM) techniques to the maximum extent practicable;

c. Procedures to prevent the disposal of landscape waste into the MS4;

d. Procedures to encourage retention and planting of native vegetation to reduce water, fertilizer, and pesticide needs;

e. BMPs to reduce exposure of fertilizers and pesticides to storm water during storage, to include as applicable, the following:

i. Storage indoors or under cover on paved surfaces;

ii. Secondary containment;

iii. Reduction in storage and handling of hazardous materials;

iv. Regular inspection of storage areas;

f. Guidelines to schedule irrigation and fertilization to minimize:

i. Chemical application during wet season and to terminate chemical application during storm events; and

ii. Over-watering and nutrients/pesticides entrainment.

g. Procedures to manage discharges of municipal swimming pool water into the MS4, including dechlorination practices, proper disposal of clean-out waters, and piping of filter backwash to the sanitary sewer;

h. BMPs to minimize trash, debris, and other pollutants from entering Permittee-owned recreational water bodies, to include:

i. Routine trash collection along, on, and/or in, water bodies, where feasible; and

ii. Public outreach to educate the public about impacts of illicit disposal.

5. Storm Drain Operation and Management

a. BMPs for Inlet Maintenance to be implemented to the maximum extent practicable, including but not be limited to:

i. Inspection and cleaning of catch basins between May 1 and September 30 of each year;

ii. Additional cleaning of catch basins, as necessary, between October 1 and April 30;

iii. Record keeping of catch basins cleaned; and

iv. Recording of the overall quantity of catch basin waste collected.

b. BMPs for Storm Drain Maintenance to be implemented to the maximum extent practicable, including but not be limited to:

i. Proper disposal of material removed;

ii. Removal of trash and debris from open channel storm drains at least annually between May 1 and September 30 of each year;

iii. Surveillance for debris buildup in open channels during the rainy season.

c. Waste Management program to include:

i. Procedures to identify problem areas of illicit discharge for regular inspection;

ii. Procedures to minimize to the maximum extent practicable the discharge of contaminants during MS4 cleanup to maintain optimum channel capacity; and

iii. A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized.

6. Streets and Roads Maintenance

a. Program to sweep curbed streets at a targeted frequency of:

i. At least monthly; and,

ii. Where feasible, more frequently in areas generating significant refuse.

b. Streets and roads maintenance program including:

i. BMPs for existing saw-cut management and paving practices to include but not be limited to:

aa. Avoidance during wet weather to the extent feasible; and

bb. Material storage away from drainage areas to prevent storm water pollution or other equally effective BMPs.

ii. Good housekeeping practices to insure proper management of any wastes that are generated;

iii. Collection, transport, and disposal of maintenance waste at appropriate disposal facilities in accordance with applicable federal, state, and local laws and regulations;

iv. Management of concrete materials and wastes including but not limited to:

aa. Washout of concrete trucks off- or on-site in designated areas and not into storm drains, open ditches, streets, or catch basins;

bb. Material storage under cover, away from drainage areas or other equally effective BMPs; and

cc. Avoidance of excess mixing of concrete or cement on-site.

v. Employee training to:

aa. Promote a clear understanding of the potential for maintenance activities to pollute storm water; and

bb. Identify and select appropriate BMPs.

7. Parking Facilities Management

Parking Facilities Management Plan to include sweeping or other equally effective measures to remove debris from Permittee-owned parking lots with more than twenty-five parking spaces that are located in areas potentially exposed to storm water.

8. Public Industrial Activities

a. Procedures to seek coverage, as an option, under this Order for Phase I industrial facilities which are owned or operated by a Permittee, if the Permittee develops:

i. A process for notifying the Executive Officer of public industrial facilities owned or operated by the Permittee;

ii. A checklist of BMPs using BAT/BCT criteria for public industrial facilities;

iii. A procedure to verify implementation of industrial facility BMPs;

iv. A requirement to prepare and retain site specific SWPPPs; and

v. A procedure to report annually on the effectiveness of SWPPPs and the results of the facility monitoring programs at public

Phase 1 industrial facilities, and certify compliance with the requirements of this Order.

9. Emergency Procedures

Procedures for addressing emergency repairs of essential public services and infrastructure and responding to natural disasters.

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V. Public Information and Participation

To reach as many Los Angeles County residents as possible, a comprehensive educational outreach approach shall be undertaken under this Order. In recognition of the importance of public education to effective storm water management solutions, this Order calls for immediate Permittee public outreach efforts at a specified minimum level as well as a longer term effort to develop an integrated, comprehensive outreach program. As part of the immediate effort, each Permittee is expected to choose an appropriate combination of outreach tools and activities to raise public awareness of storm water issues and improve water quality in its own individual jurisdiction, with efforts at a prescribed minimum level as described below. As part of the longer term effort, each Permittee is expected to work collaboratively to develop a comprehensive outreach/education program countywide and within its watershed management area.

The objectives of the public education program are: (i) to measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions for the target audiences to implement BMPs to reduce the problems caused; and (ii) to measurably change the behavior of target audiences by encouraging those audiences to implement appropriate solutions.

Table 6 on the following page shows the summary of requirements and corresponding compliance dates under this section.

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Table 6
Public Information and Education Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Have outreach materials available for distribution	V.A.1		✓	8 (March 31, 1997)	N/A
Demonstrate outreach materials are being distributed	V.A.2.a		✓	12 (July 30, 1997)	N/A
Demonstrate appropriate Permittee employees are being trained	V.A.2.b		✓	12 (July 30, 1997)	N/A
Develop industrial/commercial facility database format	V.B.1.a	✓		6 (January 31, 1997)	N/A
Collect information based on database format	V.B.1.b		✓	12 months from WMC designation	N/A
Compile information from Permittees into industrial/commercial site visits	V.B.1.c	✓		22 (June 1, 1998)	N/A
Develop a checklist of BMPs for industrial/commercial site visits	V.B.2	✓		10 (May 30, 1997)	Regional Board
Implement an Industrial/Commercial facility site visit program	V.B.3.a		✓	Upon Regional Board approval of BMP checklist and in accordance with Table 7	N/A
Provide list of facilities visited	V.B.3.c		✓	Quarterly	N/A
Begin use of BMP checklists	V.B.3.b		✓	Upon Regional Board approval	N/A
Develop a 5 year public education strategy	V.C.1	✓		12 (July 30, 1997)	Executive Officer
Implement the strategy	V.C.2		✓	Based upon implementation schedule to be included in the strategy	

A. Immediate Outreach

1. Each Permittee shall, at a minimum, have available for distribution or reference as appropriate, not later than March 31, 1997, the following:

a. Written Material

i. Written materials (minimum of three types) to convey pertinent information to meet program objectives. Examples of written materials include flyers, brochures, door-hangers, newspaper articles, mail-inserts, and newsletters;

ii. Documentation that a reasonable effort was made to list pertinent city phone numbers under the government pages of phone directories. This should be updated as necessary and should include telephone numbers for reporting clogged catch basin inlets and/or illicit discharges/dumping, and a general number for storm water management program information. These phone numbers may be city-specific or countywide;

iii. Training materials for educating appropriate Permittee employees regarding compliance with applicable storm water permits;

iv. An up-to-date listing of contractor and developer storm water management training programs available in the area. This list should be updated annually;

v. An up-to-date checklist and a brochure explaining contractor and developer needs as they relate to Development Planning and Construction (Part 2.III) of this Order for use at a Permittee's planning/permitting counter. They should be updated annually; and

vi. Education materials (a minimum of three types) for targeted business sector audiences for use in site visits as per provisions in Part 2.V.B.2 of this Order.

b. Audio Material

Documentation that a reasonable effort was made by the Principal Permittee or on behalf of the Permittees as a whole to obtain radio broadcast public service announcements to convey information regarding storm water management.

c. Visual Material

A catch basin labeling program, including label installation and maintenance schedules, to educate the public on the ultimate destination of storm drain flows.

2. Each Permittee shall demonstrate by July 30, 1997, that it has undertaken the following activities:

a. Distribution of outreach materials to the general public, or targeted audiences such as schools, community groups, contractors and developers at the appropriate public counters and public events; and,

b. Training of the appropriate Permittee employees (those whose jobs or activities directly affect storm water quality, or those who respond to questions from the public) regarding the requirements of the storm water management program.

B. Industrial/Commercial Educational Program

Each Permittee shall develop an industrial/commercial site visit program. The purpose of such site visits will be solely educational and to provide industrial/commercial facilities with information regarding the Permittee's storm water program, and to provide advice when requested in understanding and complying with the Permittee's storm water regulations. To minimize cost, each Permittee is encouraged to coordinate its site visit program with existing fire, health, industrial wastes and/or other inspection type programs so that the Permittee need not institute new and separate site visit programs. The program shall contain the following components:

1. Identification of Sources

a. The Principal Permittee in consultation with the Permittees shall develop a database format for listing industrial/commercial facilities by four digit SIC Industry Numbers not later than January 31, 1997. This database will serve as a reference resource for the public, business, industry, local government, the Regional Board, and other public agencies on storm water program participation. The initial accuracy of the database will be dependent on the accuracy of electronic and information sources used to establish the database, but the accuracy is expected to improve after Permittees begin to implement the industrial/commercial site visit program. No legal import is to be attributed to the database developed by the Permittees. The database format shall include at a minimum:

i. Facility name;
ii. Site address;
iii. Watershed Management Area;
iv. Applicable SIC code(s); and
v. NPDES storm water permit coverage status, if applicable.

b. Each Permittee shall collect information based on the format developed by the Principal Permittee to identify industrial/commercial facilities within its jurisdiction and submit to the Principal Permittee not later than one year after the Principal Permittee provides the database format to the Permittees or for "iii" below not later than one year after designation of groups by the WMC. The list of facilities shall include, at a minimum:

i. All industrial groups regulated under Phase I of the Federal storm water program (40 CFR 122.26; Phase I Facilities);

ii. Motor vehicle repair shops, motor vehicle body shops, motor vehicle parts and accessories facilities, gas stations, and restaurants; and

iii. Additional SIC industrial/commercial groups identified as priorities by each WMC pursuant to this Order.

c. The Principal Permittee shall compile the information submitted by each Permittee into a database of industrial/commercial facilities not later than June 1, 1998. This database shall include:

i. For each four-digit SIC Industry Number, primary activities that might impact runoff discharges (from national or commercial database sources); and

ii. For each four-digit SIC Industry Number, primary materials that might impact runoff discharges (from national or commercial database).

2. Source Control Measures

The Principal Permittee, in consultation with the Permittees, shall develop a list of specific storm water BMPs for each industrial/commercial SIC group of facilities requiring educational site visits under Part 2.V.B.3. not later than May 30, 1997. The BMPs shall:

a. Address multiple pollutants;

b. Initially focus on pollutant source minimization, education, good housekeeping, and site design alternatives; and

c. Target source areas and activities with the highest potential to generate substantial pollutant loads.

The BMP lists shall be submitted to the Regional Board for approval, after which the Principal Permittees shall distribute them to the Permittees to be incorporated in each Permittee's outreach measures conducted during industrial/commercial site visits.

3. Educational Site Visits

a. Each Permittee shall implement an industrial/commercial educational site visit program according to the following schedule in Table 7, upon Regional Board approval of BMP checklists:

Table 7
Schedule of Educational Site Visits

FACILITIES	SITE VISIT FREQUENCY (No. of Contacts / Time period)
i) Phase I*, [i]-[ix] and [xi] with waste discharge or pretreatment permit	1 / 24 months **
ii) Phase I, [i]-[ix] and [xi] with no waste discharge or pretreatment permit but with GIASP	1 / 24 months**
iii) Phase I, [i]- [ix] with no waste discharge or pretreatment permit, and no GIASP	1 / 24 months**
iv) Phase I [xi] with no GIASP	1 / 5 years***
v) Vehicle repair shops, vehicle body shops, vehicle parts and accessories facilities	1 / 24 months**
vi) Gas stations	1 / 24 months* *
vii) Restaurants	1 / 24 months* *
viii) Facilities selected by WMCs	1 / 36 months

* See Glossary of Terms for definition
** Once in 24 months with a minimum of two site visits during the five-year term of this Order
*** See exception in text below

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i. Phase 1 facilities in categories [i] through [ix] and [xi] which have an industrial waste discharge permit or a pretreatment permit, once every twenty-four months;

ii. Phase 1 facilities in categories [i] through [ix] and [xi], which do not have an industrial waste discharge permit or a pretreatment permit but have obtained coverage under the GIASP, once every twenty-four months;

iii. Phase 1 facilities in categories [i] through [ix], which do not have an industrial waste discharge permit, a pretreatment permit or GIASP coverage, once every twenty-four months;

iv. Phase 1 facilities in category [xi] without an industrial waste discharge permit, a pretreatment permit, or GIASP coverage. In lieu of a site visit, contact by phone, mail-out of questionnaire and educational materials, or other similar method to inform the facilities of notice of intent (NOI) requirements and encourage good storm water quality control measures (non-responders to be identified in annual report), once in five years;

v. Vehicle repair shops, vehicle body shops, vehicle parts and accessories (SIC Industry Major Group 75); once every twenty-four months;

vi. Gasoline stations (SIC Industry Number 5541); once every twenty-four months;

vii. Restaurants (SIC Industry Number 5812), once every twenty-four months; and,

viii. Additional SIC industrial/commercial groups identified by the WMC for the watershed in which the Permittee is located, once in thirty-six months, with a maximum limit of 3,000 additional site visits per Permittee during the term of this Order.

b. During the educational site visit, the Permittee shall:

i. Consult with a representative of the facility to explain applicable storm water regulations;

ii. Distribute and discuss applicable BMP and educational materials, including information regarding the codes, regulations, ordinances, and permits applicable to the category of the facility. In the case of

Phase I facilities, notify the facility of specific requirements under the Statewide Industrial General Permit including that such facilities must file an Notice of Intent (NOI) with the State Water Resources Control Board and that a Storm Water Pollution Prevention Plan (SWPPP) must be available on the site; and

iii. Follow-up with facilities, as deemed necessary and appropriate by the Permittee, to provide advice in complying with the Permittee's storm water ordinances, prohibitions, and other legal instruments.

c. Each Permittee shall submit to the Principal Permittee, on a quarterly basis, the lists of visited facilities identified by category. The Principal Permittee shall compile the submitted lists and submit them to the Executive Officer on a quarterly basis.

4. Alternative Programs

A Permittee may petition the Executive Officer to substitute the industrial/commercial educational program with an alternative industrial/commercial educational program that will achieve greater or substantially similar educational goals and which will be implemented within a similar period of time.

C. Five-Year Storm Water Public Education Strategy

A Five-Year Storm Water Public Education Strategy, which elaborates steps for implementing public education programs, shall be developed by the Principal Permittee. The strategy shall: communicate key educational information; develop educational programs for target audiences; utilize various innovative educational tools and incentives for participation; employ effective outreach to the region's multi-ethnic communities; and conduct opinion surveys to assist in evaluating public awareness both before and after implementation of the public education programs.

The Permittees shall endeavor to coordinate public outreach efforts among themselves, with environmental groups, and pertinent public and private agencies.

1. The Principal Permittee, in consultation with Permittees, shall develop not later than July 30, 1997, a Five-Year Countywide Storm Water Education Strategy which addresses education/outreach issues countywide as well as by watershed, including a schedule for implementation. The strategy shall include a full range of outreach tools, from simple brochures to sophisticated media. The strategy shall identify the Permittee's responsibilities for implementation, including specific objectives for changing knowledge and behavior.

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The Principal Permittee shall submit the strategy to the Executive Officer for approval. Each Permittee shall implement the strategy not later than four months after commencement of its next fiscal year following approval of the strategy by the Executive Officer, provided, however, that such approval is issued not later than 90 days prior to the commencement of the Permittee's fiscal year. If such approval is given within 90 days of the commencement of a Permittee's fiscal year, such program shall be implemented in the second fiscal year following approval but in no event shall implementation be later than July 30, 1999.

At a minimum, the Five-Year Storm Water Education Strategy shall include actions for:

a. Identification of land uses and activities that have a higher potential for storm water pollution and will include and/or accomplish the following:

   i. Pollutants: The reduction of targeted pollutants of concern in a particular watershed; and

   ii. Activity-specific: Activity-specific outreach programs shall be developed and implemented using written, audio, or visual outreach tools.

   The strategy shall include activity-specific outreach programs that inform residents about the problem of illicit discharges and dumping and shall promote, publicize, and facilitate public reporting of these activities. The program shall also include continuing operation, maintenance, and promotion of the countywide reporting hotline.

b. Emphasis on the importance of pollution prevention for a variety of audiences, including local residents, school-aged children, businesses, and public employees whose job functions and daily lives may impact storm water quality. Efforts will include and/or accomplish the following:

   i. For Residents

      aa. Educate residents on recycling and household hazardous waste disposal options. The program shall provide information on collection services, including locations and schedule; provide outreach materials on source reduction and proper use, storage, and disposal methods for household hazardous wastes; and continue to encourage residents to recycle, e.g., oil, antifreeze, glass, plastics, and batteries.

      bb. Encourage residents to participate in specific storm water outreach programs. Residents shall be informed of and provided with the opportunity to share ideas and comments about the programs. Each Permittee shall demonstrate that a good faith effort has been made

to outreach to different communities within the watershed management area or region and to receive feedback from the communities while measuring success of the program.

cc. Educate do-it-yourselfers regarding pollution prevention strategies. Each Permittee shall demonstrate that a good faith effort has been made to outreach to different communities within the watershed management area or region.

dd. Promote public participation through cooperative programs to foster awareness and identification of storm water pollution issues among residents in a watershed. Catch basin labeling and other established sign programs are examples of this type of cooperative effort. Another example for cooperative outreach is an "Adopt-A-" program. Residents can "adopt" highways, storm drains, catch basins, or streams to monitor, restore, and protect them.

ee. Residents shall be encouraged to mow vegetation surrounding their residence rather than disk.

ii. For School Children

School programs shall be developed and implemented wherever possible to include information on MS4s, the difference between sanitary sewers and storm drains, the importance of preventing storm water pollution, and provide illicit discharges/disposal and reporting procedures, source minimization, and general pollution prevention. Acquisition and/or development of classroom materials and their distribution to teachers are encouraged.

iii. For Businesses

aa. An education and outreach program shall be developed and implemented for business activities identified as having greater potential of discharging pollutants into the MS4. This includes sidewalk washing by individual merchants. The program shall encourage employee training on the effectiveness of storm water pollution prevention practices. In addition to written, audio, and visual materials, other possible means of focused outreach may include: conducting workshops, mass mailings, and submitting informational articles to trade/industry magazines. Each Permittee shall provide outreach materials through business license renewal counters and/or make efforts to outreach through professional and business associations or industrial/commercial site visits.

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bb. Construction

An education program shall be developed and implemented for construction contractors, owners, builders, and do-it-yourselfers on proper BMP implementation and maintenance, and pollution prevention.

iv. Appropriate Permittee Employees

Permittee employees involved in storm water related activities shall be trained on storm water management and pollution prevention practices. Cooperative efforts among enforcement agencies should be encouraged.

Training programs shall include, but not be limited to, articles in city newsletters, training classes, checklists for field personnel, and interdepartmental forums or committees to the extent the Permittee utilizes any of the foregoing. Materials developed for other audiences may also be used in Permittee employee training programs. Appropriate public agency employees shall be trained in:

aa. Emergency spill cleanup procedures and hotline phone numbers;

bb. Environmentally sensitive alternative products;

cc. Good housekeeping practices; and,

dd. Municipal NPDES and other permitting requirements.

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VI. Monitoring Program

A. Objectives

The overall goal of this monitoring program is to develop and support effective watershed storm water quality management programs towards reduction of pollutants to the maximum extent practicable.

The major specific objectives of program are as follows:

1. To track water quality status, pollutant trends and pollutant loads, and identify pollutants of concern;

2. To monitor and assess pollutant loads from specific land uses and watershed areas;

3. To identify, monitor, and assess significant water quality problems related to storm water discharges within the watershed;

4. To identify sources of pollutants in storm water runoff;

5. To identify and eliminate illicit discharges;

6. To evaluate the effectiveness of management programs, including pollutant reductions achieved by implementation of BMPs; and,

7. To assess the impacts of storm water runoff on receiving waters.

B. Monitoring Program Requirements

The Principal Permittee shall implement the monitoring program described in Attachment C, Monitoring Program Requirements. The summary of the monitoring program requirements and compliance dates are given in Table 8 on the following page.

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Table 8
Monitoring Requirements And Compliance Dates

Requirement	Permit Attachment	Principal Permittee	Permittees	Months from Order Adoption Compliance Date)
Begin re-evaluation of land use monitoring station locations	C.1.a	✓		
Complete re-evaluation of land use monitoring station locations	C.1.a	✓		Upon EO* approval-Sept 1, 1996
Monitor land use stations at prescribed storm event frequency	C.1.c	✓		0
Implement a pilot study monitoring program from one sampler at a land use station to sample storm greater than .1 inches of rainfall	C.1.d	✓		0
Monitor at mass emission stations	C.2.a	✓		0
Submit a report for characterizing critical sources and BMPs	C.3.b	✓		Sept 1, 1996
Conduct a program for characterizing critical sources and BMPs	C.3.b	✓		Upon EO* approval
Install and evaluate BMPs appropriate to the critical sources	C.3.d	✓		Second full rainy season
Re-evaluate progress made by other entities within the state to evaluate critical sources and BMPs	C.3.e	✓		Third full rainy season
Submit a workplan for Loads Assessment model	C.4	✓		18 (January 30, 1998)
Fund a receiving waters study	C.5	✓		
Prepare, retain, and revise a Monitoring Plan	VI.C.1	✓		Submit to the EO* when so requested

* Executive Officer

VII. Program Reporting and Evaluation

Table 9 shows the summary of requirements under this section with corresponding compliance dates.

Table 9
Program Evaluation and Reporting Requirements and Compliance Dates

Requirement	Permit Section	Principal Permittee	Permittees	Months from Effective Date of Order (Compliance Date)	For Approval By
Develop standard Annual Reporting format, including reporting forms	VII.A.1	✓		6	Executive Officer
Submit Annual Report to Regional Board	VII.A.2	✓		Every October 15	N/A
Submit an Annual Monitoring Report	VII.B	✓		Every July 15	N/A
Submit a Program Evaluation Report of 5-Year Strategy	VII.C.1	✓		48 (July 31, 2000)	N/A
Submit Assessment of Effectiveness of CSWMP Components	VII.C.2	✓		48 (July 31, 2000)	N/A
Submit Recommendations for Development of Performance Standards for selected CSWMP Components	VII.C.3	✓		54 (February 1, 2001)	N/A
Submit a Receiving Water Impacts Report	VII.D	✓		48 (July 31, 2000)	N/A
Submit WMAPs	Part 3.VI		✓	To be included with ROWD. (February 1, 2001)	Executive Officer

A. Annual Program Report

1. The Principal Permittee shall, not later than January 31, 1997, develop a standard annual program reporting format for use by Permittees, including reporting forms.

2. The Principal Permittee, in coordination with the Permittees, shall submit an Annual Program Report to the Executive Officer on or before October 15 of each year. The first Annual Report is due October 15, 1997. The Annual Program Report shall comply with 40 CFR §122.42(c) and include, at a minimum:

   a. The implementation status of program tasks contained in this Order, CSWMP, and/or WMAP, as applicable to each Permittee;

   b. The status of, or statement of completion of all components and milestones described in this Order, CSWMP, and/or WMAP, as applicable to each Permittee;

   c. Results of program tasks contained in this Order, CSWMP, and/or WMAP, as applicable to each Permittee;

   d. Program accomplishments and self-assessment of strategy effectiveness (including how the Permittee arrived at new program elements, if any) by each Permittee, organized by Watershed Management Areas, in the areas of (i) Program Management; (ii) Illicit Connections/Discharges; (iii) Development Planning/Construction; (iv) Public Agency Activities; (v) Public Education/Public Participation;

   e. A summary of BMP implementation, Permittee level of effort, and other such measures of achieving storm water program objectives, utilizing uniform information and data collection methodology to support area-to-area, and year-to-year comparisons;

   f. The names, titles, and telephone numbers of personnel responsible for supervising implementation of the program tasks contained in this Order, CSWMP, and/or WMAP, as applicable to each Permittee.

   g. Recommended changes and/or modifications to the programs identified in this Order, CSWMP, and/or WMAP.

B. Annual Monitoring Report

The Principal Permittee shall submit a separate Annual Monitoring Report by July 15 of each year. The first Annual Monitoring Report is due on July 15, 1997. The report shall include status of implementation of the monitoring program, results of the monitoring program and interpretation thereof, and suggested modifications or amendments to the Monitoring Program with relevant justifications.

C. Program Evaluation Report

1. The Principal Permittee, shall, not later than July 31, 2000, complete an analysis of the general success of the Five-Year Storm Water Public Education Strategy and identify its accomplishments. This report shall serve as the basis for the next Five-year Storm Water Public Education Strategy that will be part of the ROWD.

2. The Principal Permittee shall, not later than July 31, 2000, and in consultation with the Permittees, prepare and submit a report on the assessment of the effectiveness of the CSWMP components (except that identified in C.1.).

3. The Principal Permittee shall, not later than February 1, 2001, submit a report on the identification of CSWMP components for which performance standards will be developed and implemented during the next term of the permit. The report shall include a schedule of development of performance standards. The performance standards will indicate the level of implementation necessary to demonstrate that efforts are being made to reduce the discharge of pollutants in storm water to the maximum extent practicable. This report will be an integral part of the ROWD.

D. Integrated Receiving Water Impacts Report

The Principal Permittee shall not later than July 31, 2000, prepare and submit an Integrated Receiving Water Impacts Report. The report shall include, but not be limited to a comprehensive analysis of the results of the different monitoring data (land use, mass emissions, critical source, load assessment, receiving waters, and other pertinent studies available), and feasible environmental indicators. It should also include recommendations on future monitoring requirements, e.g., integration of storm water receiving water monitoring with regional receiving water monitoring, if applicable. This report will be an integral part of the ROWD.

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Part 3. STANDARD PROVISIONS

I. The initial storm water management program, as delineated in the CSWMP or WMAPs may need to be modified, revised, or amended periodically to respond to changed conditions and to incorporate more effective approaches to pollutant controls. Minor changes may be made at the direction of the Executive Officer. Minor changes requested by the Permittees shall become effective upon written approval of the Executive Officer. If proposed changes involved a major revision in the overall scope of the program, such changes must be approved by the Regional Board as amendments to this Order.

II. Except as otherwise provided in this Order, all reports or submittals made directly to the Executive Officer or through the Principal Permittee shall be signed under penalty of perjury by the principal executive officer or the ranking elected official of the Permittee or a duly authorized representative if:

A. The authorization is made in writing by a person described above;

B. The authorization specifies either an individual or a position having responsibility for the overall operation of the Permittee's storm water management program, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the Permittee. A duly authorized representative may thus be either a named individual or any individual occupying a named position; and

C. The written authorization is submitted to the Executive Officer.

III. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural requirements of the Water Code and Title 23 of the California Code Regulations for the issuance of waste discharge requirements, and upon prior notice and hearing, to:

A. Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;

B. Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

C. Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or

D. Consider any other federal, or state laws or regulations that became effective after adoption of this Order.

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IV. The Permittees shall continue to implement the BMPs and/or programs that were required pursuant to Order No. 90-079 until such time that replacement BMPs/programs are implemented under this Order. Except for the foregoing, enforcement purposes, and applicability to the State of California Department of Transportation (Caltrans), Order No. 90-079 (NPDES Permit No. CA0061654) is hereby superseded and replaced by this Order.

V. The issuance of this Order is not intended to, and does not, absolve any Permittee of liability for conduct which may have constituted a violation of Order 90-079 (CA0061654, CI 6948) adopted by this Regional Board on June 18, 1990, nor is it intended to impose any liability on any Permittee or person for any conduct prior to the effective date of this Order.

VI. This Order expires on July 30, 2001. The Principal Permittee and Permittees must submit complete Reports of Waste Discharge (ROWD) 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. The ROWD shall include watershed-specific WMAPs.

I, Robert P. Ghirelli, 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, Los Angeles Region, on July 15, 1996.

Robert P. Ghirelli

ROBERT P. GHIRELLI, D.Env.
Executive Officer

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State of California
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 96-054
(NPDES NO. CAS614001)

ATTACHMENTS
TO
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES
WITHIN THE COUNTY OF LOS ANGELES

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ATTACHMENT A
LIST OF PERMITTEES
BY
WATERSHED MANAGEMENT AREAS

Santa Monica Bay

Malibu Creek and Other Rural

Agoura Hills
*Calabasas
Los Angeles County
Malibu
Westlake Village

Ballona Creek and Other Urban

Beverly Hills
Culver City
El Segundo
Hermosa Beach
Los Angeles
Los Angeles County
Manhattan Beach
Palos Verdes Estates
Rancho Palos Verdes
Redondo Beach
Rolling Hills
Rolling Hills Estates
*Santa Monica
West Hollywood

Dominguez Channel/ Los Angeles Harbor Drainage

Carson
Gardena
Hawthorne
Inglewood
Lawndale
Lomita
Los Angeles
Los Angeles County
*Torrance

Los Angeles River

Alhambra
Arcadia
Bell
Bell Gardens
Burbank
Commerce
Compton
Cudahy
El Monte
Glendale
Hidden Hills
Huntington Park
La Canada Flintridge
****Long Beach***
Los Angeles
Los Angeles County
Lynwood
Maywood
Montebello
Monterey Park
Paramount
Pasadena
Rosemead
San Fernando
San Gabriel
Sierra Madre
Signal Hill
South Gate
South Pasadena
Temple City
Vernon

San Gabriel River

Artesia
Azusa
Baldwin Park
Bellflower
Bradbury
Cerritos
Claremont
Covina
Diamond Bar
Downey
Duarte
Glendora
Hawaiian Gardens
Industry
Irwindale
La Habra Heights
La Mirada
La Puente
La Verne
Lakewood
****Long Beach***
Los Angeles County
Monrovia
Norwalk
Pomona
Pico Rivera
San Dimas
San Marino
Santa Fe Springs
South El Monte
Walnut
West Covina
Whittier

Santa Clara River

Los Angeles County
*Santa Clarita

*Italicized agencies are present in more than one Watershed Management Area. *Indicates City with the largest watershed population other than the County of Los Angeles and the City of Los Angeles.*

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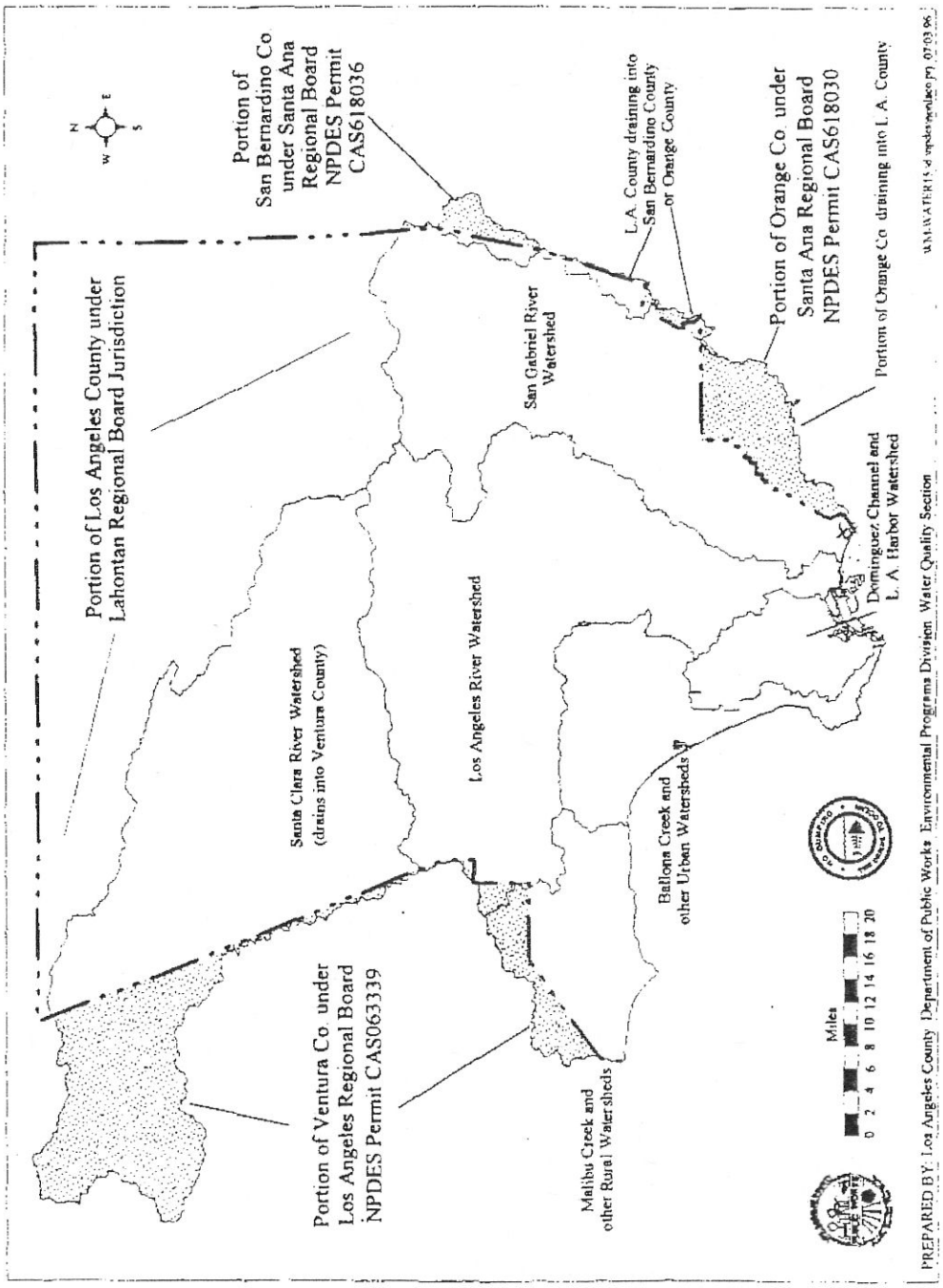
ATTACHMENT B

MAP OF LOS ANGELES COUNTY PERMITTED AREA



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ATTACHMENT C

MONITORING PROGRAM REQUIREMENTS

A. MONITORING PLAN

The Principal Permittee shall prepare, maintain, and update, if necessary, a monitoring plan which shall include at a minimum, the following:

1. Quality control, quality assurance, data collection, storage and analyses, and detection limits;

2. All sample collection, handling, storage, and analyses in accordance with 40 CFR 136;

3. Location of monitoring stations, constituents, and sampling frequency;

4. Targeted monitoring indicators (e. g., ecosystem, biological diversity, in stream toxicity, habitat, chemical, sediment, stream health) chosen for monitoring;

5. Statistical methods used to design studies, conduct sampling, and interpret data;

6. A description of the role and responsibilities of all the participants in monitoring studies;

7. A description of computer software and modelling programs that will be utilized to assess data, interpret information; and

8. A general description of how data are intended to be utilized for feedback into the storm water management program.

An up-to-date Monitoring Plan shall be submitted to the Executive Officer, when so requested.

B. MONITORING PROGRAM

The following monitoring program is designed to meet the objectives stated under Part 2.VI of this Order:

1. Land Use Station Monitoring

   a. The Principal Permittee shall reevaluate the location of existing monitoring stations (established under Order No. 90-079) reflecting specific land uses ("land use stations") consistent with the cost-benefit methodology described in Attachment C-1. Upon completion of Step 6 of the reevaluation process, but not later than

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September 1, 1996, the Principal Permittee shall submit a report to the Executive Officer outlining the steps taken in the reevaluation process, and recommend land use categories to be monitored. Based on results of the reevaluation process, existing land use stations established pursuant to Order 90-079, may be moved to monitor recommended land use categories for monitoring. Existing land use stations under Order 90-079 which do not reflect land use categories recommended for monitoring under the cost-benefit analysis or which are duplicative of other stations will be decommissioned.

b. Upon approval of the report by the Executive Officer, the Principal Permittee shall complete Steps 7-8 of the reevaluation process in Attachment C-1.

c. The Principal Permittee shall monitor land use stations according to the following schedule provided there are sufficient storm events during the season:

Storm Season	Number of Station Events/Storm Season
1996-97	100
1997-98, and thereafter	200

A station event is defined as one sampling event per station.

The land use stations shall be monitored during the term of this Order or until such time that event mean concentrations (EMC) are derived, at the 25% error rate, for the following constituents of concern:

PAHs (total)	Chlordane	Cadmium
Copper	Nickel	Lead
Chromium	Silver	Zinc
Selenium	Mercury	Total Nitrogen
Total Phosphorus	Total Suspended Solids	Diazinon
Chlorpyrifos	Malathion	Simazine
Total DDT	Total PCBs	

The Executive Officer may add or delete constituents of concern. However, for constituents added after the commencement of the second rainy season under the Order, the Principal Permittee need not derive an EMC at an error rate of 25% prior to closing a land use station.

d. All samples for land use station monitoring may be taken with the same type of automatic sampler used under Order 90-079. The samplers shall be set to monitor storms totalling 0.25 inches or greater of rainfall. The constituents to be analyzed are listed in Attachment C-3. The Principal Permittee, for land use sites,

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may exclude constituents from the list that require grab sampling.

In addition, the Principal Permittee shall, as a pilot study, set one land use sampler to monitor storms from 0.1 inch of rainfall. Based upon an assessment of the following, a decision will be made as to whether to set some or all of the remaining land use samplers to monitor storms totalling 0.1 inches of rainfall or greater: 1) the operational effectiveness of the sampler; 2) the feasibility and effectiveness of sample retrieval and transport; and 3) the ability to reprogram and maintain this setting at other samplers.

e. If a constituent is not detected at the method detection limit (MDL) for its respective test method listed in Attachment C-3 in more than 25 percent of the first ten sampling events or on a rolling basis using ten consecutive sampling events, it will not be further analyzed unless the observed occurrences show high concentrations and are cause for concern. The Principal Permittee will also conduct annual confirmation sampling for non-detected constituents at each station for as long as the station is monitored.

2. Mass Emission Station Monitoring

a. The Principal Permittee shall monitor a total of four mass emission stations. During the 1995-96 storm season, monitoring shall be conducted only at the Ballona Creek and Malibu Creek monitoring stations established under Order 90-079. During the 1996-97 storm season, monitoring shall begin at the San Gabriel River and Los Angeles River (downstream of Wardlow Road) stations. The Principal Permittee shall monitor at the Ballona Creek and Malibu Creek monitoring stations during the 1995-1996 storm season up to ten station events per year including dry weather sampling. Thereafter, monitoring shall be reduced at all stations to a maximum of five events per year. Mass emission station monitoring frequency will be evaluated after the 1998-1999 storm season. However, regardless of the results, monitoring shall not exceed five storm events per station for the 1999-2000 storm season.

b. Samples for mass emission station monitoring shall be taken with the same type of automatic sampler used under Order 90-079, as well as through grab sampling. The samplers shall be set to monitor storms totalling 0.25 inches or greater of rainfall. The constituents to be analyzed for samples taken at mass emission stations are listed in Attachment C-3. The Principal Permittee may elect not to sample Volatile Organic Compounds from the list of constituents for mass emission stations.

c. If a constituent is not detected at the method detection limit for its respective test method listed in Attachment C-3 in more than 25 percent of the first ten sampling events or on a rolling basis using ten consecutive sampling events, it will not be

further analyzed unless the observed occurrences show high concentrations and are cause for concern.

d. With the exception of the stations noted in (2)(a) above, monitoring at other mass emission stations installed under Order 90-079 shall be discontinued and the stations decommissioned.

3. Critical Source/Best Management Practice Monitoring

The Principal Permittee shall conduct a program for monitoring critical sources to characterize sources of storm water pollutants and assess effectiveness of BMPs. The program shall be consistent with the following:

a. Selection of Critical Sources: The Principal Permittee will select critical sources for monitoring based on the methodology described in Attachment C-4 (Critical Source/BMP Monitoring). A total of five (5) critical sources will be monitored over six rainy seasons commencing with the 1996-97 rainy season, subject to the provisions of (3)(d) below.

b. Not later than September 1, 1996, the Principal Permittee shall submit a report to the Executive Officer for approval on the critical source selection process and recommend critical sources for evaluation. Upon approval of the report, the Principal Permittee shall proceed to conduct the activities set forth in (3)(c-f).

c. Characterization of Critical Sources: Commencing with the 1996-97 rainy season, the Principal Permittee shall commence the characterization of critical sources. A total of six (6) representative sites of each critical source will be characterized through analysis of runoff. Fewer representative sites may be selected due to distance considerations and/or the unavailability of sufficient source locations willing to participate in the program. A total of at least five (5) storms will be used to characterize the critical source runoff. Samples will be analyzed for those pollutants anticipated to be found in the critical source storm runoff and such analytes will be partitioned, as appropriate, to determine the soluble and suspended fractions.

d. Evaluation of BMPs: In the year after a critical source has been characterized, a BMP or BMPs appropriate to the critical source will be selected and installed at up to half of the critical source examples (the "test sites"). Flow from the remaining source representative sites (the "control sites") will continue to be analyzed. A total of ten (10) targeted storm events will be monitored to assess the effectiveness of the BMPs. If there are insufficient storm events during the year, the evaluation may be continued during the next storm season. The Principal Permittee's monitoring of critical sources and evaluation of BMPs will be concluded by the end of the sixth full rainy season after the adoption of this Order, provided that sufficient number of storms have occurred.

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e. Additional Evaluation: After the third full rainy season following the adoption of the Order, the Principal Permittee will reevaluate, the progress made by other public entities in the State to evaluate critical sources and BMPs. If after the evaluation, the Principal Permittee determines that there are either additional critical sources, or BMPs associated with identified significant critical sources which have not been monitored and/or evaluated, the Principal Permittee, subject to the approval of the Executive Officer, will undertake "Additional Monitoring". The Additional Monitoring will consist of monitoring up to three (3) additional critical sources, or evaluate up to an additional three (3) BMP sets, or some combination thereof totalling three. The extent of Additional Monitoring will be dependent on the Principal Permittee's ability to complete the monitoring/evaluation described in(3)(c-d) above; if more time is needed to complete such monitoring, the extent of the Additional Monitoring shall be accordingly reduced.

4. Loads Assessment Model

The Principal Permittee shall, not later than January 15, 1998, submit to the Executive Officer for approval a workplan for performing a loads assessment analysis for each of the six WMAs to determine pollutant loads entering the ocean from receiving waters in the county. The assessment shall be conducted following the third full rainy season after adoption of this Order using the collected monitoring data from the land use and mass emission stations (including data collected from stations monitored under Order No. 90-079) and employing the USEPA simplified model.

5. Receiving Waters Study

The Principal Permittee, in conjunction with other participants that it may choose, will fund a study of receiving waters impacted by storm water described in Attachment C-5, subject to revisions as set forth below in (5)(d). The purpose of the study will be to study the impacts, if any, of storm water/non-storm water discharges on the beneficial uses of Santa Monica Bay and to assist the Permittees in developing storm water management programs. The obligation of the Principal Permittee under this Order with respect to the receiving waters study shall consist of the following:

a. Plume Study: The Principal Permittee will support a plume study to evaluate the dispersion, fate, and transport of storm water pollutants in Ballona Creek and Malibu Creek, through a contribution of up to a maximum of $145,000.

b. Benthic Study: The Principal Permittee will support a study to assess impacts of storm water on the marine benthic community near the mouths of Ballona Creek and Malibu Creek, through a contribution of up to a maximum of $205,000. If it is the consensus of project scientists that a third year of benthic study is advisable to meet the goals of the receiving waters study, the Principal Permittee will contribute up to a maximum of an additional $80,000 for the third year of study.

c. Toxicity Study: The Principal Permittee will support a study to evaluate sediment and water column toxicity in Ballona Creek and Malibu Creek through a contribution of up to a maximum of $118,500. If it is the consensus of the project scientists that a third year of toxicity studies is advisable to meet the goals of the receiving waters study, the Principal Permittee will contribute up to a maximum of $80,500 to fund a third year of study.

d. River Study: The Principal Permittee will take a total of three (two storm weather and one dry weather) water samples at each of the Los Angeles and San Gabriel River mass emission stations during the 1997-98 and 1998-99 seasons. The samples will be subjected to sea urchin fertilization bioassays to evaluate water column toxicity, with the Principal Permittee's out-of-pocket expenses for the study not to exceed $3,600.

e. Project Design: The receiving waters study shall initially contain the elements established in Attachment C-5. However, the scientists conducting the receiving waters study may alter the parameters of the second and (if necessary) the third year of the receiving waters study so as to meet the objectives of the study. Such alterations may include changing of sampling locations, use of different sampling techniques, or other pertinent redirection of resources. The Principal Permittee shall notify the Executive Officer of any revisions to the second and (if necessary) third years of the receiving waters study for review and approval.

f. Study Reports: The Principal Permittee shall require the project scientists conducting the study to prepare an annual report covering study activities of the previous year, and any interim/final assessments. Such reports shall be submitted by the Principal Permittee to the Executive Officer with the Annual Monitoring Report.

g. Principal Permittee Responsibilities: The commitments of the Principal Permittee toward performance of a receiving waters study are: providing funding, and submittal of progress and final reports.

ATTACHMENT C-1

LAND USE SITE SELECTION PROCESS OUTLINE

Step 1

The Principal Permittee will take the Southern California Association of Governments ("SCAG") categories listed below as an initial list of land use categories. The Principal Permittee will use its best efforts to obtain overlays (or similar information) for use in the land use selection process. However, these overlays or information must be usable County-wide in the SCAG database and the Principal Permittee shall not be required to look for or use overlays or information which cannot be so used. The Principal Permittee also shall not be required to create overlays. Some of these categories may not be important (very small area represented in study area, and/or known very low EMC or runoff mass). The initial number of categories will be reduced at this step.

For each remaining category, the Principal Permittee will identify eight (8) representative locations. The eight (8) locations in each category would be relatively small areas, such as a square block for residential areas, a single school or church, a few blocks of strip commercial, etc. These sites would be selected, where possible, over a wide geographical area of the study area to include a range of topographical characteristics such as distance from ocean, etc.

Step 2

In this step, the Principal Permittee should perform a site survey of ground conditions. For each of the eight (8) locations identified for each category, the Principal Permittee will collect information, to the extent such information is available, including: type of roof connections, type of drainage, age of development, housing density, type of landscaping, condition of pavement, soils, and existing storm water control practices.

These are simple field surveys that can be completed by a team of two people at the rate of about 5-6 (maximum) locations a day, depending on navigation problems, traffic delays, and the proximity of the sites. Several photographs should be made of each site and archived with the field sheets for future reference.

Step 3

In this step, currently available and usable aerial photographs taken in the past five years are used to measure the percent impervious area associated with rooftops, streets, driveways, sidewalks, parking areas, storage areas, decks and sheds, swimming pools, alleyways, and other paved areas. Photographic prints for each of the homogeneous neighborhoods examined on the ground in step 2 are needed. The actual measurements require about an hour per site.

Step 4

In this step, the Principal Permittee will compile the information collected in the previous steps and use it to determine which land use categories should be monitored. This refinement step will result in a final list of categories to be examined, based on the actual measured values.

Some of the sites selected for field measurement may actually belong in another category and would be reassigned to that category before the data were evaluated. In addition, development characteristics and areas of important elements may indicate greater variability within an initial category than between other categories in the same land use. If there is no other reason to suspect differences that would affect drainage quality or quantity, these areas could be combined to reduce the total number of individual land use categories used in subsequent evaluations.

On the basis of Step 2 and Step 3, the Principal Permittee will measure the percent of directly connected impervious area for each of the eight neighborhoods surveyed. The Principal Permittee will then compare the percent of impervious area using simple non-parametric statistics to see how differences within a single land use category compare with differences between land use categories. Based on this analysis, the Principal Permittee will aggregate or subdivide land use categories as appropriate. Subdivisions of land use categories shall correspond to those in the SCAG database.

Step 5

Next, the Principal Permittee will rank the selected land use categories according to their predominance and pollutant generation. As part of its analysis, the Principal Permittee will perform a marginal cost/benefit analysis as to which land use categories should be monitored.

For each land use category the following will be estimated based on existing data: drainage area, runoff quantity and an EMC value for each of four indicator pollutants (preliminarily, copper, pyrene, total suspended solids and diazinon). The product of runoff quantity and EMC is the estimated total annual pollutant loading associated with each land use category and indicator pollutant. These sums are then ranked, from the largest to the lowest, and an accumulated percentage contribution is then produced for each pollutant. These accumulated percentage values are plotted against the number of land use categories. The graph will be relatively steep initially and then level off as it approaches 100%. A marginal cost-benefit analysis can then be used to select the number of land uses that should be monitored, which will take into account all four of the indicator pollutants.

The list of County-wide land use categories to be evaluated in Step 5 will be reviewed for each of the six watersheds in the Permit area. If there is a land use category in an individual watershed which may be feasibly monitored and is in the top five land uses in terms of total area in the watershed and is otherwise an important contributor of constituents of concern, but which would not be monitored based on the County-wide marginal cost-benefit analysis, up to two such land uses shall be monitored after the first year of the monitoring program, subject to the station event cap.

Step 6

The Principal Permittee will take the top ranked land uses and if the total number of categories exceed ten, select ten monitoring sites for monitoring the first year. All of the remaining top-ranked land uses will need

to be monitored in future years, subject to the station event cap. In selecting those sites for initial monitoring, the Principal Permittee should look for homogeneous areas that are self-contained in a drainage area. In addition, monitoring locations will need to be selected along storm drains that are able to accommodate the sampling equipment, have sampling access, no safety problems, etc.

Step 7

Next, the monitoring stations are installed. The monitoring equipment will include automatic water samplers and, if surcharging flow problems are anticipated, flow sensors measuring velocity and depth of flow. The samples collected at the automatic samplers should all be flow-weighted composites, requiring only one sample to be analyzed per event at each monitoring station. Each sampler site will need to be visited periodically to ensure that everything is ready to sample.

Step 8

The Principal Permittee will continue down the list of priority land use categories and install additional monitoring stations in subsequent years. At some point, the marginal benefit from monitoring an additional land use category will not be sufficient to justify the cost, as determined from the marginal cost-benefit analysis in step 5, and no additional sites will need to be installed. The land use sampling program will end when sufficient storms have been sampled to obtain the desired error level in the EMC values for the constituents of concern.

ATTACHMENT C-2

SCAG LAND USE CLASSIFICATIONS

1. Single Family Residential
   - High Density
   - Low Density
2. Multi-Family Residential
3. Mobile Homes and Trailer Parks
4. Mixed Residential
5. Rural Residential
6. General Office Use
7. Retail Stores and Commercial Services
8. Other Commercial
9. Public Facilities
10. Special Use Facilities
11. Educational Institutions
12. Military Installations
13. Light Industrial
14. Heavy Industrial
15. (Mineral) Extraction
16. Wholesaling and Warehousing
17. Transportation
18. Communication Facilities
19. Utility Facilities
20. Maintenance Yards
21. Mixed Transportation
22. Mixed Transportation and Utility
23. Mixed Commercial and Industrial
24. Mixed Urban
25. Under Construction
26. Golf Courses
27. Local Parks and Recreation
28. Regional Parks and Recreation
29. Cemeteries
30. Wildlife Preserves and Sanctuaries
31. Specimen Gardens and Arboreta
32. Beach Parks
33. Other Open Space and Recreation
34. Urban Vacant
35. Irrigated Cropland and Improved Pasture Land
36. Non-Irrigated Cropland and Improved Pasture Land
37. Orchards and Vineyards
38. Nurseries
39. Dairy and Intensive Livestock, and Associated Facilities
40. Poultry Operations
41. Other Agriculture
42. Horse Ranches
43. Vacant Undifferentiated
44. Abandoned Orchards and Vineyards
45. Vacant with Limited Improvements

ATTACHMENT C-3

LIST OF CONSTITUENTS IN MONITORING PROGRAM AND ASSOCIATED DETECTION LIMITS

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Conventional Pollutants		(mg/L)
Oil and Grease	413.2	1
Total Phenols	420.1	0.1
Cyanide	335.2	0.01
pH	150.1	0 - 14
Temperature		None
Dissolved Oxygen	---	Sensitivity to 5 mg/L
Bacteria		
Total Coliform	9221B	<20mpn/100ml
Fecal Coliform	9221B	<20mpn/100ml
Fecal Streptococcus	9221B	<20mpn/100ml
General		(mg/L)
Dissolved Phosphorus	300	0.05
Total Phosphorus	300	0.05
Turbidity	180.1	0.1NTU
Total Suspended Solids	160.2	2
Total Dissolved Solids	160.1	2
Volatile Suspended Solids	160.4	2
Total Organic Carbon	415.1	1
Total Petroleum Hydrocarbon	418.1	1
Biochemical Oxygen Demand	405.1	2
Chemical Oxygen Demand	410.4	20-900
Total Ammonia-Nitrogen	350.2	0.1
Total Kjeldahl Nitrogen	351.2	0.1
Nitrate-Nitrite	4110	0.1
Alkalinity	310.1	2
Specific Conductance	120.1	1umho/cm
Total Hardness	130.2	2
MBAS	425.1	<0.5
Chloride	4110	2
Fluoride	4110	0.1
Sulfate	4110	2

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Metals (Total and Soluble)		(µg/L)
Aluminum	202.1	100
Antimony	204.2	10
Arsenic	206.2	10
Barium	208.2	100
Beryllium	210.2	5
Boron	212.3	250
Cadmium	213.2	10
Calcium	215.2	200
Chromium	218.2	10
Copper	219.2	10
Hex. Chromium	7196	<10
Iron	236.2	100
Lead	239.2	10
Magnesium	242.1	200
Manganese	243.2	30
Mercury	245.1	1
Nickel	249.2	10
Potassium	258.1	100
Selenium	270.2	5
Silver	272.2	10
Sodium	273.1	50
Thallium	279.2	10
Zinc	289.2	50
Semivolatile Organic Compounds		(µg/L)
Acids	8250	
Benzoic Acid	8250	<5
Benzyl Alcohol	8250	<5
2-Chlorophenol	8250	<2
2, 4-Dichlorophenol	8250	<2
2, 6-Dichlorophenol	8250	<2
4-Dimetylphenol	8250	<2
4, 6-Dinitro-2-metylphenol	8250	<3
2,4-Dinitrophenol	8250	<3
2-Methylphenol	8250	<3
4-Methylphenol	8250	<3
2-Nitrophenol	8250	<3
4-Nitrophenol	8250	<3
4-Chloro-3-methylphenol	8250	<3
Pentachlorophenol	8250	<2
Phenol	8250	<1

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Acids (continued)	8250	(µg/L)
2,3,4,6-Tetrachlorophenol	8250	<1
2,4,5-Trichlorophenol	8250	<1
2,4,6-Trichlorophenol	8250	<1
Base/Neutral	8250	
Acenapthene	8250	<0.5
Acenapthylene	8250	<0.5
Acetophenone-	8250	<3
Aniline	8250	<3
Anthracene	8250	<0.5
4-Aminobiphenyl	8250	<3
Benzidine	8250	<3
Benzo(a)anthracene	8250	<1
4-Chloroaniline	8250	<1
1-Chloronapthalene	8250	<1
p-Dimethylaminoazobenzene	8250	<3
7,12-Dimethylbenz(a)-anthracene	8250	<1
a-,a-Dimethylphenethylamine	8250	<3
Benzo(a)pyrene	8250	<1
Benzo(b)flouranthene	8250	<1
Benzo(k)flouranthene	8250	<1
Chlordane	8250	<1
Bis(2-chloroethoxy)methane	8250	<1
Bis(2-chlorisopropyl)ether	8250	<1
Bis(2-chloroethyl)ether	8250	<1
Bis(2-ethylhexyl)phtalate	8250	<3
4-Bromophenyl phenyl ether	8250	<1
Butyl benzyl phthalate	8250	<3
2-Chloronapthalene	8250	<1
4-Chlorophenyl phenyl ether	8250	<1
Chrysene	8250	<1
Dibenz(a,j)acridine	8250	<3
Dibenz(a,h)anthracene	8250	<1
1, 3-Dichlorobenzene	8250	<0.5
1, 4-Dichlorobenzene	8250	<0.5
1, 2-Dichlorobenzene	8250	<0.5
3, 3-Dichlorobenzidine	8250	<3
Diethylphthalate	8250	<0.5
Dimethylphthalate	8250	<0.5
Di-n-butylphthalate	8250	<3
2,4-Dinitrotoluene	8250	<0.5
2, 6-Dinitrotoluene	8250	<0.5

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Base/Neutral (continued)	8250	(µg/L)
Diphenylamine	8250	<3
1, 2-Diphenylhydrazine	8250	<3
Di-n-octylphtalate	8250	<3
Ethyl methanesulfonate	8250	<3
Fluoranthene	8250	<1
Fluorene	8250	<1
Hexachlorobenzene	8250	<0.5
Hexachlorobutadiene	8250	<1
Hexachlorocyclopentadiene	8250	<3
Hexachloroethane	8250	<1
Indeno(1, 2, 3-cd)pyrene	8250	<1
Isophorone	8250	<0.5
3-Methylcholanthrene	8250	<3
Methyl methanesulfonate	8250	<3
Napthalene	8250	<0.5
1-Napthylamine	8250	<3
2-Napthylamine	8250	<3
2-Nitroaniline	8250	<3
3-Nitroaniline	8250	<3
4-Nitroaniline	8250	<3
Nitrobenzene	8250	<0.5
N-Nitroso-di-n-butylamine	8250	<3
N-Nitrosodimethylamine	8250	<3
N-Nitrosodiphenylamine	8250	<3
N-Nitroso-di-N-propylamine	8250	<1
N-Nitrosopiperidine	8250	<3
Pentachlorobenzene	8250	<3
Phenacitin	8250	<3
Phenanthrene	8250	<0.5
2-Picoline	8250	<3
Pronamide	8250	<5
Pyrene	8250	<0.5
5-Tetrachlorobenzene	8250	<3
1, 2, 4,-Trichlorobenzene	8250	<0.5
Pesticides	608	µg/L
Aldrin	608	0.05
alpha-BHC	608	0.05
beta-BHC	608	0.05
delta-BHC	608	0.05
gamma-BHC (Lindane)	608	0.05
Carbofuran	531.1	<5

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Pesticides (continued)	8250	(µg/L)
Chlordane	608	0.05
4, 4'-DDD	608	<0.1
4, 4'-DDE	608	<0.1
4, 4'-DDT	608	<0.1
Benzaton	515.1	<2
Dieldrin	608	<0.1
Endosulfan I	608	<0.1
Endosulfan II	608	<0.1
Endosulfan sulfate	608	<0.1
Endrin	608	<0.1
Endrin aldehyde	608	<0.1
Glyphosate	547	<.5
Heptachlor	608	0.05
Heptachlor epoxide	608	0.05
Methoxychlor	608	<0.5
Toxaphene	608	<1.0
2,4-D	515.1	<.02
2,4,5-TP-SILVEX	515.1	<0.2
Polychlorinated Biphenyls	608	(µg/l)
Aroclor-1016	608	<1
Aroclor-1221	608	<1
Aroclor-1232	608	<1
Aroclor-1242	608	<1
Aroclor-1248	608	<1
Aroclor-1254	608	<1
Aroclor-1260	608	<1
Herbicides		(µg/L)
*Diazinon		
*Chlorpyrifos		
*Diuron		
*Malathion		
*Prometryn	507	
*Atrazine	507	
Simazine	507	<2
*Cyanazine	507	
Molinate	507	<.01
Thiobencarb	507	<.1

* Method or Detection Limits to be determined

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
Volatile Organic Compounds (VOCs)	8240A	(µg/L)
Acetonitrile	8240A	10.0
Acrolein	8240A	10.0
Acrylonitrile	8240A	0.5
Benzene	8240A	0.5
Bromoform	8240A	0.5
2-Butanone	8240A	10.0
Carbon Disulfide	8240A	10.0
Carbon Tetrachloride	8240A	0.5
Chlorobenzene	8240A	0.5
Chlorodibronmethane	8240A	0.5
Chloroethane	8240A	0.5
2-Chloroethyl vinyl ether	8240A	1.0
Chloroform	8240A	0.5
Dibromomethane	8240A	0.5
1,2-Dibromo-3Chloropropane	8240A	<.01
1, 4-Dichloro-2-butene	8240A	10.0
Dichlorobromomethane	8240A	0.5
Dichlorodifluoromethane	8240A	0.5
1, 1-Dichloroethane	8240A	0.5
1, 2-Dichloroethane	8240A	0.5
1, 1-Dichloroethene	8240A	0.5
trans-1, 2-Dichloroethene	8240A	0.5
1, 2-Dichloropropane	8240A	0.5
cis-1, 3-Dichloropropene	840A	0.5
trans-1, 3-Dichloropropene	8240A	0.5
Ethanol	8240A	10.0
Ethylbenzene	8240A	1.0
Ethylene Dibromide	8240A	<.01
Ethylene Oxide	8240A	10.0
Ethyl Metcrylate	8240A	0.5
2-Hexanone	8240A	5.0
Iodomethane	8240A	0.5
Methyl Bromide	8240A	5.0
Methyl Chloride	8240A	5.0
Methylene Chloride	8240A	1.0
4-Methyl-2-pentanone	8240A	5.0
Styrene	8240A	0.5
1, 1, 2,2-Tetrachloroethane	8240A	0.5
Tetrachloroethane	8240	0.5
Toluene	8240A	1.0
Trichlorofluoromethane	8240A	1.0
1, 2,3-Trichloropropane	8240A	0.5
Trichloroethene	8240A	0.5

CONSTITUENTS	USEPA METHOD	DETECTION LIMIT
VOCs (continued)	8240A	(µg/L)
1, 1, 1-Trichloroethane	8240A	1.0
1, 1,2-Trichloroethane	8240A	1.0
1,1,2-Trichloro-1,2,2 trifluoroethane	8240A	<.5
Vinyl acetate	8240A	5.0
Vinyl chloride	8240A	0.5
Xylene (Total)	8240A	0.5

ATTACHMENT C-4

CRITICAL SOURCE/ BMP MONITORING

Selection of Initial Critical Sources to be Studied: The selection of initial critical sources will be made using the following steps:

Step 1: The Principal Permittee first will develop an initial list of candidate critical sources, including industrial and commercial sources that are regulated under the state's General Permit and those which are not.

Step 2: The Principal Permittee next will develop a list of criteria for prioritizing the candidate critical sources developed pursuant to Step 1, including the following: number and/or total area associated with each critical source; runoff pollutants associated with each source; the impact of non stormwater discharges associated with each source; whether or not the source is regulated under the General Permit; and, ease of implementation of monitoring and BMPs.

Step 3: The Principal Permittee next will prioritize the candidate critical sources based on the selection criteria develop under Step 2.

Step 4: The Principal Permittee next will conduct a literature review and contact other state municipal stormwater programs to identify what critical sources have been (or are planned in the next five years) to be studied elsewhere. Where studies have been conducted or are planned to be conducted elsewhere, such studies will be reviewed to assess whether the hydrologic conditions in the study area are representative of those in Los Angeles County, the quality of the study, and any conclusions from studies already conducted. This evaluation will be coordinated with the State Stormwater Quality Task Force.

Step 5: The Principal Permittee next will take the list developed in Step 3 and refine and finalize it based upon the review conducted pursuant to Step 4.

Selection of Additional Critical Sources/BMPs: The selection of additional critical sources or BMPs for monitoring following the third rainy season from the adoption of this Order will follow the steps noted above, except that BMPs be evaluated in addition to critical sources.

ATTACHMENT C-5

RECEIVING WATERS STUDY

A receiving waters study will be a joint effort among the University of Southern California, the University of California at Santa Barbara and the Southern California Coastal Water Research Project ("SCCWRP"). In addition, the study will be done in cooperation with an ongoing toxicity study by investigators at UCLA. Co-funding, either direct or in terms of vessel support, will be provided by the federal government through the Sea Grant program, and by the City of Los Angeles through SCCWRP. It must be noted that while the Principal Permittee is committed to funding a receiving waters study, the scope of that study will be affected by the availability of non-Principal Permittee funding sources, as discussed below. The Principal Permittee's commitment is limited to the provision of funds.

A. Outline of Study: The receiving waters study includes a plume study to determine the dispersion of stormwater runoff and associated sediment, a study of the benthic environment near two principal storm drains, Malibu and Ballona Creeks, and an assessment of the toxicity of storm drain waters and affected sediments near Malibu and Ballona Creeks. The plume study will be carried out by the USC Sea Grant program. The benthic and toxicity studies will be carried out by SCCWRP. All of these studies will be carried out over two storm seasons, with the third year used for analysis of the data obtained in the previous years. If it is the consensus of the project scientists that a third year of research is appropriate for the benthic and toxicity studies, such study shall be carried out. Each element of these studies is outlined below.

1. Plume Study: The plume study will be conducted over two storm seasons to, at a minimum, accomplish the following:

   - Map the spatial and temporal structure of the runoff plumes from Ballona and Malibu Creeks as they flow into Santa Monica Bay following strong winter storms.
   - Examine the interaction between the runoff plume and ocean processes as they affect the advection, dispersion, and mixing of the plume.
   - Evaluate the impact of storm runoff plumes on beneficial uses of the coastal ocean.
   - Characterize the optical properties of the suspended particulate material ("SPM") and dissolved organic material ("DOM") associated with runoff sources.
   - Examine the effects of DOM and SPM on the water column optics and the distribution of nutrient concentrations, as the same may affect phytoplankton productivity.
   - Assist in establishing appropriate locations for benthic study stations.

2. Benthic Study: The benthic study will measure the following parameters:

   - Water quality (dissolved oxygen, salinity, density, temperature, light transmissivity and pH).
   - Sediment grain size, sediment organic concentrations and sediment contaminant concentrations.
   - The structure of the benthic invertebrate community.

   The benthic study will employ the same methods used in studies of dry weather impacts in river discharge areas carried out by SCCWRP in 1994 and 1995 in the entire Southern California Bight.

3. Toxicity Study: The toxicity study will involve the following proposed annual elements:
   Water Column Toxicity

   - 30 sea urchin fertilization bioassays taken during two storm and one dry weather event off each of Ballona and Malibu Creeks (including reference sites).
   - 3 Phase I TIE tests on up to 3 samples showing toxicity in the sea urchin fertilization bioassays

   Sediment Toxicity

   - Amphipod survival bioassays of sediment samples from 10 stations (including reference sites) will be taken 2 times (1 storm and 1 dry weather period) in Year 1.
   - Amphipod survival bioassays of sediment samples from 10 stations (including reference sites) will be taken 2 times (1 storm and 1 dry weather period) in Year 2.
   - Sea urchin growth bioassays will be conducted for chronic toxicity in sediment samples from 6 stations, plus 1 reference site, with the locations to be determined by project scientists based on existing data and best scientific judgment. Biological effects only (survival, growth, sediment avoidance) will be measured for all sites in Year 2.
   - Chemical analysis of sea urchin growth test tissue samples (gonad) will be conducted for organics and metals. Duplicate samples from 4 stations (including one reference) will be analyzed in Year 2.
   - Phase I TIE tests using sea urchin fertilization of interstitial water from up to 4 stations identified to be toxic in amphipod survival bioassays (4 samples total) will be conducted in Year 2.
   - Additional interstitial water testing intended to coordinate with the UCLA study

noted below may also be carried out.

B. Project Flexibility: The exact parameters of Year 2 (and Year 3, if necessary) testing will be determined through a review by the project scientists of the results of Year 1 and Year 2 testing. Thus, the steps outlined above may be modified following the reviews.

C. Coordination with UCLA Toxicity Study: UCLA researchers are involved in an ongoing Santa Monica Bay Restoration Project study of the toxicity of stormwater runoff in Ballona and Malibu Creeks. The receiving waters study shall be coordinated, to the extent possible, with the UCLA study to maximize the utility of information obtained by both studies.

D. Los Angeles and San Gabriel River Study: In addition, the Principal Permittee will take a total of three (two storm weather and one dry weather) water samples taken at each of the Los Angeles and San Gabriel River mass emission stations during each of the first two years that those stations are monitored. The samples will be analyzed using the sea urchin fertilization bioassay, with the bioassay costs not to exceed $3,600.

ATTACHMENT D

GLOSSARY OF TERMS

40 CFR: Title 40 of the Code of Federal Regulations, which is the codification of the general and permanent rules published in the Federal Register by the executive departments and agencies of the federal government.

Adverse Impact: A detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants. See also "Impact".

Authorized Discharge: Any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

Basin Plan: Refers to the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

Beneficial Uses: Existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

BAT/BCT Criteria: Treatment-based standards for reducing the discharge of pollutants, as defined in 40 CFR subchapter N, for specific categories of industrial facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards. Effluent limitations have been defined in 40 CFR for the reduction of toxic pollutants using Best Available Technology Economically Achievable (BAT) and for the reduction of conventional pollutants using Best Conventional Pollutant Control Technology (BCT).

BMP: See Best Management Practice

Best Management Practice (BMP): Activities, practices, facilities, and/or procedures that when implemented to their maximum efficiency will prevent or reduce pollutants in discharges. Examples of BMPs may include public education and outreach, proper planning of development projects, proper clean out of catch basin inlets, and proper sludge or waste handling and disposal, among others.

Bioaccumulate: The build up of a substance in the tissues of an organism to a higher concentration than in the surrounding environment, generally as a result of the organism's ingestion and internal storage of the substance over time.

Biostimulatory: An agent, action, or condition that arouses, elicits or accelerates physiological or organic activity. For example, the introduction of excessive nutrients to an aquatic system has a biostimulatory effect which manifests itself as excessive growth of algae in the aquatic systems. As the algae decomposes, dissolved oxygen in the water column is depleted, potentially leading to excessively low dissolved oxygen levels which can lead to suffocation of aquatic life, i.e., fish kills.

CFR: See Code of Federal Regulations.

CRWQCB: The California Regional Water Quality Control Board, Los Angeles Region. See also Regional Board.

CSWMP: See Countywide Storm Water Management Plan

California Storm Water Best Management Practice Handbooks: The technical manuals prepared under direction of the Storm Water Quality Task Force, representing California members of the American Public Works Association (APWA). Comprising three volumes—Municipal, Industrial, and Construction—they provide guidance for selecting BMPs to reduce pollutants in storm water discharges. These manuals are currently available from Blue Print Service, 1700 Jefferson Street, Oakland, CA 94612, (510) 444-6771 or Fax (510) 444-1262.

Clean Water Act (CWA): The Federal Water Pollution Control Act enacted in 1972 by Public Law 92-500 and amended by the Water Quality Act of 1987. The Clean Water Act prohibits the discharge of pollutants to Waters of the United States unless said discharge is in accordance with an NPDES permit. The 1987 amendments include guidelines for regulating municipal, industrial, and construction storm water discharges under the NPDES program.

Code of Federal Regulations: A codification of the general and permanent rules published in the Federal Register by the Executive departments and agencies of the Federal Government.

Construction Activity: Clearing, grading, or excavation that results in soil disturbance. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to immediately protect public health and safety.

Control: To minimize, reduce or eliminate by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

Countywide Storm Water Management Plan (CSWMP): A single comprehensive plan for implementation of the requirements of this Order that are applicable to all Permittees and all Watershed Management Areas. The CSWMP is a storm water management implementation plan for the entire drainage area within the jurisdiction of the Permittees under this Order. The Countywide Storm Water Management Plan will be developed as a single document by the Principal Permittee, with assistance and participation from the Permittees, according to the schedule prescribed in the permit. The CSWMP shall be used as a tool to develop a watershed specific Watershed Management Area Plan (WMAP).

Dechlorinated Swimming Pool Discharges: Means swimming pool discharges which have no measurable chlorine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term swimming pool discharges does not include swimming pool filter backwash.

Discharge: Any release, spill, leak, pump, flow, escape, dumping, or disposal of any liquid, semi-solid or solid substance.

Disposal: Affirmative act in the placement of wastes or other materials to be thrown out or thrown away.

Disturbed Area: Means that area altered as a result of clearing, grading, and/or excavation of earth.

Do-it-yourselfers: Means any person or persons who repair or maintain their own vehicle(s) and/or home(s).

Effectively Prohibit: Means prohibit through legal authority or control through requirements, conditions, or other limitation. Control may include best management practices.

Effectiveness: A direct or indirect measure or indicator of how well a program, plan, or best management practice achieves its intended purpose. Measures or indicators of effectiveness include, but are not limited to, detailed accounting of program accomplishments, funds expended, staff hours utilized, field surveys, amount of pollutants reduced, biosurveys, and quantitative data from water quality and sediment sampling.

Erosion: The wearing away of land surface primarily by wind or water. Erosion occurs naturally as a result of weather or runoff but can be intensified by clearing, grading, or excavation of the land surface.

Executive Advisory Committee (EAC): A committee composed of representatives of the County of Los Angeles, the City of Los Angeles, and the six Watershed Management Areas.

Executive Officer: The Executive Officer of the California Regional Water Quality Control Board, Los Angeles Region, or an authorized representative.

Food Distribution Industry: Establishments primarily engaged in the warehousing and storage of perishable goods under refrigeration described by SIC 4222, and establishments primarily engaged in retail selling of food for home preparation and consumption described by SIC Major Group 54.

Food Service Industry: Establishments primarily engaged in the retail sale of prepared food and drinks for on-premise consumption or immediate consumption described by SIC 5812

GCASP: See General Construction Activity Storm Water Discharge Permit.

GIASP: See General Industrial Activity Storm Water Discharge Permit.

General Construction Activity Storm Water Discharge Permit (GCASP). The NPDES permit adopted by the State Water Resources Control Board which authorizes the discharge of storm water under certain conditions.

General Industrial Activity Storm Water Discharge Permit (GIASP). The NPDES permit adopted by the State Water Resources Control Board which authorizes the discharge of storm water under certain conditions.

Good Housekeeping Practice: A common practice related to the storage, use, or cleanup of materials, performed in a manner that minimizes the discharge of pollutants. Examples include purchasing only the quantity of materials to be used at a given time, use of alternative and less harmful products, cleaning up spills and leaks, and storing materials in a manner that will contain any leaks or spills.

Hazardous Material: Any material defined as hazardous by Chapter 6.95 of the California Health and Safety Code.

Hazardous Substance: Any substance designated pursuant to 40 CFR 302. This also includes unlisted

hazardous substances which is a solid waste, as defined in 40 CFR 261.2, which is not excluded from regulation as a hazardous waste under 40 CFR 261.4(b), is a hazardous substance under section 101(14) of the CWA if it exhibits any of the characteristics identified in 40 CFR 261.20 through 261.24. Examples of hazardous substances include any substance or chemical product for which one or more of the following applies:

- A material safety data sheet (MSDS) is required
- The substance is listed as radioactive by the Nuclear Regulatory Commission
- The substance is listed as hazardous by the U.S. Department of Transportation
- The material is listed in Labor Code §6382(b).

Hazardous Waste: Means a 'Hazardous Substance' or 'Hazardous Material' which is to be discharged, discarded, recycled, or processed.

IPM: See Integrated Pest Management.

Illicit Connection: Any human-made conveyance that is connected to the storm drain system without a permit, excluding roof-drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

Illicit Discharge: Any discharge to the storm drain system that is prohibited under local, state or federal statutes, ordinances, codes or regulations. This includes all non-storm water discharges except discharges pursuant to an NPDES permit and discharges that are exempted or conditionally exempted in accordance with Section II of this Order.

Illicit Disposal: Any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water or urban runoff.

Impact: Any actual or potential effect caused either directly or indirectly by the discharge of pollutants.

Impervious Surface: Surface that prevents or significantly reduces the entry of water into the underlying soil, resulting in runoff from the surface in greater quantities and/or at an increased rate when compared to natural conditions prior to development. Examples of places that commonly exhibit impervious surfaces include parking lots, driveways, roadways, storage areas, and rooftops. The imperviousness of these areas commonly results from paving, compacted gravel, compacted earth, and oiled earth.

In Consultation With: Means that the Principal Permittee and Permittees work cooperatively towards the development of programs.

Industrial Activity: The term "industrial activity" is defined in 40 CFR 122.26(b)(14) and refers to 11 categories of activities required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for storm water discharges associated with "industrial activity" as required by 40 CFR 122.26(c). See Phase I Facilities.

Industrial/Commercial Facility: Any facility involved and/or used in either the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facility includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership

(federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

Integrated Pest Management (IPM): Pest management practice that considers the whole ecosystem when determining potential pest control strategies. IPM emphasizes use of a hierarchy of controls, with a preference for mechanical controls (e.g., mowing) and biological controls (e.g., beneficial insects, pheromones) before chemical controls (e.g., pesticides).

Jurisdiction: Means the geographic area within the Permittee's boundaries that are required under this Order to be under the Permittee's regulatory control. The term is not intended to include facilities which the Permittee is preempted or otherwise precluded from regulating, such as federal and state facilities, school districts, and similar governmental (non-municipally owned or operated) entities.

Legal Authority: The ability of a Permittee to impose and enforce statutes, ordinances, and regulations to require control of pollutant sources and regulate the discharge of pollutants to the storm drain system, and to enter into interagency agreements, contracts, and memorandums of understanding. These powers are granted to the Permittees by the Constitution of the State of California and the General Laws of the State (for General Law Cities/Counties) or individual constitutions (for Charter Cities/Counties). These powers are promulgated by the Permittee through their municipal codes, ordinances, and statutes duly adopted by their governing body.

MS4: See Municipal Separate Storm Sewer System

Maximum Extent Practicable (MEP): The standard for implementation of storm water management programs to reduce pollutants in storm water. MEP refers to storm water management programs taken as a whole. It is the maximum extent possible taking into account equitable consideration and competing facts, including, but not limited to: the gravity of the problem, public health risk, societal concern, environmental benefits, pollutant removal effectiveness, regulatory compliance, public acceptance, implementability, cost and technical feasibility. Section 402(p)(3)(B)(iii) of the Clean Water Act requires that municipal permits "...shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

Municipal Separate Storm Sewer System (MS4): See Storm Drain System.

NPDES: See National Pollutant Discharge Elimination System

National Pollutant Discharge Elimination System: A permit issued by the USEPA, SWRCB, or CRWQCB pursuant to the Clean Water Act that authorizes discharges to waters of the United States and requires the reduction of pollutants in the discharge.

Non-Storm Water Discharge: Any discharge to a municipal storm drain system that is not composed entirely of storm water.

Notice of Intent to Meet and Confer (NIMC): A letter sent to a Permittee or Permittees by the Regional Board Executive Officer as an invitation to discuss the implementation of requirements under this Order and is made when it is suspected that a Permittee or Permittees has/have an insufficient program based upon performance and submittals made under this Order. The NIMC is a part of the Administrative Review section of this Order and provides an opportunity for the Permittee(s) to meet with Regional Board staff to

clarify any potential misunderstandings prior to, or in lieu of the Regional Board taking enforcement action for "non-compliance".

Nuisance: Anything which meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal; (3) occurs during, or as a result of, the treatment or disposal of wastes.

Permittee(s): Any agency named in the NPDES storm water permit as being responsible for permit conditions within its jurisdiction. Permittees to the NPDES storm water permit presently include the County of Los Angeles and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Long Beach, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

Pervious: Natural or man-made surfaces that allow the entry of water into the underlying soil, resulting in less runoff from the surface when compared to impervious surfaces. Examples of pervious surfaces include vegetated areas, most undeveloped areas, uncompacted earth surfaces, and lattice type modular pavements.

Phase I Facilities: This term refers to categories of facilities which are required to obtain a National Pollutant Discharge Elimination System (NPDES) permit for storm water discharges associated with "industrial activity" as required by 40 CFR 122.26(c). The term "industrial activity" is defined in 40 CFR 122.26(b)(14) and in general refers to 11 categories of activities. These categories include:

i. FACILITIES SUBJECT TO STORM WATER EFFLUENT LIMITATIONS GUIDELINES, NEW SOURCE PERFORMANCE STANDARDS, OR TOXIC POLLUTANT EFFLUENT STANDARDS (40 CFR SUBCHAPTER N). Currently, categories of facilities subject to storm water effluent limitations guideline are Cement Manufacturing (40 CFR Part 411), Feedlots (40 CFR Part 412), Fertilizer Manufacturing (40 CFR Part 418), Petroleum Refining (40 CFR Part 419), Phosphate Manufacturing (40 CFR Part 422), Steam Electric (40 CFR Part 423), Coal Mining (40 CFR Part 434), Mineral Mining and Processing (40 CFR Part 436), Ore Mining and Dressing (40 CFR Part 440), and Asphalt Emulsion (40 CFR Part 442). The fact sheet accompanying this general permit contains additional information pertaining to facilities subject to new source performance standards or toxic pollutant effluent standards.

ii. MANUFACTURING FACILITIES: Standard Industrial Classifications (SICs) 24 (except 2411 and 2434), 26 (except 265 and 267), 28 (except 283 and 285) 29, 311, 32 (except 323), 33, 3441, and 373.

iii. OIL AND GAS/MINING FACILITIES: SICs 10 through 14 including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(1) because of performance bond issued to the facility by the appropriate Surface Mining Control and Reclamation Act (SMCRA) authority has been released, or except for area of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment

operations, or transmission facilities that discharge stormwater contaminated by contact with or that has come into contact with any overburden, raw material, intermediate products, finished products, by products, or waste products located on the site of such operations. Inactive mining operations are mined sites that are not being actively mined, but which have an identifiable owner/operator. Inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined material, or sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim.

iv. HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES: Includes those operating under interim status or a general permit under Subtitle C of the Federal Resource Conservation and Recovery Act (RCRA).

v. LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS: Sites that receive or have received industrial waste from any of the facilities covered by this general permit, sites subject to regulation under Subtitle D of RCRA, and sites that have accepted waste from construction activities (construction activities include any clearing, grading, or excavation that results in disturbance of five acres or more).

vi. RECYCLING FACILITIES: SICs 5015 and 5093. These codes include metal scrap yards, battery reclaimers, salvage yards, motor vehicle dismantlers and wreckers, and recycling facilities that are engaged in assembling, breaking up, sorting, and wholesale distribution of scrap and waste material such as bottles, wastepaper, textile wastes, oil waste, etc.

vii. STEAM ELECTRIC POWER GENERATING FACILITIES: Includes any facility that generates steam for electric power through the combustion of coal, oil, wood, etc.

viii. TRANSPORTATION FACILITIES: SICs 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or other operations identified herein that are associated with industrial activity.

ix. SEWAGE OR WASTEWATER TREATMENT WORKS: Facilities used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of one million gallons per day or more, or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, areas that are in compliance with Section 405 of the CWA.

xi. MANUFACTURING FACILITIES WHERE MATERIALS AREEXPOSED TO STORM WATER: SICs 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221-4225.

Note: Category x, Construction activity, is covered by a separate general permit.

Pollutant: Those "pollutants" defined in Section 502(6) of the federal Clean Water Act (33 U.S.C.§1362(6)), or incorporated into California Water Code §13373. Examples of pollutants include, but are not limited to the following:

■Commercial and industrial waste (such as fuels, solvents, detergents, plastic pellets, hazardous substances, fertilizers, pesticides, slag, ash, and sludge);

■Metals such as cadmium, lead, zinc, copper, silver, nickel, chromium, and non-metals such as phosphorus and arsenic;

■Petroleum hydrocarbons (such as fuels, lubricants, surfactants, waste oils, solvents, coolants, and grease);

■Excessive eroded soils, sediment, and particulate materials in amounts which may adversely affect the beneficial use of the receiving waters, flora or fauna of the State;

■Animal wastes (such as discharge from confinement facilities, kennels, pens, recreational facilities, stables, and show facilities);

■Substances having characteristics such as pH less than 6 or greater than 9, or unusual coloration or turbidity, or excessive levels of fecal coliform, or fecal streptococcus, or enterococcus;

The term "Pollutant" shall not include uncontaminated storm water, potable water or reclaimed water generated by a lawfully permitted water treatment facility.

The term "Pollutant" also shall not include any substance identified in this definition, if through compliance with the best management practices available, the discharge of such substance has been eliminated to the maximum extent practicable. In an enforcement action, the burden shall be on the person who is the subject of such action to establish the elimination of the discharge to the maximum extent practicable through compliance with the best management practices available.

Pollutant Loading: The quantity of a pollutant found in storm water and/or non-storm water expressed in mass per unit of time. Pollutant loadings are commonly expressed in units of tons/year or pounds/year.

Pollutants of Concern: Pollutants that exhibit one or more of the following characteristics:

■Current loadings or historic deposits of the pollutant are impacting the beneficial uses of a receiving water,

■Elevated levels of the pollutant are found in sediments of a receiving water and/or have the potential to bioaccumulate in organisms therein, or

■The detectable inputs of the pollutant are at a level high enough to be considered potentially toxic to humans and/or flora and fauna.

Pollutants of concern may be different for each receiving water.

For example, Pollutants of concern for the Santa Monica Bay Watershed Management Area include, DDT, PCBs, PAHs, Chlordane, TBT, cadmium, chromium, copper, lead, nickel, silver, zinc, pathogens, TSS (sediment), nutrients, trash and debris, chlorine, oxygen demanding substances, and oil and grease.

Pollution Prevention: Includes any planning, schedules of activities, prohibitions of practices, implementation maintenance procedures, and other management practices, to prevent or reduce pollutants in storm water / urban runoff discharges.

Potable Water Sources: Means flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, well development, pump testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and wells.

Principal Permittee: The agency named in the NPDES storm water permit to serve as permit coordinator, responsible for general administration of the permit, and coordinating cooperation by other Permittees, including but not limited to the implementation of local self-monitoring programs and BMPs, and preparation and submittal of reports required by the permit. The Principal Permittee under this Order is the County of Los Angeles.

Proper Disposal: The act of disposing of material(s) in a lawful manner and which ensures the protection of water quality and beneficial uses of receiving waters.

Public Agency Vehicle Maintenance/Material Storage Facility: Any Permittee-owned and/or operated facility that is: used for vehicle or equipment maintenance, repair, washing, or fueling; and/or is required to prepare a hazardous materials business plan.

Regional Board: The Governing Board of the California Regional Water Quality Control Board State agency with primary responsibility for the coordination and control of water quality. This means the California Regional Water Quality Control Board, Los Angeles Region. The Los Angeles Region, is comprised of all basins draining into the Pacific Ocean between the southeasterly boundary, located in the westerly part of Ventura County, of the watershed of Rincon Creek and a line which coincides with the southeasterly boundary of Los Angeles County from the ocean to San Antonio Peak and follows thence the divide between San Gabriel River and Lytle Creek drainage to the divide between Sheep Creek and San Gabriel River drainage.

Reportable Quantity: Means that quantity of a hazardous substance, as set forth in 40 CFR 302, which requires notification pursuant to 40 CFR 302 in event of that quantity release.

Receiving Waters: All surface water bodies within the permit area that are identified in the Basin Plan.

Runoff: Means any runoff including storm water and dry-weather flows from a drainage area that reaches a receiving water body or sub-surface. During dry weather it is typically comprised of many base flow components either contaminated with pollutants or uncontaminated.

SIC: See Standard Industrial Classification.

SPCA: See Storm Water Program Compliance Amendment

SWRCB: State Water Resources Control Board

Secondary Containment: Structures, usually dikes or berms, surrounding tanks or other storage containers to catch spilled or leaked materials to prevent their discharge to the MS4.

Sediment: Organic or inorganic material that is carried by or suspended in water and settles to form deposits in the storm drain system or receiving waters.

Source Minimization: Planning or operational practices that reduce the amount of materials stored at a site.

Standard Industrial Classification (SIC): The statistical classification standard, organized by industry, underlying all establishment-based federal economic statistics. The SIC of a particular industry is determined using the latest Standard Industrial Classification Manual as prepared by the Executive Office of the President, Office of Management and Budget.

Storm Drain System: Streets, gutters, conduits, natural or artificial drains, channels and watercourses, or other facilities that are owned, operated, maintained or controlled by any Permittee and used for the purpose of collecting, storing, transporting, or disposing of storm water.

Storm Water: Water which originates from atmospheric moisture (rainfall or snowmelt) and that falls onto land, water, or other surfaces.

Storm Water Management Program: This is the sum of all requirements of this Order. This is not be confused with the CSWMP.

Storm Water Pollution Prevention Plan (SWPPP): A plan required by and for which contents are specified in the State of California General Permit for Storm Water Discharges Associated with Industrial Activities, and the General Permit for Storm Water Discharges Associated with Construction Activities. The purpose of the plan is to help identify the sources of pollution that affect the quality of storm water discharges from a site and to describe and ensure the implementation of practices to reduce pollutants in storm water discharges.

Storm Water Program Compliance Amendment (SPCA): The SPCA is a report prepared by a Permittee if directed to by the Regional Board Executive Officer for insufficient submittals made under this Order. The SPCA is a part of the Administrative Review section of this Order and will include additions and enhancements to the jurisdiction's storm water program with enforceable implementation deadlines.

Storm Water Runoff: That part of precipitation (rainfall or snowmelt) which travels via flow across a surface to the storm drain system or receiving waters. Examples of this phenomenon include: the water that flows from a building's roof when it rains (runoff from an impervious surface); the water that flows into streams when snow on the ground begins to melt (runoff from a semi-pervious surface); and the water that flows from a vegetated surface when rainfall is in excess of the rate at which it can infiltrate into the underlying soil (runoff from a pervious surface). When all other factors are equal, runoff increases as the perviousness of a surface decreases.

Storm Water Runoff Mitigation Plan: A plan, to be submitted prior to the submittal of an application for the first planning or building approval for a new development project, that sets forth storm water pollution controls to be incorporated into development projects. The plan shall:

- be designed to reduce the runoff volume from the site and the pollutant load contributed by the site through incorporation of design elements and practices that address each of the following goals:

- maximize, to the extent practicable, the percentage of permeable surfaces in order to allow more percolation,

- minimize, to the extent practicable, the amount of runoff directed to impermeable areas to the storm drain system,

- maximize, to the extent practicable, storm water filtration and storage for reuse through the use of sediment traps, cisterns or other means,

- minimize, to the extent practicable, parking lot pollution through the use of porous materials to allow percolation of storm water, through the installation of appropriate treatment controls, or through other means.

Street Washing: The practice of washing of streets and sidewalks using water or other cleaning fluids.

Toxic Materials: For the purposes of this Order, toxic materials means any material(s) or combination of materials which directly or indirectly cause(s) either acute or chronic toxicity in the water column.

Toxic Pollutant: Those "pollutants", or combinations of pollutants, defined in Section 502(13) or 307(a)(1) of the federal Clean Water Act (33 U.S.C.§1362(13)).

Undesirable Coloration: See "Color" in the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (page 3-9) June 13, 1994.

USEPA: United States Environmental Protection Agency

Waste Minimization: Operational practices that reduce the amount of waste materials generated. Practices may include recycling and reuse.

Watershed Management Area (WMA): Any one of the six general watershed areas covered by this NPDES storm water permit consisting of the: Malibu Creek and other rural areas discharging to Santa Monica Bay, Santa Clara River, Dominguez Channel/Los Angeles Harbor, San Gabriel River, Los Angeles River, and Ballona Creek and other urban areas discharging to the Santa Monica Bay watersheds.

Watershed Management Area Plan (WMAP): A plan for implementation of permit requirements that is based on the Countywide Storm Water Management Plan (CSWMP) but further addresses specific issues, pollutants of concern, and BMPs that are unique to the specific Watershed Management Area.

Watershed Management Committee (WMC): A committee composed of representatives from each Permittee in a Watershed Management Area. Duties include establishing goals and objectives for the Watershed; prioritizing pollution control efforts; developing a specific Watershed Management Plan; coordinating and facilitating annual reports for the watershed; and facilitating compliance by Permittees in the watershed.

California Regional Water Quality Control Board
Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.waterboards.ca.gov/losangeles

Linda S. Adams
Cal/EPA Secretary

Arnold Schwarzenegger
Governor

August 23, 2007

Mr. Donald L. Wolfe, Director
County of Los Angeles
Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803-1331

And

Directors of Public Works/City Engineers
Los Angeles County Municipal Co-Permittees

TRANSMITTAL OF THE LOS ANGELES COUNTY MUNICIPAL STORM WATER NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT AS AMENDED BY REGIONAL BOARD ORDER R4-2007-0042 ON AUGUST 9, 2007 (BOARD ORDER 01-182; NPDES PERMIT NO. CAS004001)

Dear Mr. Wolfe, Directors of Public Works, and City Engineers:

We are pleased to transmit to you a copy of the municipal storm water permit for the County of Los Angeles (LA Storm Water Permit) that was amended by the Los Angeles Regional Water Quality Control Board (LA Water Board) at its meeting on August 9, 2007 pursuant to Division 7 of the California Water Code. Board Order 01-182 (as amended by Board Orders R4-2006-0074 and R4-2007-0042) serves as the permit under the National Pollutant Discharge Elimination System (NPDES) for storm water discharges and urban runoff within the County of Los Angeles.

The LA Water Board reopened the LA Storm Water Permit to incorporate the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria (MDR Bacteria) Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for summer dry weather discharges from the MS4 to Marina del Rey Harbor (MDRH). The LA Water Board adopted the MDR Bacteria TMDL in 2003 (Resolution No. 2003-012). This TMDL was subsequently approved by the State Water Resources Control Board (Resolution No. 2003-0072), Office of Administrative Law, and the United States Environmental Protection Agency and became effective on March 18, 2004. This TMDL required compliance with the summer dry weather WLAs and winter dry weather WLAs by March 18, 2007.

The MDR Bacteria summer dry weather WLAs were incorporated as Receiving Water Limitations along with a supporting prohibition on discharges from the MS4 to MDRH that are inconsistent with the limits. The LA Storm Water Permit already prohibits discharges that cause or contribute to the exceedance of water quality standards. The proposed changes make more

specific the permit provisions as they relate to discharges of bacteria that could impact Mothers' Beach and the back basins (Basins D, E, and F) of Marina del Rey Harbor during summer dry weather. The changes affect the County of Los Angeles and the Los Angeles County Flood Control District and the Cities of Los Angeles and Culver City.

For your use and public dissemination, an electronic copy of the current LA Storm Water Permit may be downloaded from our website at:

http://www.waterboards.ca.gov/losangeles/html/programs/stormwater/lams4.html

We would greatly appreciate your staff directing others to the website for further information on storm water management updates as necessary.

We thank you and your staff for the assistance with developing language that recognizes the ongoing work of the County and the Cities toward improving water quality in Marina del Rey, while also strengthening public health protection for the hundreds of thousands of people who live in and visit Marina del Rey. In particular, I would like to acknowledge the efforts of Mr. Pestrella who proactively sought to work with me on this issue, as well as the broader issue of our partnership in addressing water quality issues.

Should you have any comments or questions please do not hesitate to call me directly at (213) 576-6609. Alternatively, your staff may contact Carlos Urrunaga at (213) 620-2083.

Sincerely,

Deborah J. Smith
Interim Executive Officer

Enclosure

cc: Mr. Michael Levy, Office of the Chief Counsel, State Water Resources Control Board
Mr. Bruce Fujimoto, Storm Water Section, State Water Resources Control Board,
Mr. Craig Hooks, Director, Office of Wetlands Oceans and Watersheds, USEPA, HQ
Mr. James Hanlon, Director, Office of Wastewater Management, USEPA, HQ
Mr. Eugene Bromley, USEPA, Region 9
Mr. David E. Janssen, Chief Administrative Officer, County of Los Angeles, Attn. Jan Takata
Mr. Mark Pestrella, Assistant Deputy Director, Watershed Management Division, County of Los Angeles, Department of Public Works
Interested Parties

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-182
NPDES PERMIT NO. CAS004001
WASTE DISCHARGE REQUIREMENTS
FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN, EXCEPT THE CITY OF LONG BEACH

December 13, 2001
(Amended on September 14, 2006 by Order R4-2006-0074
and
on August 9, 2007 by Order R4-2007-0042)

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December 13, 2001 (As amended on September 14, 2006 by Order R4-2006-0074 and on August 9, 2007 by Order R4-2007-0042)

STATE OF CALIFORNIA

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

ORDER NO. 01-182
NPDES PERMIT NO. CAS004001
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FOR
MUNICIPAL STORM WATER AND URBAN RUNOFF DISCHARGES WITHIN THE COUNTY OF LOS ANGELES, AND THE INCORPORATED CITIES THEREIN, EXCEPT THE CITY OF LONG BEACH

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board) finds:

A. Existing Permit

The Los Angeles County Flood Control District, the County of Los Angeles, and 84 incorporated cities within the Los Angeles County Flood Control District (see Attachment A, List of Permittees), hereinafter referred to separately as Permittees and jointly as the Discharger, discharge or contribute to discharges of storm water and urban runoff from municipal separate storm sewer systems (MS4s), also called storm drain systems. The discharges flow to water courses within the Los Angeles County Flood Control District and into receiving waters of the Los Angeles Region. These discharges are covered under countywide waste discharge requirements contained in Order No. 96-054 adopted by this Regional Board on July 15, 1996, which replaced Order No. 90-079 adopted by this Regional Board on June 18, 1990. Order No. 96-054 also serves as a National Pollutant Discharge Elimination System (NPDES) permit for the discharge of municipal storm water.

B. Nature of Discharges and Sources of Pollutant

1. Storm water discharges consist of surface runoff generated from various land uses in all the hydrologic drainage basins that discharge into water bodies of the State. The quality of these discharges varies considerably and is affected by the hydrology, geology, land use, season, and sequence and duration of hydrologic events. The primary constituents of concern currently identified by the Los Angeles County Flood Control District Integrated Receiving Water Impacts Report (1994-2000) are cyanide, indicator bacteria, total dissolved solids, turbidity, total suspended solids, nutrients, total aluminum, dissolved cadmium, copper, lead, total mercury, nickel, zinc, bis(2-ethylhexyl)phthalate, polycyclic aromatic hydrocarbons (PAHs), diazinon, and chlorpyrifos.

2. Certain pollutants present in storm water and/or urban runoff may be derived from extraneous sources that Permittees have no or limited jurisdiction over. Examples of such pollutants and their respective

sources are: PAHs which are products of internal combustion engine operation, nitrates, bis (2-ethylhexyl) phthalate and mercury from atmospheric deposition, lead from fuels, copper from brake pad wear, zinc from tire wear, dioxins as products of combustion, and natural-occurring minerals from local geology. However, the implementation of the measures set forth in this Order is intended to reduce the entry of these pollutants into storm water and their discharge to receiving waters.

3. Water quality assessments conducted by the Regional Board identified impairment, or threatened impairment, of beneficial uses of water bodies in the Los Angeles Region. The causes of impairments include pollutants of concern identified in municipal storm water discharges by the County of Los Angeles in the Integrated Receiving Water Impacts Report (1994-2000). Pollutants in storm water can have damaging effects on both human health and aquatic ecosystems.

4. The Los Angeles County Grand Jury, September 2000, completed an investigation into the health risks of swimming near beaches in Los Angeles County and made several recommendations to reduce public health risks (Final Report, Grand Jury, Los Angeles County, 1999-2000). The Grand Jury recommended that the Regional Board consider among other actions, (i) a focus on setting contaminant limits rather than programmatic evaluations, (ii) audit of MS4 Permittee programs; and (iii) clarifying enforcement responsibilities between the State and local governments.

5. Studies and research conducted by other Regional agencies, academic institutions, and universities have also identified storm water and urban runoff as significant sources of pollutants to surface waters in Southern California. See, e.g., [*Surface Runoff to the Southern California Bight*, Southern California Coastal Water Research Project, (1992); *Impacts of Urban Runoff on Santa Monica Bay and Surrounding Ocean Waters* (Gersberg, R.M., 1995); *State of the Bay 1998*, Santa Monica Bay Restoration Project; *Storm Water Impact*, In, Southern California Environmental Report Card 1999, Institute of the Environment, University of California, Los Angeles (Stenstrom, M.S., 1999); *Distribution of Anthropogenic and Natural Debris on the Mainland Shelf of Southern California Bight,* Shelly L. Moore and M. James Allen (1999); *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999); *Huntington Beach Closure Investigation: Technical Review* (University of Southern California, 2000); *A Regional Survey of the Microbiological Water Quality Along the Shoreline of the Southern California Bight,* Rachel T. Noble *et al.* (2001*); Integrated Receiving Water Impacts Report (1994-2000)*, County of Los Angeles (2001)].

6. Development and urbanization increase pollutant load, volume, and discharge velocity. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing an effective natural purification process. In contrast, pavement and concrete can neither absorb water

nor remove pollutants, and thus the natural purification characteristics are lost. Second, urban development creates new pollution sources as the increased density of human population brings proportionately higher levels of vehicle emissions, vehicle maintenance wastes, municipal sewage waste, pesticides, household hazardous wastes, pet wastes, trash, and other anthropogenic pollutants. Development and urbanization especially threaten environmentally sensitive areas. Such areas have a much lower capacity to withstand pollutant shocks than might be acceptable in the general circumstance. In essence, development that is ordinarily insignificant in its impact on the environment may in a particular sensitive environment become significant. These environmentally sensitive areas designated by the State and/or the County of Los Angeles include Areas of Special Biological Significance (ASBS), water bodies designated as supporting a RARE beneficial use, Significant Natural Areas (SNAs), and Significant Ecological Areas (SEAs).

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

8. The County of Los Angeles has identified as the seven highest priority industrial and commercial critical source types, (i) wholesale trade (scrap recycling, auto dismantling); (ii) automotive repair/parking; (iii) fabricated metal products; (iv) motor freight; (v) chemical and allied products; (vi)

automotive dealers/gas stations; (vii) primary metal products (*Critical Source Selection and Monitoring Report*, Los Angeles County Department of Public Works -Sept 1996). Monitoring conducted by Los Angeles County and the Regional Board demonstrates that the priority industrial sectors and auto repair facilities (one of the commercial sectors) on the list, contribute significant concentrations of heavy metals to storm water (*Los Angeles County 1999-2000 Storm Water Monitoring Report*, Los Angeles County Department of Public Works -July 2000; *Compliance Assessment of the Auto Dismantling Industry; Evaluation of the California General Industrial Storm Water Permit*, H. Chang, (2001), 70 pp., California Regional Water Quality Control Board, Los Angeles Region).

9. The discharge of washwaters and contaminated storm water from industries and businesses specified in this Order for inspection by Permittees is an environmental threat and can also adversely impact public health and safety. For example, a review of industrial waste/ pretreatment records performed in 1995 in the County of Los Angeles on illicit discharges indicates that automotive service facilities and food service facilities sometimes discharge polluted washwaters to the MS4. The pollutants of concern in such washwaters include food waste, oil and grease, and toxic chemicals. Other storm water/industrial waste programs in California have reported similar observations. 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).

10. Studies indicate that facilities with paved surfaces subject to frequent motor vehicular traffic (such as parking lots and fast food restaurants), or facilities that perform vehicle repair, maintenance, or fueling (automotive service facilities) are potential sources of pollutants of concern in storm water. [References: Pitt *et al.*, *Urban Storm Water Toxic Pollutants: Assessment, Sources, and Treatability*, Water Environment Res., 67, 260 (1995); *Results of Retail Gas Outlet and Commercial Parking Lot Storm Water Runoff Study*, Western States Petroleum Association and American Petroleum Institute, (1994); *Action Plan Demonstration Project, Demonstration of Gasoline Fueling Station Best Management Practices*, Final Report, County of Sacramento (1993); *Source Characterization*, R. Pitt, In Innovative Urban Wet-Weather Flow Management Systems (2000) Technomic Press, Field, R *et al.* editors; *Characteristics of Parking Lot Runoff Produced by Simulated Rainfall*, , L.L. Tiefenthaler *et al.* Technical Report 343, Southern California Coastal Water Research Project (2001).]

11. Retail Gasoline Outlets (RGOs) are points of convergence for vehicular traffic and are similar to parking lots and urban roads. Studies indicate that storm water discharges from RGOs have high concentrations of hydrocarbons and heavy metals. [*The Quality of Trapped Sediments and Poor Water within Oil Grit Separators in Suburban MD,* Schueler T. and Shepp D. (1992), and *Concentrations of Selected Constituents in Runoff*

from Impervious Surfaces in Four Urban Catchments of Different Landuse, Ranabal, F.I., and T.J. Gizzard (1995), In Proceedings of the Fourth Biennial Stormwater Research Conference, Florida, pp-42-52]. Pilot studies indicate that treatment control best management practices installed at retail gasoline stations are effective in removing pollutants, reasonable in capital cost, easy to operate, and do not present safety risks [*Rouge River National Wet Weather Demonstration Project, Task Product Memorandum – Evaluation of On-line Media Filters RPO-NPS-TPM59.00*, Wayne County, MI, March 1999]. The Regional Board and the San Diego Regional Board have jointly prepared a Technical Report on the applicability of new development BMP design criteria for retail gasoline outlets, (*Retail Gasoline Outlets: New Development Design Standards for Mitigation of Storm Water Impacts*, (June 2001)). Retail Gasoline Outlets in Western U.S. States (such as Washington and Oregon) are already subject to numerical BMP design criteria, as well in other U.S. States.

C. Permit Background

1. The essential components of the Storm Water Management Program, as established by federal regulations [40 CFR 122.26(d)] are: (i) Adequate Legal Authority, (ii) Fiscal Resources, (iii) Storm Water Quality Management Program (SQMP) - (Public Information and Participation Program, Industrial/Commercial Facilities Program, Development Planning Program, Development Construction Program, Public Agency Activities Program, Illicit Connection and Illicit Discharges Elimination Program), and (iv) Monitoring and Reporting Program.

2. The Permittees have filed a Report of Waste Discharge (ROWD), dated February 1, 2001, and applied for renewal of their waste discharge requirements that serves as an NPDES permit to discharge wastes to surface waters. The ROWD includes a proposed SQMP and a Monitoring Program. The proposed SQMP contains programs previously approved under Board Order No. 96-054 in the following areas:

   Public Information and Participation
   Development Planning
   Development Construction
   Public Agency Activities
   Illicit Connection/Illicit Discharge Elimination Program

   These programs are revised pursuant to the provisions of this Order after adoption.

3. The County of Los Angeles has previously conducted source identification and pollutant characterization consistent with 40 CFR 122.26(d)(1)(ii) and (iii) under its storm water Monitoring Program. The Monitoring Program submitted with the ROWD proposes to advance the assessment of receiving water impacts, identification of sources of pollution, evaluation of Best Management Practices (BMPs), and measurement of long term trends in mass emissions.

4. The Regional Board has reviewed the ROWD and has determined it to be complete under the reapplication policy of MS4s issued by the U.S. Environmental Protection Agency (USEPA) (61 *Fed. Reg.* 41697). The Regional Board finds that the Permittees' proposed SQMP, incorporating the additional and/or revised provisions contained in this Order would meet the minimum requirements of federal regulations.

5. The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline-monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline-monitoring requirement be incorporated in this Order. The shoreline pathogen monitoring requirements are outlined in the Monitoring Program for this Order.

D. Permit Coverage

1. The requirements in this Order cover all areas within the boundaries of the Permittee municipalities (see Attachment A) over which they have regulatory jurisdiction as well as unincorporated areas in Los Angeles County within the jurisdiction of the Regional Board. The Permittees serve a population of about 9.5 million [Reference: *2000 Census of Population and Housing,* Bureau of the Census, U.S. Department of Commerce (2001)] in an area of approximately 3,100 square miles.

2. Federal, state, regional or local entities within the Permittees' boundaries or in jurisdictions outside the Los Angeles County Flood Control District, and not currently named in this Order, may operate storm drain facilities and/or discharge storm water to storm drains and watercourses covered by this Order. The Permittees may lack legal jurisdiction over these entities under state and federal constitutions. The Regional Board will coordinate with these entities to implement programs that are consistent with the requirements of this Order. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to USEPA Phase II storm water regulations.

3. Sources of discharges into receiving waters in the County of Los Angeles but in jurisdictions outside its boundary include the following:

   About 34 square miles of unincorporated area in Ventura County, which drain into Malibu Creek and then to Santa Monica Bay,

   About 9 square miles of the City of Thousand Oaks, which also drain into Malibu Creek and then to Santa Monica Bay, and

About 86 square miles of area in Orange County, which drain into Coyote Creek and then into the San Gabriel River.

The Regional Board will ensure that storm water management programs for the areas in Ventura County and the City of Thousand Oaks that drain into Santa Monica Bay are consistent with the requirements of this Order. The Regional Board will coordinate with the Santa Ana Regional Board so that storm water management programs for the areas in Orange County that drain into Coyote Creek are consistent with the requirements of this Order.

4. This permit is intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the U.S. subject to the Permittees' jurisdiction.

5. Permittees have expressed their intention to work cooperatively to control the contribution of pollutants from one portion of the MS4 to another portion of the system. Permittees may control the contribution of pollutants to the MS4 from non-permittee dischargers such as Caltrans, the U.S. Department of Defense, and other state and federal facilities, through interagency agreements.

E. Federal, State, and Regional Regulations

1. The Water Quality Act of 1987 added Section 402(p) to the federal Clean Water Act (CWA) (33 U.S.C. § 1251-1387). This section 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 November 16, 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 December 8, 1999 (64 *Fed. Reg.* 68722).

2. The USEPA published an 'Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits' on August 26, 1996 (61 *Fed. Reg.* 43761). This policy discusses the appropriate kinds of

water quality-based effluent limitations to be included in NPDES storm water permits to provide for the attainment of water quality standards.

3. The USEPA published an 'Interpretative Policy Memorandum on Reapplication Requirements' for MS4 permits on August 9, 1996 (61 *Fed. Reg.* 41697). This policy requires that MS4 reapplication for reissuance for a subsequent five-year permit term contain certain basic information and information for proposed changes and improvements to the storm water management program and monitoring program.

4. The USEPA has entered into a Memorandum of Agreement (MOA) with the U.S. Fish and Wildlife Service and the National Marine Fisheries Service for enhancing coordination regarding the protection of endangered and threatened species under Section 7 of the Endangered Species Act and the CWA's Water Quality Standards and NPDES programs. Among other actions, the MOA establishes a framework for coordination of actions by the USEPA, the Services, and CWA delegated States on CWA permit issuance under Section 402 of the CWA [66 *Fed. Reg.* 11202 – 11217].

5. USEPA regulations at 40 CFR 122.26(d)(2)(iv)(A) and 40 CFR 122.26(d)(2)(iv)(C) require that MS4 permittees implement a program to monitor and control pollutants in discharges to the municipal system from industrial and commercial facilities that contribute a substantial pollutant load to the MS4. The regulations require that permittees establish priorities and procedures for inspection of industrial facilities and priority commercial establishments. 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 industrial facilities and priority commercial establishments to control pollutants in storm water discharges (58 *Fed. Reg.* 61157).

6. 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 [EPA] Administrator or the State determines appropriate for the control of such pollutants." The State Water Resources Control Board's (State Board) Office of Chief Counsel (OCC) has issued a memorandum interpreting the meaning of MEP to include technical feasibility, cost, and benefit derived with the burden being on the municipality to demonstrate compliance with MEP by showing that a BMP is not technically feasible in the locality or that BMPs costs would exceed any benefit to be derived (dated February 11, 1993).

7. The CWA authorizes the 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 an NPDES program. The Porter-Cologne Water Quality Control Act authorizes the 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 MOA with the USEPA, on

September 22, 1989, to administer the NPDES Program governing discharges to waters of the U.S.

8. Section 303(d) of the CWA requires that the State identify a list of impaired water-bodies and develop and implement Total Maximum Daily Loads (TMDLs) for these waterbodies (33 U.S.C. §1313(d)(1)). A TMDL specifies the maximum amount of a pollutant that a water-body can receive, still meet applicable water quality standards and protect beneficial uses. The USEPA entered into a consent decree with the Natural Resources Defense Council (NRDC), Heal the Bay, and the Santa Monica BayKeeper on March 22, 1999, under which the Regional Board must adopt all TMDLs for the Los Angeles Region within 13 years from that date. This permit incorporates a provision to implement and enforce approved load allocations for municipal storm water discharges and requires amending the SQMP after pollutants loads have been allocated and approved.

9. Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 (CZARA) requires coastal states with approved coastal zone management programs to address non-point pollution impacting or threatening coastal water quality. CZARA (16 U.S.C. § 1451-1465) amends the Coastal Zone Management Act of 1972, to address five sources of non-point pollution: agriculture, silviculture, urban, marinas, and hydromodification. This NPDES permit addresses the management measures required for the urban category, with the exception of septic systems. The Regional Board addresses septic systems through the administration of other programs.

10. On May 18, 2000, the USEPA established numeric criteria for priority toxic pollutants for the State of California (California Toxics Rule (CTR)) 65 *Fed. Reg.* 31682 (40 CFR 131.38), for the protection of human health and aquatic life. These apply as ambient water quality criteria for inland surface waters, enclosed bays, and estuaries. The State Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) – 2000,* on March 2, 2000, for implementation of the CTR (State Board Resolution No. 2000-15 as amended by Board Resolution No. 2000-030). This policy requires that discharges comply with TMDL-derived load allocations as soon as possible but no later than 20 years from the effective date of the policy.

11. The State Board adopted a revised Water Quality Control Plan for Ocean Waters of California (Ocean Plan) on July 23, 1997. The Ocean Plan contains water quality objectives which apply to all discharges to the coastal waters of California.

12. The State Board in *In Re*: California Department of Transportation (State Board Order WQ 2001-08), determined that the discharge of storm water to ASBS is subject to the prohibition in the Ocean Plan against the discharge of wastes to an ASBS.

13. The Regional Board adopted an updated Water Quality Control Plan (Basin Plan) for the Los Angeles Region on June 13, 1994, *'Water Quality Control Plan, Los Angeles Region: Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties*, (1994).' The Basin Plan designates beneficial uses of receiving waters and specifies both narrative and numerical water quality objectives for the receiving waters in Los Angeles County.

14. The Regional Board on September 19, 2001, adopted amendments to the Basin Plan, to incorporate TMDLs for trash in the Los Angeles River (Resolution No. 01-013) and Ballona Creek (Resolution No. 01-014). After approval by the State Board, the Office of Administrative Law, and the USEPA, the TMDLs for trash will be effective and enforceable.

15. The Regional Board on April 13, 1998, approved BMPs for sidewalk rinsing to minimize the discharge of wash waters to the storm drain system (Resolution No. 98-08). By the same resolution, the Regional Board prohibited the discharge of municipal street wash waters to the storm drain system.

16. The Regional Board on April 13, 1998, approved recommended BMPs for industrial/commercial facilities (Resolution No. 98-08).

17. The Regional Board on April 22, 1999, approved a list of BMPs for use in development planning and development construction (Resolution No. 99-03)

18. The Regional Board adopted and approved requirements for new development and significant redevelopment projects in Los Angeles County to control the discharge of storm water pollutants in post-construction storm water, on January 26, 2000, in Board Resolution No. R-00-02. The Regional Board Executive Officer issued the approved Standard Urban Storm Water Mitigation Plans (SUSMPs) on March 8, 2000. The State Board in large part affirmed the Regional Board action and SUSMPs in State Board Order No. WQ 2000-11 issued on October 5, 2000.

    - The State Board's Chief Counsel has issued a statewide policy memorandum (dated December 26, 2000), which interprets the Order to provide broad discretion to Regional Boards and identifies potential future areas for inclusion in SUSMPs and the types of evidence and findings necessary. Such areas include ministerial projects, projects in environmentally sensitive areas, and water quality design criteria for RGOs.

    - The State Board's Chief Counsel interprets the Order 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.

19. 40 CFR 131.10(a) prohibits states from designating waste transport or waste assimilation as a use for any water of the U.S. 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 SUSMPs and any other requirements of this Order must occur prior to the discharge of storm water into a water of the U.S.

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

21. To promote a watershed management approach, the County of Los Angeles is divided into six Watershed Management Areas (WMAs) as follows:

    Malibu Creek and Rural Santa Monica Bay WMA
    Ballona Creek and Urban Santa Monica Bay WMA
    Los Angeles River WMA
    San Gabriel River WMA
    Dominguez Channel/Los Angeles Harbor WMA, and
    Santa Clara River WMA

    Attachment A shows the list of Permittees under each WMA and some Permittees have expressed an intent to form sub-watershed groups within the WMA to promote regional solutions for the mitigation of storm water discharge pollution.

22. To facilitate compliance with federal regulations, the State Board has issued two statewide general NPDES permits for storm water discharges: one for storm water from industrial sites [NPDES No. CAS000001, General Industrial Activity Storm Water Permit (GIASP)] and the other for storm water from construction sites [NPDES No. CAS000002, General Construction Activity Storm Water Permit (GCASP)]. The GCASP was reissued on August 19, 1999. The GIASP was reissued on April 17, 1997. Facilities discharging storm water associated with industrial activities and construction projects with a disturbed area of five acres or more are required to obtain individual NPDES permits for storm water discharges, or to be covered by a statewide general permit by completing and filing a Notice of Intent (NOI) with the State Board. The USEPA guidance anticipates coordination of the state-administered programs for

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industrial and construction activities with the local agency program to reduce pollutants in storm water discharges to the MS4.

The Regional Board is the enforcement authority in the Los Angeles Region for the two statewide general permits regulating discharges from industrial facilities and construction sites, and all NPDES storm water and non-storm water permits issued by the Regional Board. These industrial and construction sites and discharges are also regulated under local laws and regulations.

23. The State Board, on October 28, 1968, adopted Resolution No. 68-16, which established an anti-degradation policy for the State and Regional Boards. This policy restricts the degradation of surface waters and protects waterbodies where existing water quality is higher than is necessary for the protection of beneficial uses.

24. The State Board, on June 17, 1999, adopted Order No. WQ 99-05, which, in a precedential decision, identifies acceptable receiving water limitations language to be included in municipal storm water permits issued by the State and Regional Boards. The receiving water limitations included herein are consistent with the State Board Order, USEPA Policy, and the U.S. Appellate court decision in, *Defenders of Wildlife v. Browner* (9th. Cir, 1999). The State Board OCC has determined that the federal court decision did not conflict with State Board Order No. WQ 99-05 (memorandum dated October 14, 1999)

25. California Water Code (CWC) § 13263(a) requires that waste discharge requirements issued by the Regional Board shall implement any relevant water quality control plans that have been adopted; shall take into consideration the beneficial uses to be protected and the water quality objectives reasonably required for that purpose; other waste discharges; the need to prevent nuisance; and provisions of CWC § 13241. The Regional Board has considered the requirements of § 13263 and § 13241, and applicable plans, policies, rules, and regulations in developing these waste discharge requirements.

26. CWC § 13370 *et seq.* requires that waste discharge requirements issued by the Regional Boards be consistent with provisions of the federal CWA and its amendments.

27. On March 12, 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 July 19, 2001, for public entities that discharge pollutants to waters of the U.S. associated with the application of aquatic pesticides for resource or pest management. Public entities that conduct such activities must seek coverage under the general permit.

Findings Related To The Incorporation Of The Santa Monica Bay Beaches Dry Weather Bacteria TMDL And The Marina Del Rey Harbor Mothers' Beach And Back Basins Bacteria TMDL

28. The Regional Board adopted the Santa Monica Bay Beaches Dry Weather TMDL for Bacteria (hereinafter "Dry Weather Bacteria TMDL") on January 24, 2002. The TMDL was subsequently approved by the State Board, the Office of Administrative Law (OAL), and the USEPA and became effective on July 15, 2003.

29. The Regional Board adopted the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL (hereinafter "MDR Bacteria TMDL") on August 7, 2003. The TMDL was subsequently approved by the SWRCB, the OAL, and the USEPA and became effective on March 18, 2004.

30. The Waste Load Allocations (WLAs) in the Dry Weather Bacteria TMDL and the MDR Bacteria TMDL are expressed as the number of allowable days that the Santa Monica Bay beaches, Mothers' Beach and Basins D, E, and F in Marina del Rey Harbor may exceed the Basin Plan water quality objectives for protection of Water Contact Recreation (REC-1) in marine waters, specifically the water quality objectives for bacteria. Appropriate modifications to this order are therefore included in Parts 1 (Discharge Prohibitions) and 2 (Receiving Water Limitations), pursuant to 40 CFR 122.41(f) and 122.62, and Part 6.I.1 of this Order. Additionally, 40 CFR 122.44(d)(1)(vii)(B) requires that NPDES permits be consistent with the assumptions and requirements of any available waste load allocation. Tables 7-4.1, 7-4.2a, and 7-4.3 of the Basin Plan set forth the pertinent provisions of the Dry Weather Bacteria TMDL. Tables 7-5.1, 7-5.2, and 7-5.3 of the Basin Plan set forth the pertinent provisions of the MDR Bacteria TMDL. They require that during Summer Dry Weather there shall be no exceedances in the Wave Wash of the single sample or the geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use in marine waters. Accordingly, a prohibition is included in this Order barring discharges from a MS4 to Santa Monica Bay or Marina del Rey Harbor that result in exceedance of these objectives. Since the TMDL and the WLAs contained therein are expressed as receiving water conditions, Receiving Water Limitations have been included in this Order that are consistent with and implement the zero exceedance day WLAs.

31. Pursuant to federal regulations at 40 CFR 124.8, and 125.56, Fact Sheets were prepared to provide the bases for incorporating the Dry Weather Bacteria TMDL and the MDR Bacteria TMDL into this Order. These Fact Sheets are hereby incorporated by reference into these findings.

32. The iterative approach to regulating municipal storm water is not an appropriate means of implementing the Santa Monica Bay beaches or the MDR Summer Dry Weather WLAs for any and all of the following reasons: (a) The WLAs do not regulate the discharge of storm water; (b) The harm to the public from violating the WLAs is dramatic both in terms

of health impacts to exposed beachgoers, and the economic cost to the region associated with related illnesses; (c) Under the iterative approach over three permit cycles, required elements of the MS4 permit (e.g., elimination of illicit connections/illicit discharges (IC/ID) into their MS4s, revisions to their SQMP, etc.) have not resulted in the elimination of exceedances of water quality standards at the beaches or in Basins D, E, and F of Marina del Rey Harbor.

33. On March 14, 2007, Marina del Rey watershed responsible agencies submitted to the Regional Board the results of a non-point source study conducted over a one year period between July 2005 and July 2006, which was required under the terms of the MDR TMDL. The study was designed to determine the relative bacterial loading to the harbor from sources including but not limited to storm drains, boats, birds, and other non-point sources. The study has not yet been peer reviewed, and is currently under review by Regional Board staff.

34. On January 8, 2007, as required by the MDR Bacterial TMDL, Marina del Rey watershed responsible agencies submitted to the Regional Board an implementation plan describing the strategy by which they intend to comply with the MDR Bacterial TMDL. This implementation plan was developed through a process that included both Regional Board staff and representatives from Heal the Bay and Santa Monica Baykeeper.

35. The Regional Board acknowledges the County's timely submittals of reports required by the TMDL and implementation measures initiated thus far towards meeting water quality standards for bacteria in Marina del Rey. As a result of the adoption of the MDR Bacterial TMDL in 2003, the County has funded or received grants to initiate the following activities:

- Marina Beach Water Quality Improvement Project, Phase I and Phase II through a CBI grant;
- Mothers' Beach and Back Basins Bacterial TMDL Non-point Source Study;
- Marina del Rey Harbor Mothers' Beach and Back Basins Report of Small Drain Identification;
- Marina del Rey Vessel Discharge Report;
- Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan; and
- Three low-flow diversion projects, which were partially funded by a grant, two of which have been completed.

In addition to participation in the above studies, the County and other Marina del Rey watershed responsible agencies continue to implement BMPs proposed in the January 8, 2007, Implementation Plan.

36. The Receiving Water Limitations have been revised to implement the Summer Dry Weather WLAs set forth in Basin Plan Tables 7-4.1 and 7-5.1. These Receiving Water Limitations apply at the compliance

monitoring sites identified in the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004[1] and the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan* dated April 13, 2007. Compliance with the Receiving Water Limitations shall be determined using monitoring data obtained in conformance with the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004; the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan* dated April 13, 2007; and the Monitoring and Reporting Program CI 6948.

37. If the Receiving Water Limitations are exceeded at a compliance monitoring site, the Regional Board will generally issue an appropriate investigative order pursuant to Cal. Water Code § 13267 or § 13225 to the Permittees and other responsible agencies or jurisdictions within the relevant subwatershed to determine the source of the exceedance. Following these actions, Regional Board staff will generally evaluate the need for further enforcement as follows:

a) If the Regional Board determines that the exceedance did not result from discharges from the MS4, then the MS4 Permittees would not be responsible for violations of these provisions.

b) If the Regional Board determines that Permittees in the relevant subwatershed have demonstrated that their MS4 does not discharge dry weather flow into Santa Monica Bay or Basins D, E, or F in Marina del Rey Harbor, those Permittees would not be responsible for violations of these provisions even if the Receiving Water Limitations are exceeded at an associated compliance monitoring site.

c) If the Regional Board determines that Permittees in the relevant subwatershed have demonstrated that their MS4 summer dry weather discharge into Santa Monica Bay or Basins D, E, or F in Marina del Rey Harbor is treated to a level that does not exceed either the single sample or the geometric mean bacteria objectives, those Permittees shall not be responsible for violations of these provisions even if the Receiving Water Limitations are exceeded at an associated compliance monitoring site.

d) If the Regional Board determines that one or more Permittees have caused or contributed to violations of these Receiving Water Limitations, the Regional Board will consider appropriate enforcement action, including a cease and desist order with or without a time schedule for compliance, or other appropriate

[1] If the Regional Board determines that publicly owned storm drains that flow during dry weather are situated at additional shoreline locations, the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* may be revised by the Regional Board Executive Officer approval, after providing the opportunity for public comment, to include these locations as compliance monitoring sites.

enforcement action depending upon the circumstances and the extent to which the Permittee(s) has endeavored to comply with these provisions.

38. A Permittee would not be responsible for violations of these provisions if the Regional Board Executive Officer determines that the Permittee has adequately documented through a source investigation of the subwatershed, pursuant to protocols established under Cal. Water Code 13178, that bacterial sources originating within the jurisdiction of the Permittee have not caused or contributed to the exceedance of the Receiving Water Limitations.

39. Water Code section 13389 exempts the Regional Board from compliance with Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code prior to the adoption of waste discharge requirements. Therefore the Regional Board is not required to prepare environmental documents to evaluate this permit modification. Nevertheless, the Regional Board has considered the policies and requirements set forth in Chapters 1 through 2.6 of CEQA, and further, has considered the final substitute environmental documents for the Santa Monica Bay Beaches Bacteria TMDL and the MDR Bacteria TMDL.

F. Implementation

1. The California Environmental Quality Act (CEQA) (Cal. Pub. Resources Code § 21000 *et seq.*) requires that public agencies consider the environmental impacts of the projects they approve for development. CEQA applies to projects that are considered discretionary and does not apply to ministerial projects, which involve the use of established standards or objective measurements. A ministerial project may be made discretionary by adopting local ordinance provisions or imposing conditions to create decision-making discretion in approving the project. In the alternative, Permittees may establish standards and objective criteria administratively for storm water mitigation for ministerial projects. For water quality purposes, the Regional Board considers that all new development and significant redevelopment activity in specified categories, that receive approval or permits from a municipality, are subject to storm water mitigation requirements.

2. The objective of this Order is to protect the beneficial uses of receiving waters in Los Angeles County. To meet this objective, this Order requires that the SQMP specify BMPs that will be implemented to reduce the discharge of pollutants in storm water to the maximum extent practicable. Further, Permittees are to assure that storm water discharges from the MS4 shall neither cause nor contribute to the exceedance of water quality standards and objectives nor create conditions of nuisance in the receiving waters, and that the discharge of non-storm water to the MS4 has been effectively prohibited.

3. The SQMP required in this Order builds upon the programs established in Order Nos. 90-079, and 96-054, consists of the components recommended in the USEPA guidance manual, and was developed with

the cooperation of representatives from the regulated community and environmental groups. The SQMP includes provisions that promote customized initiatives, both on a countywide and watershed basis, in developing and implementing cost-effective measures to minimize discharge of pollutants to the receiving water. The various components of the SQMP, taken as a whole rather than individually, are expected to reduce pollutants in storm water and urban runoff to the maximum extent practicable. Provisions of the SQMP are fully enforceable under provisions of this Order.

4. The emphasis of the SQMP is pollution prevention through education, public outreach, planning, and implementation as source control BMPs first and then Structural and Treatment Control BMPs next. Successful implementation of the provisions of the SQMP will require cooperation and coordination of all public agencies in each Permittee's organization, among Permittees, and with the regulated community.

5. The implementation of a Public Information and Participation Program is a critical component of a storm water management program. An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

6. This Order includes a Monitoring Program that incorporates Minimum Levels (MLs) established under the 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.

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

8. This Order contemplates that the Permittees are responsible for considering potential storm water impacts when making planning decisions in order to fulfill the Permittees' CWA requirement to reduce the discharge of pollutants in municipal storm water to the MEP from new development and redevelopment activities. However, 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. This Order and its

requirements are not intended to restrict or control local land use decision-making authority.

9. 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 Cal. Health and Safety Code § 2270 *et seq.* and §116110 *et seq.* Certain Treatment Control BMPs if not properly designed, operated or maintained may create habitats for vectors (e.g. mosquito and rodents). This Order contemplates that the Permittees will closely cooperate and collaborate with local vector control agencies and the State Department of Health Services for the implementation, operation, and maintenance of Treatment Control BMPs in order to minimize the risk to public health from vector borne diseases.

G. Public Process

1. The Regional Board has notified the Permittees and interested agencies and persons of its intent to issue waste discharge requirements for this discharge, and has provided them with an opportunity to submit their written view and recommendations.

2. The Regional Board, in a public hearing, heard and considered all comments pertaining to the discharge and to the tentative requirements.

3. The Regional Board has conducted public workshops to discuss drafts of the permit. On April 24, 2001, Regional Board staff conducted a workshop outlining the reasoning behind the changes proposed for the new permit and received input from the Permittees and the public regarding those proposed changes. On July 26, 2001, a second public workshop was held at a special Regional Board meeting. The Permittees and the public had another opportunity to express their opinions regarding the proposed changes to the permit in front of the Regional Board members. A significant number of working meetings with the Permittees and other interested parties have occurred throughout the period from the submittal of the ROWD and completion of the tentative draft, in an attempt to incorporate and address all the comments presented.

4. The Los Angeles County Flood Control District, the County of Los Angeles and the other municipalities are co-permittees as defined in 40 CFR 122.26 (b)(1). Los Angeles County Flood Control District will coordinate with the other municipalities and facilitate program implementation. Each Permittee is responsible only for a discharge for which it is the operator.

5. This Order shall serve as a NPDES Permit, pursuant to CWA § 402, or amendments thereto, and shall take effect 50 days from Order adoption provided the Regional Administrator of the USEPA has no objections.

6. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (Cal. Pub. Resources Code § 21100 *et seq.*), in accordance with CWC § 13389.

7. Pursuant to CWC §13320, any aggrieved party may seek review of this Order by filing a petition with the State Board. A petition must be sent to: State Water Resources Control Board, P.O. Box 100, Sacramento, California, 95812, within 30 days of adoption of the Order by the Regional Board.

8. This Order may be modified or alternatively revoked or reissued prior to its expiration date, in accordance with the procedural requirements of the NPDES program, and the CWC for the issuance of waste discharge requirements.

IT IS HEREBY ORDERED that the Los Angeles County Flood Control District, Los Angeles County, and the Cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bell, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Cañada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier, in order to meet the provisions contained in Division 7 of the CWC and regulations adopted thereunder, and the provisions of the CWA, as amended, and regulations and guidelines adopted thereunder, shall comply with the following:

Part 1. DISCHARGE PROHIBITIONS

Part 1. A. The Permittees shall effectively prohibit non-storm water discharges into the MS4 and watercourses, except where such discharges:

1. Are covered by a separate individual or general NPDES permit for non-storm water discharges; or

2. Fall within one of the categories below, and meet all conditions when specified by the Regional Board Executive Officer:

   a) Category A - Natural flow:

      (1) Natural springs and rising ground water;

      (2) Flows from riparian habitats or wetlands;

      (3) Stream diversions, permitted by the State Board; and

      (4) Uncontaminated ground water infiltration [as defined by 40 CFR 35.2005(20)].

   b) Category B - Flows from emergency fire fighting activity.

c) Category C - Flows incidental to urban activities:

(1) Reclaimed and potable landscape irrigation runoff;

(2) Potable drinking water supply and distribution system releases (consistent with American Water Works Association guidelines for dechlorination and suspended solids reduction practices);

(3) Drains for foundations, footings, and crawl spaces;

(4) Air conditioning condensate;

(5) Dechlorinated/debrominated swimming pool discharges;

(6) Dewatering of lakes and decorative fountains;

(7) Non-commercial car washing by residents or by non-profit organizations; and

(8) Sidewalk rinsing.

The Regional Board Executive Officer may add or remove categories of non-storm water discharges above. Furthermore, in the event that any of the above categories of non-storm water discharges are determined to be a source of pollutants by the Regional Board Executive Officer, the discharge will no longer be exempt from this prohibition unless the Permittee implements conditions approved by the Regional Board Executive Officer to ensure that the discharge is not a source of pollutants. Notwithstanding the above, the Regional Board Executive Officer may impose additional prohibitions of non-storm water discharges in consideration of antidegradation policies and TMDLs.

Part 1. B. Discharges of Summer Dry Weather flows from MS4s into Santa Monica Bay[2] or into Marina del Rey Harbor Basins D, E, or F, including Mothers' Beach, that cause or contribute to exceedances of the bacteria Receiving Water Limitations in Part 2.5 and 2.6 below, are prohibited.[3]

[2] Santa Monica Bay encompasses the coastal waters from Point Dume to Point Fermin and seaward to the 500-meter depth contour. It includes all beaches from the Los Angeles/Ventura County line south to the Outer Cabrillo Beach located just south of the Palos Verdes Peninsula.

[3] Responsibility for such prohibited discharges is determined as indicated in Footnote 3 part (2) of Table 7-4.1 and Footnote 2 part (1) of Table 7-5.1 of the Basin Plan. All Permittees within a subwatershed of the Santa Monica Bay Watershed Management Area are jointly responsible for compliance with the limitations imposed in Tables 7-4.1 and 7-5.1 of the Basin Plan.

Part 2. RECEIVING WATER LIMITATIONS

1. Except as provided in Part 2.5 and 2.6 below, discharges from the MS4 that cause or contribute to the violation of Water Quality Standards or water quality objectives are prohibited.

2. Discharges from the MS4 of storm water, or non-storm water, for which a Permittee is responsible for, shall not cause or contribute to a condition of nuisance.

3. The Permittees shall comply with Part 2.1. and 2.2. through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SQMP and its components and other requirements of this Order including any modifications. The SQMP and its components shall be designed to achieve compliance with receiving water limitations. If exceedances of Water Quality Objectives or Water Quality Standards (collectively, Water Quality Standards) persist, notwithstanding implementation of the SQMP and its components and other requirements of this permit, the Permittee shall assure compliance with discharge prohibitions and receiving water limitations by complying with the following procedure:

   a) Upon a determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable Water Quality Standard, the Permittee shall promptly notify and thereafter submit a Receiving Water Limitations (RWL) Compliance Report (as described in the Program Reporting Requirements, Section I of the Monitoring and Reporting Program) 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 exceedances of Water Quality Standards. This RWL Compliance Report may be incorporated in the annual Storm Water Report and Assessment unless the Regional Board directs an earlier submittal. The RWL Compliance Report shall include an implementation schedule. The Regional Board may require modifications to the RWL Compliance Report.

   b) Submit any modifications to the RWL Compliance Report required by the Regional Board within 30 days of notification.

   c) Within 30 days following the approval of the RWL Compliance Report, the Permittee shall revise the SQMP and its components and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, an implementation schedule, and any additional monitoring required.

   d) Implement the revised SQMP and its components and monitoring program according to the approved schedule.

4. So long as the Permittee has complied with the procedures set forth above and is implementing the revised SQMP and its components, the Permittee does not

have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional BMPs.

5. During Summer Dry Weather there shall be no discharges of bacteria from MS4s into the Santa Monica Bay that cause or contribute to exceedances in the Wave Wash, of the applicable bacteria objectives. The applicable bacteria objectives include both the single sample and geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use, as set forth in the Basin Plan.[4]

6. During Summer Dry Weather there shall be no discharges of bacteria from MS4s into Marina del Rey Harbor Basins D, E, or F, including Mothers' Beach that cause or contribute to exceedances of the applicable bacteria objectives. The applicable bacteria objectives include both the single sample and geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use, as set forth in the Basin Plan.[5]

Part 3. STORM WATER QUALITY MANAGEMENT PROGRAM (SQMP) IMPLEMENTATION

A. General Requirements

1. Each Permittee shall, at a minimum, implement the SQMP. The SQMP is an enforceable element of this Order. The SQMP shall be implemented no later than February 1, 2002, unless a later date has been specified for a particular provision in this Order.

2. The SQMP shall, at a minimum, comply with the applicable storm water program requirements of 40 CFR 122.26(d)(2). The SQMP and its components shall be implemented so as to reduce the discharges of pollutants in storm water to the MEP.

3. Each Permittee shall implement additional controls, where necessary, to reduce the discharges of pollutants in storm water to the MEP.

4. Permittees that modify the countywide SQMP (i.e., implement additional controls, implement different controls than described in the countywide SQMP, or determine that certain BMPs in the countywide SQMP are not applicable in the area under its jurisdiction), shall develop a local SQMP, no later than August 1, 2002. The local SQMP shall be customized to reflect the conditions in the area under the Permittee's jurisdiction and

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[4] Samples collected for determining compliance with the receiving water limitations of Part 2.5 shall be processed in accordance with the sampling procedures and analytical methodology set forth in the *Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan* dated April 7, 2004 and the Monitoring and Reporting Program CI 6948.

[5] Samples collected for determining compliance with the receiving water limitations of Part 2.6 shall be processed in accordance with the sampling procedures and analytical methodology set forth in the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Shoreline Monitoring Plan* dated April 13, 2007 and the Monitoring and Reporting Program CI 6948.

shall specify activities being implemented under the appropriate elements described in the countywide SQMP.

B. Best Management Practice Implementation

The Permittees shall implement or require the implementation of the most effective combination of BMPs for storm water/urban runoff pollution control. When implemented, BMPs are intended to result in the reduction of pollutants in storm water to the MEP.

C. Revision of the Storm Water Quality Management Program

The Permittees shall revise the SQMP, at the direction of the Regional Board Executive Officer, to incorporate program implementation amendments so as to comply with regional, watershed specific requirements, and/or waste load allocations developed and approved pursuant to the process for the designation and implementation of Total Maximum Daily Loads (TMDLs) for impaired water bodies.

D. Designation and Responsibilities of the Principal Permittee

The Los Angeles County Flood Control District is hereby designated as the Principal Permittee. As such, the Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee;
2. Coordinate permit activities among Permittees and act as liaison between Permittees and the Regional Board on permitting issues;
3. Provide personnel and fiscal resources for the necessary updates of the SQMP and its components;
4. Provide technical and administrative support for committees that will be organized to implement the SQMP and its components;
5. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F, below, upon designation of representatives;
6. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program;
7. Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Board of annual reports and summaries of other reports required under the SQMP; and
8. Comply with the "Responsibilities of the Permittees" in Part 3.E., below.

E. Responsibilities of the Permittees

Each Permittee is required to comply with the requirements of this Order applicable to discharges within its boundaries (see Findings D.1, D.2. and D.3.) and not for the implementation of the provisions applicable to the Principal Permittee or other Permittees. Each Permittee shall, within its geographic jurisdiction:

1. Comply with the requirements of the SQMP and any modifications thereto;

2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner;

3. Designate a technically knowledgeable representative to the appropriate WMC;

4. 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 SQMP.

5. Prepare an annual Budget Summary of expenditures applied to the storm water management program. This summary shall identify the storm water budget for the following year, using estimated percentages and written explanations where necessary, for the specific categories noted below:

   a) Program management
      - Administrative costs

   b) Program Implementation

      Where information is available, provide an estimated percent breakdown of expenditures for the categories below:
      - Illicit connection/illicit discharge
      - Development planning
      - Development construction
      - Construction inspection activities
      - Industrial/Commercial inspection activities
      - Public Agency Activities
        - Maintenance of Structural BMPs and Treatment Control BMPs
        - Municipal Street Sweeping
        - Catch basin clean-up
        - Trash collection
        - Capital costs

   c) Public Information and Participation

   d) Monitoring Program

   e) Miscellaneous Expenditures

6. Each Permittee, in addition to the Budget Summary, shall report any supplemental dedicated budgets for the same categories.

F. Watershed Management Committees (WMCs)

1. Each WMC shall be comprised of a voting representative from each Permittee in the WMA.

2. The WMC's chair and secretary shall be chosen by the WMC upon Order adoption and on an annual basis, thereafter. In the absence of volunteer Permittee(s) for the positions, the Principal Permittee shall assume those roles until the WMC chooses members of the committee for the positions.

3. Each WMC shall:

   a) Facilitate cooperation and exchange of information among Permittees;

   b) Establish additional goals and objectives and associated deadlines for the WMA, as the program implementation progresses;

   c) Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;

   d) Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;

   e) Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;

   f) Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and

   g) Meet four times per year and, as necessary.

G. Legal Authority

1. Permittees shall possess the necessary legal authority to prohibit non-storm water discharges to the storm drain system, including, but not limited to:

   a) Illicit discharges and illicit connections and require removal of illicit connections;

   b) The discharge of wash waters to the MS4 from the cleaning of gas stations, auto repair garages, or other types of automotive service facilities;

   c) The discharge of runoff to the MS4 from mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations;

d) The discharge of runoff to the MS4 from areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken;

e) The discharge of runoff to the MS4 from storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials;

f) The discharge of chlorinated/ brominated swimming pool water and filter backwash to the MS4;

g) The discharge of runoff from the washing of toxic materials from paved or unpaved areas to the MS4;

h) Washing impervious surfaces in industrial/commercial areas that results in a discharge of runoff to the MS4;

i) The discharge of concrete or cement laden wash water from concrete trucks, pumps, tools, and equipment to the MS4; and

j) Dumping or disposal of materials into the MS4 other than storm water, such as:

(1) Litter, landscape debris and construction debris;

(2) Any state or federally banned or unregistered pesticides;

(3) Food and food processing wastes; and

(4) Fuel and chemical wastes, animal wastes, garbage, batteries, and other materials that have potential adverse impacts on water quality.

2. The Permittees shall possess adequate legal authority to:

a) Require persons within their jurisdiction to comply with conditions in Permittees' ordinances, permits, contracts, model programs, or orders (i.e. hold dischargers to its MS4 accountable for their contributions of pollutants and flows);

b) Utilize enforcement mechanisms to require compliance with Permittees ordinances, permits, contracts, or orders;

c) Control pollutants, including potential contribution, in discharges of storm water runoff associated with industrial activities (including construction activities) to its MS4 and control the quality of storm water runoff from industrial sites (including construction sites). This requirement applies to Source Control, and Treatment Control BMPs;

d) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions, including the prohibition of illicit discharges to the MS4. Permittees must possess authority to enter, sample, inspect, review and copy records, and require regular reports from

industrial facilities (including construction sites) discharging polluted or with the potential to discharge polluted storm water runoff into its MS4;

e) Require the use of BMPs to prevent or reduce the discharge of pollutants to MS4s to MEP; and

f) Require that Treatment Control BMPs be properly operated and maintained to prevent the breeding of vectors.

3. Each Permittee shall, no later than November 1, 2002, amend and adopt (if necessary), a Permittee-specific storm water and urban runoff ordinance to enforce all requirements of this permit.

4. Each Permittee shall submit no later than December 2, 2002, a new or updated statement by its legal counsel that the Permittee has obtained all necessary legal authority to comply with this Order through adoption of ordinances and/or municipal code modifications.

Part 4. SPECIAL PROVISIONS

Maximum Extent Practicable Standard

This permit, and the provisions herein, are intended to develop, achieve, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the MEP from the permitted areas in the County of Los Angeles to the waters of the State.

A. General Requirements

1. Best Management Practice Substitution

The Regional Board Executive Officer may approve any site-specific BMP substitution upon petition by a Permittee(s), if the Permittee can document that:

a) The proposed alternative BMP or program will meet or exceed the objective of the original BMP or program in the reduction of storm water pollutants; or

b) The fiscal burden of the original BMP or program is substantially greater than the proposed alternative and does not achieve a substantially greater improvement in storm water quality; and,

c) The proposed alternative BMP or program will be implemented within a similar period of time.

B. Public Information and Participation Program (PIPP)

The Principal Permittee shall implement a Public Information and Participation Program (PIPP) that includes, but is not limited to, the requirements listed in this section. The Principal Permittee shall be responsible for developing and

implementing the Public Education Program, as described in the SQMP, and shall coordinate with Permittees to implement specific requirements.

The objectives of the PIPP are as follows:

- To measurably increase the knowledge of the target audiences regarding the MS4, the impacts of storm water pollution on receiving waters, and potential solutions to mitigate the problems caused;
- To measurably change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions; and
- To involve and engage socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of storm water pollution.

The Principal Permittee shall convene an advisory committee to provide input and assistance in meeting the goals and objectives of the public education campaign. The advisory committee shall be consulted during the process of developing the PIPP campaign, and shall provide comments and advice during the process of preparing a Request For Proposals for a storm water public education contractor. The committee may participate as a part of a working group that evaluates contractor proposals and other tasks as appropriate. The committee shall be comprised of representatives of the environmental community, Permittee cities, Regional Board staff, and experts in the fields of public education and marketing. The Principal Permittee shall ensure that the committee meets at least once a year.

1. Residential Program

   a) "No Dumping" Message

   Each Permittee shall mark all storm drain inlets that they own with a legible "no dumping" message. In addition, signs with prohibitive language discouraging illegal dumping must be posted at designated public access points to creeks, other relevant water bodies, and channels no later than February 2, 2004. Signage and storm drain messages shall be legible and maintained as necessary during the term of the permit.

   b) Countywide Hotline

   The 888-CLEAN-LA hotline will serve as the general public reporting contact for reporting clogged catch basin inlets and illicit discharges/dumping, faded or lack of catch basin stencils, and general storm water management information. Each Permittee may establish its own hotline if preferred. Permittees shall include this information, updated when necessary, in public information, and the government pages of the telephone book, as they are developed or published. The Principal Permittee shall compile a list of the general public reporting contacts from all Permittees and make this information available on the web site (888CleanLA.com) and upon request. Permittees shall provide the Principal Permittee with their reporting contacts no later than

March 1, 2002. Permittees are responsible for providing current, updated information to the Principal Permittee.

c) Outreach and Education

(1) The Principal Permittee shall continue to implement the following activities that were components of the first five-year PIPP:

(i) Advertising;

(ii) Media relations;

(iii) Public service announcements;

(iv) "How To" instructional material distributed in a targeted and activity-related manner;

(v) Corporate, community association, environmental organization and entertainment industry tie-ins; and

(vi) Events targeted to specific activities and population subgroups.

(2) The Principal Permittee shall develop a strategy to educate ethnic communities and businesses through culturally effective methods. Details of this strategy should be incorporated into the Public Education Program, and implemented, no later than February 3, 2003.

(3) The Principal Permittee shall enhance the existing outreach efforts to residents and businesses related to the proper disposal of cigarette butts.

(4) Each Permittee shall conduct educational activities within its jurisdiction and participate in countywide events.

(5) The Principal Permittee shall organize Public Outreach Strategy meetings for Permittees on a quarterly basis, beginning no later than May 1, 2002. The Principal Permittee shall provide guidance for Permittees to augment the countywide outreach and education program. Permittees shall coordinate regional and local outreach and education to reduce duplication of efforts. Permittees are encouraged to include other interested parties in the outreach strategy to strengthen and coordinate educational efforts.

(6) The Principal Permittee shall ensure that a minimum of 35 million impressions per year are made on the general public about storm water quality via print, local TV access, local radio, or other appropriate media.

(7) The Principal Permittee, in cooperation with the Permittees, shall provide schools within each School

District in the County with materials, including, but not limited to, videos, live presentations, and other information necessary to educate a minimum of 50 percent of all school children (K-12) every 2 years on storm water pollution.

(8) Permittees shall provide the contact information for their appropriate staff responsible for storm water public education activities to the Principal Permittee no later than April 1, 2002, and changes to contact information no later than 30 days after a change occurs.

(9) The Principal Permittee shall develop a strategy to measure the effectiveness of in-school educational programs. The protocol shall include assessment of students' knowledge of storm water pollution problems and solutions before and after educational efforts are conducted. The protocol shall be developed and submitted to the Regional Board Executive Officer for approval no later than May 1, 2002. It shall be implemented upon approval.

(10) In order to ensure that the PIPP is demonstrably effective in changing the behavior of the public, the Principal Permittee shall develop a behavioral change assessment strategy no later than May 1, 2002. The strategy shall be developed based on sociological data and studies (such as the County Segmentation Study). The Principal Permittee shall submit the assessment strategy to the Regional Board Executive Office for approval. It shall be implemented on approval.

d) Pollutant-Specific Outreach

The Principal Permittee, in cooperation with Permittees, shall coordinate to develop outreach programs that focus on the watershed-specific pollutants listed in Table 1 no later than February 3, 2003. Metals may be appropriately addressed through the Industrial/Commercial Facilities Program (e.g. distribute education materials on appropriate BMPs for metal waste management to facilities that have been identified as a potential source, such as metal fabricating facilities). Region-wide pollutants may be included in the Principal Permittee's mass media outreach efforts.

Table 1.

Watershed	***Target Pollutants for Outreach***
Ballona Creek	Trash, Indicator Bacteria, Metals, PAHs
Malibu Creek	Trash, Nutrients (Nitrogen), Indicator Bacteria, Sediments
Los Angeles River	Trash, Nutrients (Nitrogen), Indicator

	Bacteria, Metals, Pesticides, PAHs
San Gabriel River	Trash, Nutrients (Nitrogen), Indicator Bacteria, Metals
Santa Clara River	Nutrients (Nitrogen), Coliform
Dominguez Channel	Trash, Indicator Bacteria, PAHs

Each Permittee shall make outreach materials available to the general public and target audiences, such as schools, community groups, contractors and developers, and at appropriate public counters and events. Outreach material shall include information on pollutants, sources of concern, and source abatement measures.

2. Businesses Program

a) Corporate Outreach

The Principal Permittee shall develop and implement a Corporate Outreach program to educate and inform corporate managers about storm water regulations. The program shall target RGOs and restaurant chains. At a minimum, this program shall include:

(1) Conferring with corporate management to explain storm water regulations;

(2) Distribution and discussion of educational material regarding storm water pollution and BMPs, and provide managers with suggestions to facilitate employee compliance with storm water regulations.

Corporate Outreach for all RGOs and restaurant chain corporations shall be conducted not less than twice during the permit term, with the first outreach contact to begin no later than February 3, 2003.

b) Business Assistance Program

The Principal Permittee and Permittees may implement a Business Assistance Program to provide technical resource assistance to small businesses to advise them on BMPs implementation to reduce the discharge of pollutants in storm water runoff. Programs may include:

(1) On-site technical assistance or consultation via telephone to identify and implement storm water pollution prevention methods and best management practices; and

(2) Making available, distributing, and discussing of applicable BMP and educational materials.

C. Industrial/Commercial Facilities Control Program

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

1. Track Critical Sources

a) Each Permittee shall maintain a watershed-based inventory or database of all facilities within its jurisdiction that are critical sources of storm water pollution. Critical sources to be tracked are summarized below, and also specified in Attachment B:

(1) Commercial Facilities

- restaurants;
- automotive service facilities; and
- RGOs and automotive dealerships.

(2) USEPA Phase I Facilities (Tier 1 and 2)

(3) Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)]

- municipal landfills;
- hazardous waste treatment, disposal, and recovery facilities; and
- facilities subject to SARA Title III (also known as EPCRA).

b) Each Permittee shall include the following minimum fields of information for each industrial and commercial facility:

- name of facility and name of owner/operator;
- address;
- coverage under the GIASP or other individual or general NPDES permits; and
- a narrative description including SIC codes that best reflects the industrial activities at and principal products of each facility.

The Regional Board encourages Permittees to add other fields of information, such as material usage and/or industrial output, and discrepancies between SIC Code designations (as reported by facility operators) and the actual type of industrial activity has the potential to pollute storm water. In addition, the Regional Board recommends use of an automated database system, such as a Geographical Information System (GIS) or Internet-based system; however, this is not required.

c) Each Permittee shall update its inventory of critical sources at least annually. 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).

2. Inspect Critical Sources

Each Permittee shall inspect all facilities in the categories and at a level and frequency as specified in the following subsections.

a) Commercial Facilities

(1) Restaurants

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee, in cooperation with its appropriate department (such as health or public works), shall inspect all restaurants within its jurisdiction to confirm that storm water BMPs are being effectively implemented in compliance with State law, County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each restaurant, inspectors shall verify that the restaurant operator:

- has received educational materials on storm water pollution prevention practices;
- does not pour oil and grease or oil and grease residue onto a parking lot, street or adjacent catch basin;
- keeps the trash bin area clean and trash bin lids closed, and does not fill trash bins with washout water or any other liquid;
- does not allow illicit discharges, such as discharge of washwater from floormats, floors, porches, parking lots, alleys, sidewalks and street areas (in the immediate vicinity of the establishment), filters or garbage/trash containers;
- removes food waste, rubbish or other materials from parking lot areas in a sanitary manner that does not create a nuisance or discharge to the storm drain.

(2) Automotive Service Facilities

Frequency of Inspections: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of inspections: Each Permittee shall inspect all automotive service facilities within its jurisdiction to confirm that storm water BMPs are effectively implemented in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP. At each automotive service facility, inspectors shall verify that each operator:

- maintains the facility area so that it is clean and dry and without evidence of excessive staining;
- implements housekeeping BMPs to prevent spills and leaks;
- properly discharges wastewaters to a sanitary sewer and/or contains wastewaters for transfer to a legal point of disposal;
- is aware of the prohibition on discharge of non-storm water to the storm drain;
- properly manages raw and waste materials including proper disposal of hazardous waste;
- protects outdoor work and storage areas to prevent contact of pollutants with rainfall and runoff;
- labels, inspects, and routinely cleans storm drain inlets that are located on the facility's property; and
- trains employees to implement storm water pollution prevention practices.

(3) Retail Gasoline Outlets and Automotive Dealerships

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that BMPs are being effectively implemented at each RGO and automotive dealership within its jurisdiction, in compliance with the SQMP, Regional Board Resolution 98-08, and the Stormwater Quality Task Force Best Management Practice Guide for RGOs. At each RGO and automotive dealership, inspectors shall verify that each operator:

- routinely sweeps fuel-dispensing areas for removal of litter and debris, and keeps rags and absorbents ready for use in case of leaks and spills;
- is aware that washdown of facility area to the storm drain is prohibited;
- is aware of design flaws (such as grading that doesn't prevent run-on, or inadequate roof covers and berms), and that equivalent BMPs are implemented;
- inspects and cleans storm drain inlets and catch basins within each facility's boundaries no later than October 1st of each year;
- posts signs close to fuel dispensers, which warn vehicle owners/operators against "topping off" of vehicle fuel tanks and installation of automatic shutoff fuel dispensing nozzles;
- routinely checks outdoor waste receptacle and air/water supply areas, cleans leaks and drips, and ensures that only watertight waste receptacles are used and that lids are closed; and
- trains employees to properly manage hazardous materials and wastes as well as to implement other storm water pollution prevention practices.

b) Phase I Facilities

Permittees need not inspect facilities that have been inspected by the Regional Board within the past 24 months. For the remaining Phase I facilities that the Regional Board has not inspected, each Permittee shall conduct compliance inspections as specified below.

Frequency of Inspection

Facilities in Tier 1 Categories: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Facilities in Tier 2 Categories: Twice during the 5-year term of the permit, provided that the first inspection occurs no later than August 1, 2004. Permittees need not perform additional inspections at those facilities determined to have no risk of exposure of industrial activity to storm water. For those facilities that do have exposure of industrial activities to storm water, a Permittee may reduce the frequency of additional compliance inspections to once every 5 years, provided that the Permittee inspects at least 20% of the facilities in Tier 2 each year.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

c) Other Federally-mandated Facilities

Frequency of Inspection: Twice during the 5-year term of the Order, provided that the first inspection occurs no later than August 1, 2004, and that there is a minimum interval of one year in between the first compliance inspection and the second compliance inspection.

Level of Inspection: Each Permittee shall confirm that each operator:

- has a current Waste Discharge Identification (WDID) number for facilities discharging storm water associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and
- is effectively implementing BMPs in compliance with County and municipal ordinances, Regional Board Resolution 98-08, and the SQMP.

3. Ensure Compliance of Critical Sources

a) **BMP Implementation:** In the event that a Permittee determines that a BMP specified by the SQMP or Regional Board Resolution 98-08 is infeasible at any site, that Permittee shall require implementation of other BMPs that will achieve the equivalent reduction of pollutants in the storm water discharges. Likewise, for those BMPs that are not adequate to achieve water quality objectives, Permittees may require additional site-specific controls, such as Treatment Control BMPs.

b) **Environmentally Sensitive Areas and Impaired Waters:** For critical sources that are in ESAs or that are tributary to CWA § 303(d) impaired water bodies, Permittees shall consider requiring operators to implement additional controls to reduce pollutants in storm water runoff that are causing or contributing to the exceedences of Water Quality Objectives.

c) **Progressive Enforcement:** Each Permittee shall implement a progressive enforcement policy to ensure that facilities are brought into compliance with all storm water requirements within a reasonable time period as specified below.

(1) In the event that a Permittee determines, based on an inspection conducted above, that an operator has failed to adequately implement all necessary BMPs, that Permittee shall take progressive enforcement action which, at a minimum, shall include a follow-up inspection within 4 weeks from the date of the initial inspection.

(2) In the event that a Permittee determines that an operator has failed to adequately implement BMPs after a follow-up inspection, that Permittee shall take further enforcement action as established through authority in its municipal code and ordinances or through the judicial system.

(3) 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.

d) Interagency Coordination

(1) **Referral of Violations of the SQMP, Regional Board Resolution 98-08, and Municipal Storm Water Ordinances:** A Permittee may refer a violation(s) to the Regional Board provided that that Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:

- Two follow-up inspections, and
- Two warning letters or notices of violation.

(2) **Referral of Violations of the GIASP, including Requirements to File a Notice of Intent:** For those facilities in violation of the GIASP, Permittees may escalate referral of such violations to the Regional Board after one inspection and one written notice to the operator regarding the violation. In making such referrals, Permittees shall include, at a minimum, the following documentation:

- Name of the facility;
- Operator of the facility;
- Owner of the facility;
- Industrial activity being conducted at the facility that is subject to the GIASP; and
- Records of communication with the facility operator regarding the violation, which shall include at least an inspection report and one written notice of the violation.

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

(3) **Investigation of Complaints Regarding Facilities – Transmitted by the Regional Board Staff:** Each Permittee shall initiate, within one business day, investigation of complaints (other than non-storm water discharges) regarding facilities within its jurisdiction. The initial investigation shall include, at a minimum, a limited inspection of the facility to confirm the complaint to determine if the facility is effectively complying with the SQMP and municipal storm water/urban runoff ordinances, and to oversee corrective action.

(4) **Support of Regional Board Enforcement Actions:** As directed by the Regional Board Executive Officer, Permittees shall support Regional Board enforcement actions by: assisting in identification of current owners, operators, and lessees of facilities; providing staff, when available, for joint inspections with Regional Board inspectors; appearing as witnesses in Regional Board enforcement hearings; and providing copies of inspection reports and other progressive enforcement documentation.

(5) **Participation in a Task Force:** The Permittees, 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.

D. Development Planning Program

The Permittees shall implement a development-planning program that will require all Planning Priority development and Redevelopment projects to:

- Minimize impacts from storm water and urban runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CWC §

13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances ;

- Maximize the percentage of pervious surfaces to allow percolation of storm water into the ground;
- Minimize the quantity of storm water directed to impervious surfaces and the MS4;
- Minimize pollution emanating from parking lots through the use of appropriate Treatment Control BMPs and good housekeeping practices;
- Properly design and maintain Treatment Control BMPs in a manner that does not promote the breeding of vectors; and
- Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site.

1. Peak Flow Control

   The Permittees shall control post-development peak storm water runoff discharge rates, velocities, and duration (peak flow control) in Natural Drainage Systems (i.e., mimic pre-development hydrology) to prevent accelerated stream erosion and to protect stream habitat. Natural Drainage Systems are located in the following areas:

   a) Malibu Creek;

   b) Topanga Canyon Creek;

   c) Upper Los Angeles River;

   d) Upper San Gabriel River;

   e) Santa Clara River; and

   f) Los Angeles County Coastal streams (see Basin Plan Table 2-1).

   The Principal Permittee in consultation with Permittees shall develop numerical criteria for peak flow control, based on the results of the Peak Discharge Impact Study (see Monitoring Program Section II.I).

   Each Permittee shall, no later than February 1, 2005, implement numerical criteria for peak flow control.

   A Permittee or group of Permittees may substitute for the countywide peak flow control criteria with a Hydromodification Control Plan (HCP), on approval by the Regional Board, in the following circumstances:

   (1) Stream or watershed-specific conditions indicate the need for a different peak flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic modeling and supporting field observations; or

(2) A watershed-wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.

2. Standard Urban Storm Water Mitigation Plans (SUSMPs)

a) Each Permittee shall amend codes and ordinances not later than August 1, 2002 to give legal effect to SUSMP changes contained in this Order. Changes to SUSMP requirements shall take effect not later than September 2, 2002.

b) Each Permittee shall require that a single-family hillside home:

(1) Conserve natural areas;

(2) Protect slopes and channels;

(3) Provide storm drain system stenciling and signage;

(4) Divert roof runoff to vegetated areas before discharge unless the diversion would result in slope instability; and

(5) Direct surface flow to vegetated areas before discharge unless the diversion would result in slope instability.

c) Each Permittee shall require that a SUSMP as approved by the Regional Board in Board Resolution No. R 00-02 be implemented for the following categories of developments:

(1) Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments);

(2) A 100,000 or more square feet of impervious surface area industrial/ commercial development;

(3) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539);

(4) Retail gasoline outlets;

(5) Restaurants (SIC 5812);

(6) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces; and

(7) Redevelopment projects in subject categories that meet Redevelopment thresholds.

d) Each Permittee shall submit an ESA Delineation Map for its jurisdictional boundary, based on the Regional Board's ESA Definition, no later than June 3, 2002, for approval by the Regional Board Executive Officer in consultation with the California Department of Fish and Game, and the California Coastal Commission.

e) Each Permittee shall require the implementation of SUSMP provisions no later than September 2, 2002, for all projects located in or directly adjacent to or discharging directly to an ESA, where the development will:

(1) Discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat; and

(2) Create 2,500 square feet or more of impervious surface area.

3. Numerical Design Criteria

The Permittees shall require that post-construction Treatment Control BMPs incorporate, at a minimum, either a volumetric or flow based treatment control design standard, or both, as identified below to mitigate (infiltrate, filter or treat) storm water runoff:

a) Volumetric Treatment Control BMP

(1) The 85th percentile 24-hour runoff 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

(2) The volume of annual runoff based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in *California Stormwater Best Management Practices Handbook – Industrial/ Commercial,* (1993); or

(3) The volume of runoff produced from a 0.75 inch storm event, prior to its discharge to a storm water conveyance system; or

(4) The volume of runoff produced from a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event.

b) Flow Based Treatment Control BMP

(1) The flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

(2) The flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or

(3) The flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

4. Applicability of Numerical Design Criteria

The Permittees shall require the following categories of Planning Priority Projects to design and implement post-construction treatment controls to mitigate storm water pollution:

a) Single-family hillside residential developments of one acre or more of surface area;

b) Housing developments (includes single family homes, multifamily homes, condominiums, and apartments) of ten units or more;

c) A 100,000 square feet or more impervious surface area industrial/ commercial development;

d) Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534 and 7536-7539) [5,000 square feet or more of surface area];

e) Retail gasoline outlets [5,000 square feet or more of impervious surface area and with projected Average Daily Traffic (ADT) of 100 or more vehicles]. Subsurface Treatment Control BMPs which may endanger public safety (i.e., create an explosive environment) are considered not appropriate;

f) Restaurants (SIC 5812) [5,000 square feet or more of surface area];

g) Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces;

h) Projects located in, adjacent to or discharging directly to an ESA that meet threshold conditions identified above in 2.e; and

i) Redevelopment projects in subject categories that meet Redevelopment thresholds.

5. Not later than March 10, 2003, each Permittee shall require the implementation of SUSMP and post-construction control requirements for the industrial/commercial development category to projects that disturb one acre or more of surface area.

6. Site Specific Mitigation

Each Permittee shall, no later than September 2, 2002, require the implementation of a site-specific plan to mitigate post-development storm water for new development and redevelopment not requiring a SUSMP

but which may potentially have adverse impacts on post-development storm water quality, where one or more of the following project characteristics exist:

a) Vehicle or equipment fueling areas;

b) Vehicle or equipment maintenance areas, including washing and repair;

c) Commercial or industrial waste handling or storage;

d) Outdoor handling or storage of hazardous materials;

e) Outdoor manufacturing areas;

f) Outdoor food handling or processing;

g) Outdoor animal care, confinement, or slaughter; or

h) Outdoor horticulture activities.

7. Redevelopment Projects

The Permittees shall apply the SUSMP, or site specific requirements including post-construction storm water mitigation to all Planning Priority Projects that undergo significant Redevelopment in their respective categories.

a) Significant Redevelopment means land-disturbing activity that results in the creation or addition or replacement of 5,000 square feet or more of impervious surface area on an already developed site.

Where Redevelopment results in an alteration to more than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, the entire project must be mitigated. Where Redevelopment results in an alteration to less than fifty percent of impervious surfaces of a previously existing development, and the existing development was not subject to post development storm water quality control requirements, only the alteration must be mitigated, and not the entire development.

b) Redevelopment does not include routine maintenance activities that are conducted to maintain original line and grade, hydraulic capacity, original purpose of facility or emergency redevelopment activity required to protect public health and safety.

c) Existing single family structures are exempt from the Redevelopment requirements.

8. Maintenance Agreement and Transfer

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

a) The developer's signed statement accepting responsibility for maintenance until the responsibility is legally transferred; and either

b) A signed statement from the public entity assuming responsibility for Structural or Treatment Control BMP maintenance and that it meets all local agency design standards; or

c) Written conditions in the sales or lease agreement, which requires the recipient to assume responsibility for maintenance and conduct a maintenance inspection at least once a year; or

d) Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning maintenance responsibilities to the Home Owners Association for maintenance of the Structural and Treatment Control BMPs; or

e) Any other legally enforceable agreement that assigns responsibility for the maintenance of post-construction Structural or Treatment Control BMPs.

9. Regional Storm Water Mitigation Program

A Permittee or Permittee group may apply to the Regional Board for approval of a regional or sub-regional storm water mitigation program to substitute in part or wholly SUSMP requirements. Upon review and a determination by the Regional Board 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 and has secure funding; and

e) Be completed in five years including the construction and start-up of treatment facilities.

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

10. Mitigation Funding

The Permittees may propose a management framework, for endorsement by the Regional Board Executive Officer, to support regional or sub-

regional solutions to storm water pollution, where any of the following situations occur:

a) A waiver for impracticability is granted;

b) Legislative funds become available;

c) Off-site mitigation is required because of loss of environmental habitat; or

d) An approved watershed management plan or a regional storm water mitigation plan exists that incorporates an equivalent or improved strategy for storm water mitigation.

11. California Environmental Quality Act (CEQA) Document Update

Each Permittee shall incorporate into its CEQA process, with immediate effect, procedures for considering potential storm water quality impacts and providing for appropriate mitigation when preparing and reviewing CEQA documents. The procedures shall require consideration of the following:

a) Potential impact of project construction on storm water runoff;

b) Potential impact of project post-construction activity on storm water runoff;

c) Potential for discharge of storm water from areas from material storage, vehicle or equipment fueling, vehicle or equipment maintenance (including washing), waste handling, hazardous materials handling or storage, delivery areas or loading docks, or other outdoor work areas;

d) Potential for discharge of storm water to impair the beneficial uses of the receiving waters or areas that provide water quality benefit;

e) Potential for the discharge of storm water to cause significant harm on the biological integrity of the waterways and water bodies;

f) Potential for significant changes in the flow velocity or volume of storm water runoff that can cause environmental harm; and

g) Potential for significant increases in erosion of the project site or surrounding areas.

12. General Plan Update

a) Each Permittee shall amend, revise or update its General Plan to include watershed and storm water quality and quantity management considerations and policies when any of the following General Plan elements are updated or amended: (i) Land Use, (ii) Housing, (iii) Conservation, and (iv) Open Space.

b) Each Permittee shall provide the Regional Board with the draft amendment or revision when a listed General Plan element or the

General Plan is noticed for comment in accordance with Cal. Govt. Code § 65350 *et seq.*

13. Targeted Employee Training

Each Permittee shall train its employees in targeted positions (whose jobs or activities are engaged in development planning) regarding the development planning requirements on an annual basis beginning no later than August 1, 2002, and more frequently if necessary. For Permittees with a population of 250,000 or more (2000 U.S. Census), training shall be completed no later than February 3, 2003.

14. Developer Technical Guidance and Information

a) Each Permittee shall develop and make available to the developer community SUSMP (development planning) guidelines immediately.

b) The Principal Permittee in partnership with Permittees shall issue no later than February 2, 2004, a technical manual for the siting and design of BMPs for the development community in Los Angeles County. The technical manual may be adapted from the revised California Storm Water Quality Task Force Best Management Practices Handbooks scheduled for publication in September 2002. The technical manual shall at a minimum include:

(1) Treatment Control BMPs based on flow-based and volumetric water quality design criteria for the purposes of countywide consistency;

(2) Peak Flow Control criteria to control peak discharge rates, velocities and duration;

(3) Expected pollutant removal performance ranges obtained from national databases, technical reports and the scientific literature;

(4) Maintenance considerations; and

(5) Cost considerations.

E. Development Construction Program

1. Each Permittee shall implement a program to control runoff from construction activity at all construction sites within its jurisdiction. The program shall ensure the following minimum requirements are effectively implemented at all construction sites:

a) Sediments generated on the project site shall be retained using adequate Treatment Control or Structural BMPs;

b) Construction-related materials, wastes, spills, or residues shall be retained at the project site to avoid discharge to streets, drainage

facilities, receiving waters, or adjacent properties by wind or runoff;

c) Non-storm water runoff from equipment and vehicle washing and any other activity shall be contained at the project site; and

d) Erosion from slopes and channels shall be controlled by implementing an effective combination of BMPs (as approved in Regional Board Resolution No. 99-03), such as the limiting of grading scheduled during the wet season; inspecting graded areas during rain events; planting and maintenance of vegetation on slopes; and covering erosion susceptible slopes.

2. For construction sites one acre and greater, each Permittee shall comply with all conditions in section E.1. above and shall:

a) Require the preparation and submittal of a Local Storm Water Pollution Prevention Plan (Local SWPPP), for approval prior to issuance of a grading permit for construction projects.

The Local SWPPP shall include appropriate construction site BMPs and maintenance schedules. (A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP). The Local SWPPP must include the rationale used for selecting or rejecting BMPs. The project architect, or engineer of record, or authorized qualified designee, must sign a statement on the Local SWPPP to the effect:

"As the architect/engineer of record, I have selected appropriate BMPs to effectively minimize the negative impacts of this project's construction activities on storm water quality. The project owner and contractor are aware that the selected BMPs must be installed, monitored, and maintained to ensure their effectiveness. The BMPs not selected for implementation are redundant or deemed not applicable to the proposed construction activity."

The landowner or the landowner's agent shall sign a statement to the effect:

"I certify 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, to the best of my knowledge and belief, the information submitted is true, accurate, and complete. I am aware that submitting false and/or inaccurate information, failing to update the Local SWPPP to reflect current conditions, or failing to properly and/or adequately implement the Local SWPPP may result in revocation of grading and/or other permits or other sanctions provided by law."

The Local SWPPP certification shall be signed by the landowner as follows, for a corporation: by a responsible corporate officer which means (a) a president, secretary, treasurer, or vice president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation, or (b) the manager of the construction activity if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures; for a partnership or sole proprietorship: by a general partner or the proprietor; or for a municipality or other public agency: by an elected official, a ranking management official (e.g., County Administrative Officer, City Manager, Director of Public Works, City Engineer, District Manager), or the manager of the construction activity if authority to sign Local SWPPPs has been assigned or delegated to the manager in accordance with established agency policy.

b) Inspect all construction sites for storm water quality requirements during routine inspections a minimum of once during the wet season. The Local SWPPP shall be reviewed for compliance with local codes, ordinances, and permits. For inspected sites that have not adequately implemented their Local SWPPP, a follow-up inspection to ensure compliance will take place within 2 weeks. If compliance has not been attained, the Permittee will take additional actions to achieve compliance (as specified in municipal codes). If compliance has not been achieved, and the site is also covered under a statewide general construction storm water permit, each Permittee shall enforce their local ordinance requirements, and if non-compliance continues the Regional Board shall be notified for further joint enforcement actions.

c) Require, no later than March 10, 2003, prior to issuing a grading permit for all projects less than five acres requiring coverage under a statewide general construction storm water permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for permit coverage and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

3. For sites five acres and greater, each Permittee shall comply with all conditions in Sections E.1. and E.2. and shall:

a) Require, prior to issuing a grading permit for all projects requiring coverage under the state general permit, proof of a Waste Discharger Identification (WDID) Number for filing a Notice of Intent (NOI) for coverage under the GCASP and a certification that a SWPPP has been prepared by the project developer. A Local SWPPP may substitute for the State SWPPP if the Local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP.

b) Require proof of an NOI and a copy of the SWPPP at any time a transfer of ownership takes place for the entire development or portions of the common plan of development where construction activities are still on-going.

c) Use an effective system to track grading permits issued by each Permittee. To satisfy this requirement, the use of a database or GIS system is encouraged, but not required.

4. GCASP Violation Referrals

a) Referral of Violations of the SQMP, Regional Board Resolution 98-08, and municipal storm water ordinances:

A Permittee may refer a violation(s) to the Regional Board provided that the Permittee has made a good faith effort of progressive enforcement. At a minimum, a Permittee's good faith effort must include documentation of:

- Two follow-up inspections within 3 months, and
- Two warning letters or notices of violation.

b) Referral of Violations of GCASP Filing Requirements:

For those projects subject to the GCASP, Permittees shall refer non-filers (i.e., those projects which cannot demonstrate that they have a WDID number) to the Regional Board, within 15 days of making a determination. In making such referrals, Permittees shall include, at a minimum, the following documentation:

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

5. Each Permittee shall train employees in targeted positions (whose jobs or activities are engaged in construction activities including construction inspection staff) regarding the requirements of the storm water management program no later than August 1, 2002, and annually thereafter. For Permittees with a population of 250,000 or more (2000 U.S. Census), initial training shall be completed no later than February 3, 2003. Each Permittee shall maintain a list of trained employees.

F. Public Agency Activities Program

Each Permittee shall implement a Public Agency program to minimize storm water pollution impacts from public agency activities. Public Agency requirements consist of:

- Sewage Systems 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 Management
- Streets and Roads Maintenance
- Parking Facilities Management
- Public Industrial Activities Management
- Emergency Procedures
- Treatment Feasibility Study

1. Sewage System Maintenance, Overflow, and Spill Prevention

   a) Each Permittee shall implement a response plan for overflows of the sanitary sewer system within their respective jurisdiction, which shall consist at a minimum of the following:

      (1) Investigation of any complaints received;

      (2) Upon notification, immediate response to overflows for containment; and

      (3) Notification to appropriate sewer and public health agencies when a sewer overflows to the MS4.

   b) In addition to 1.a.1, 1.a.2, and 1.a.3 above, for those Permittees, which own and/or operate a sanitary sewer system, the Permittee shall also implement the following requirements:

      (1) Procedures to prevent sewage spills or leaks from sewage facilities from entering the MS4; and

      (2) Identify, repair, and remediate sanitary sewer blockages, exfiltration, overflow, and wet weather overflows from sanitary sewers to the MS4.

2. Public Construction Activities Management

   a) Each Permittee shall implement the Development Planning Program requirements (Permit Part 4.D) at public construction projects.

   b) Each Permittee shall implement the Development Construction Program requirements (Permit Part 4.E) at Permittee owned construction sites.

   c) Each Permittee shall obtain coverage under the GCASP for public construction sites 5 acres or greater (or part of a larger area of development) except that a municipality under 100,000 in population (1990 U.S. Census) need not obtain coverage under a separate permit until March 10, 2003.

   d) Each Permittee, no later than March 10, 2003, shall obtain coverage under a statewide general construction storm water permit for public construction sites for projects between one and five acres.

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

a) Each Permittee, consistent with the SQMP, shall implement SWPPPs for public vehicle maintenance facilities, material storage facilities, and corporation yards which have the potential to discharge pollutants into storm water.

b) Each Permittee shall implement BMPs to minimize pollutant discharges in storm water including but not be limited to:

(1) Good housekeeping practices;

(2) Material storage control;

(3) Vehicle leaks and spill control; and

(4) Illicit discharge control.

c) Each Permittee shall implement the following measures to prevent the discharge of pollutants to the MS4:

(1) 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:

(i) Self-contained;

(ii) Equipped with a clarifier;

(iii) Equipped with an alternative pre-treatment device; or

(iv) Plumbed to the sanitary sewer.

(2) For new facilities, or during redevelopment of existing facilities (including fire stations), all vehicle and equipment wash areas shall be plumbed to the sanitary sewer and be equipped with a pre-treatment device in accordance with requirements of the sewer agency.

4. Landscape and Recreational Facilities Management

Each Permittee shall implement the following requirements:

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

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

c) Ensure no application of pesticides or fertilizers immediately before, during, or immediately after a rain event or when water is flowing off the area to be applied;

d) Ensure that no banned or unregistered pesticides are stored or applied;

e) Ensure that staff applying pesticides are certified by the California Department of Food and Agriculture, or are under the direct supervision of a certified pesticide applicator;

f) Implement procedures to encourage retention and planting of native vegetation and to reduce water, fertilizer, and pesticide needs;

g) Store fertilizers and pesticides indoors or under cover on paved surfaces or use secondary containment;

h) Reduce the use, storage, and handling of hazardous materials to reduce the potential for spills; and

i) Regularly inspect storage areas.

5. Storm Drain Operation and Management

a) Each Permittee shall designate catch basin inlets within its jurisdiction as one of the following:

Priority A: Catch basins that are designated as consistently generating the highest volumes of trash and/or debris.

Priority B: Catch basins that are designated as consistently generating moderate volumes of trash and/or debris.

Priority C: Catch basins that are designated as generating low volumes of trash and/or debris.

b) Permittees subject to a trash TMDL (Los Angeles River and Ballona Creek WMAs) shall continue to implement the requirements listed below until trash TMDL implementation measures are adopted. Thereafter, the subject Permittees shall implement programs in conformance with the TMDL implementation schedule, which shall include an effective combination of measures such as street sweeping, catch basin cleaning, installation of treatment devices and trash receptacles, or other BMPs. Default requirements include:

(1) Inspection and cleaning of catch basins between May 1 and September 30 of each year;

(2) Additional cleaning of any catch basin that is at least 40% full of trash and/or debris;

(3) Record keeping of catch basins cleaned; and

(4) Recording of the overall quantity of catch basin waste collected.

If the implementation phase for the Los Angeles River and Ballona Creek Trash TMDLs has not begun by October 2003, subject Permittees shall implement the requirements described below in subsection 5(c), until such time programs in conformance with the subject Trash TMDLs are being implemented.

c) Permittees not subject to a trash TMDL shall:

(1) Clean catch basins according to the following schedule:

Priority A: A minimum of three times during the wet season and once during the dry season every year.

Priority B: A minimum of once during the wet season and once during the dry season every year.

Priority C: A minimum of once per year.

In addition to the schedule above, between February 1, 2002 and July 1, 2003, Permittees shall ensure that any catch basin that is at least 40% full of trash and/or debris shall be cleaned out. After July 1, 2003, Permittees shall ensure that any catch basin that is at least 25% full of trash and debris shall be cleaned out.

(2) For any special event that can be reasonably expected to generate substantial quantities of trash and litter, include provisions that require for the proper management of trash and litter generated, as a condition of the special use permit issued for that event. At a minimum, the municipality who issues the permit for the special event shall arrange for either temporary screens to be placed on catch basins or for catch basins in that area to be cleaned out subsequent to the event and prior to any rain event.

(3) Place trash receptacles at all transit stops within its jurisdiction that have shelters no later than August 1, 2002, and at all other transit stops within its jurisdiction no later than February 3, 2003. All trash receptacles shall be maintained as necessary.

d) Each Permittee shall inspect the legibility of the catch basin stencil or label nearest the inlet. Catch basins with illegible stencils shall be recorded and re-stenciled or re-labeled within 180 days of inspection.

e) Each Permittee shall implement BMPs for Storm Drain Maintenance that include:

(1) A program to visually monitor Permittee-owned open channels and other drainage structures for debris at least annually and identify and prioritize problem areas of illicit discharge for regular inspection;

(2) A review of current maintenance activities to assure that appropriate storm water BMPs are being utilized to protect water quality;

(3) Removal of trash and debris from open channel storm drains shall occur a minimum of once per year before the storm season;

(4) Minimize the discharge of contaminants during MS4 maintenance and clean outs; and

(5) Proper disposal of material removed.

6. Streets and Roads Maintenance

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

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

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

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

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

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

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

Priority C: These streets and/or street segments shall be swept as necessary but in no case less than once per year.

c) Each Permittee shall require that:

(1) Sawcutting wastes be recovered and disposed of properly and that in no case shall waste be left on a roadway or allowed to enter the storm drain;

(2) Concrete and other street and road maintenance materials and wastes shall be managed to prevent discharge to the MS4; and

(3) The washout of concrete trucks and chutes shall only occur in designated areas and never discharged to storm drains, open ditches, streets, or catch basins.

d) Each Permittee shall, no later than August 1, 2002, train their 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.

For Permittees with a population of 250,000 or more (2000 U.S. Census) training shall be completed no later than February 1, 2003.

7. Parking Facilities Management

Permittee-owned parking lots exposed to storm water shall be kept clear of debris and excessive oil buildup and cleaned no less than 2 times per month and/or inspected no less than 2 times per month to determine if cleaning is necessary. In no case shall a Permittee-owned parking lot be cleaned less than once a month.

8. Public Industrial Activities Management

Each Permittee shall, for any municipal activity considered a discharge of storm water associated with industrial activity, obtain separate coverage under the GIASP except that a municipality under 100,000 in population (1990 U.S. Census) need not file the Notice Of Intent to be covered by said permit until March 10, 2003 (with the exception of power plants, airports, and uncontrolled sanitary landfills).

9. Emergency Procedures

Each Permittee shall repair essential public services and infrastructure in a manner to minimize environmental damage in emergency situations such as: earthquakes; fires; floods; landslides; or windstorms. BMPs shall be implemented to the extent that measures do not compromise public health and safety. After initial emergency response or emergency repair activities have been completed, each Permittee shall implement BMPs and programs as required under this Order.

10. Treatment Feasibility Study

The Permittees in cooperation with the County Sanitation Districts of Los Angeles County shall conduct a study to investigate the possible diversion of dry weather discharges or the use of alternative Treatment Control BMPs to treat flows from their jurisdiction which may impact public health and safety and/or the environment. The Permittees shall collectively review their individual prioritized lists and create a watershed based priority list of drains for potential diversion or treatment and submit the priority listing to the Regional Board Executive Officer, no later than July 1, 2003.

G. Illicit Connections and Illicit Discharges Elimination Program

Permittees shall eliminate all illicit connections and illicit discharges to the storm drain system, and shall document, track, and report all such cases in accordance with the elements and performance measures specified in the following subsections.

1. General

a) Implementation: Each Permittee must develop an Implementation Program which specifies how each Permittee is implementing revisions to the IC/ID Program of the SQMP. This Implementation Program must be documented, and available for review and approval by the Regional Board Executive Officer, upon request.

b) Tracking: All Permittees shall, no later than February 3, 2003, develop and maintain a listing of all permitted connections to their storm drain system. All Permittees shall map at a scale and in a format specified by the Principal Permittee all illicit connections and discharges on their baseline maps, and shall transmit this information to the Principal Permittee. No later than February 3, 2003, the Principal Permittee shall use this information as well as results of baseline and priority screening for illicit connections (as set forth in subsection 2 below) to start an annual evaluation of patterns and trends of illicit connections and illicit discharges, with the objectives of identifying priority areas for elimination of illicit connections and illicit discharges.

c) Training: All Permittees shall train all targeted employees who are responsible for identification, investigation, termination, cleanup, and reporting of illicit connections and discharges. For Permittees with a population of less than 250,000 (2000 U.S. Census), training shall be completed no later than August 1, 2002. For Permittees with a population of 250,000 or more (2000 U.S. Census), training shall be completed no later than February 3, 2003. Furthermore, all Permittees shall conduct refresher training on an annual basis thereafter.

2. Illicit Connections

a) Screening for Illicit Connections

(1) Field Screening: All Permittees shall field Screen the storm drain system for illicit connections in accordance with the following schedule:

(i) Open channels: No later than February 3, 2003;

(ii) Underground pipes in priority areas: No later than February 1, 2005; and

(iii) Underground pipes with a diameter of 36 inches or greater: No later than December 12, 2006.

Permittees shall report, to the Principal Permittee, on the location and length of open channels or underground pipes that have been Screened *vis a vis* the entire storm drain network, and on the status of suspected, confirmed, and terminated illicit connections. Permittees shall maintain a list containing all permitted connections and the status of connections under investigation for possible illicit connection.

(2) Permit Screening: No later than December 12, 2006, Permittees shall complete a review of all permitted connections to the storm drain system, to confirm compliance with Part 1 (Discharge Prohibition).

b) Response to Illicit Connections

(1) Investigation: Upon discovery or upon receiving a report of a suspected illicit connection, 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.

(2) Termination: Upon confirmation of the illicit nature of a storm drain connection, Permittees shall ensure termination of the connection within 180 days, using enforcement authority as needed.

3. Illicit Discharges

a) Abatement and Cleanup: 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 all illicit discharges, including hazardous substances.

b) Investigation: Permittees shall investigate illicit discharges as soon as practicable (during or immediately following containment and cleanup activities), and shall take enforcement action as appropriate.

Part 5. DEFINITIONS

The following are definitions for terms applicable to this Order:

"Adverse Impact" means a detrimental effect upon water quality or beneficial uses caused by a discharge or loading of a pollutant or pollutants.

"Anti-degradation policies" means the *Statement of Policy with Respect to Maintaining High Quality Water in California* (State Board Resolution No. 68-16) which protects surface and ground waters from degradation. In particular, this policy protects waterbodies where existing quality is higher than that necessary for the protection of beneficial uses including the protection of fish and wildlife propagation and recreation on and in the water.

"Applicable Standards and Limitations" means all State, interstate, and federal standards and limitations to which a "discharge" or a related activity is subject under the CWA, including "effluent limitations, "water quality standards, standards of performance, toxic effluent standards or prohibitions, "best management practices," and pretreatment standards under sections 301, 302, 303, 304, 306, 307, 308, 403 and 404 of CWA.

"**Areas of Special Biological Significance (ASBS)**" means all those areas of this state as ASBS, listed specifically within the California Ocean Plan or so designated by the State Board which, among other areas, includes the area from Mugu Lagoon to Latigo Point: Oceanwater within a line originating from Laguna Point at 34° 5' 40" north, 119° 6'30" west, thence southeasterly following the mean high tideline to a point at Latigo Point defined by the intersection of the meanhigh tide line and a line extending due south of Benchmark 24; thence due south to a distance of 1000 feet offshore or to the 100 foot isobath, whichever distance is greater; thence northwesterly following the 100 foot isobath or maintaining a 1,000-foot distance from shore, whichever maintains the greater distance from shore, to a point lying due south of Laguna Point, thence due north to Laguna Point.

"Authorized Discharge" means any discharge that is authorized pursuant to an NPDES permit or meets the conditions set forth in this Order.

"**Automotive Service Facilities**" means a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 5511, 7532-7534, or 7536-7539. For inspection purposes, Permittees need not inspect facilities with SIC codes 5013, 5014, 5541, 5511, provided that these facilities have no outside activities or materials that may be exposed to storm water.

"Basin Plan" means the Water Quality Control Plan, Los Angeles Region, Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties, adopted by the Regional Board on June 13, 1994 and subsequent amendments.

"Beneficial Uses" means the existing or potential uses of receiving waters in the permit area as designated by the Regional Board in the Basin Plan.

"Best Management Practices (BMPs)" means methods, measures, or practices designed and selected to reduce or eliminate the discharge of pollutants to surface waters from point and nonpoint source discharges including storm water. BMPs include structural and nonstructural controls, and operation and maintenance procedures, which can be applied before, during, and/or after pollution producing activities.

"Commercial Development" means any development on private land that is not heavy industrial or residential. The category includes, but is not limited to: hospitals, laboratories and other medical facilities, educational institutions, recreational facilities, plant nurseries, car wash facilities, mini-malls and other business complexes, shopping malls, hotels, office buildings, public warehouses and other light industrial complexes.

"Construction" means constructing, clearing, grading, or excavation that results in soil disturbance. Construction includes structure teardown. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility; emergency construction activities required to immediately protect public health and safety; interior remodeling with no outside exposure of construction material or construction waste to storm water; mechanical permit work; or sign permit work.

"Control" means to minimize, reduce, eliminate, or prohibit by technological, legal, contractual or other means, the discharge of pollutants from an activity or activities.

"Dechlorinated/Debrominated Swimming Pool Discharge" means swimming pool discharges which have no measurable chlorine or bromine and do not contain any detergents, wastes, or additional chemicals not typically found in swimming pool water. The term does not include swimming pool filter backwash.

"Development" means any construction, rehabilitation, redevelopment or reconstruction of any public or private residential project (whether single-family, multi-unit or planned unit development); industrial, commercial, retail and other non-residential projects, including public agency projects; or mass grading for future construction. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Directly Adjacent" means situated within 200 feet of the contiguous zone required for the continued maintenance, function, and structural stability of the environmentally sensitive area.

"Director" means the Director of a municipality and Person(s) designated by and under the Director's instruction and supervision.

"Discharge" means when used without qualification the "discharge of a pollutant."

"Discharging Directly" means outflow from a drainage conveyance system that is composed entirely or predominantly of flows from the subject, property, development, subdivision, or industrial facility, and not commingled with the flows from adjacent lands.

"Discharge of a Pollutant" means: any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source" or, any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. The term discharge includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works.

"Disturbed Area" means an area that is altered as a result of clearing, grading, and/or excavation.

"Dry Weather" means those days with less than 0.1 inch of rainfall, and occurring more than three days after a Rain Day.

"Environmentally Sensitive Areas (ESAs)" means an area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would be easily disturbed or degraded by human activities and developments (California Public Resources Code § 30107.5). Areas subject to storm water mitigation requirements are: areas designated as Significant Ecological Areas by the County of Los Angeles (*Los Angeles County Significant Areas Study, Los Angeles County Department of Regional Planning (1976)* and amendments); an area designated as a Significant Natural Area by the California Department of Fish and Game's Significant Natural Areas Program, provided that area has been field verified by the Department of Fish and Game; an area listed in the Basin Plan as supporting the "Rare, Threatened, or Endangered Species (RARE)" beneficial use; and an area identified by a Permittee as environmentally sensitive.

"General Construction Activities Storm Water Permit (GCASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from construction activities under certain conditions.

"General Industrial Activities Storm Water Permit (GIASP)" means the general NPDES permit adopted by the State Board which authorizes the discharge of storm water from certain industrial activities under certain conditions.

"Hillside" means property located in an area with known erosive soil conditions, where the development contemplates grading on any natural slope that is 25% or greater and where grading contemplates cut or fill slopes.

"Illicit Connection" means any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system.

"Illicit Discharge" means any discharge to the storm drain system that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term illicit discharge includes all non storm-water discharges except discharges pursuant to an NPDES permit, discharges that are identified in Part 1, "Discharge Prohibitions" of this order, and discharges authorized by the Regional Board Executive Officer.

"Illicit Disposal" means any disposal, either intentionally or unintentionally, of material(s) or waste(s) that can pollute storm water.

"Industrial/Commercial Facility" means any facility involved and/or used in the production, manufacture, storage, transportation, distribution, exchange or sale of goods and/or commodities, and any facility involved and/or used in providing professional and non-professional services. This category of facilities includes, but is not limited to, any facility defined by the Standard Industrial Classifications (SIC). Facility ownership (federal, state, municipal, private) and profit motive of the facility are not factors in this definition.

"Infiltration" means the downward entry of water into the surface of the soil.

"Inspection" means entry and the conduct of an on-site review of a facility and its operations, at reasonable times, to determine compliance with specific municipal or other legal requirements. The steps involved in performing an inspection, include, but are not limited to:

1. Pre-inspection documentation research.;
2. Request for entry;
3. Interview of facility personnel;
4. Facility walk-through.
5. Visual observation of the condition of facility premises;
6. Examination and copying of records as required;
7. Sample collection (if necessary or required);
8. Exit conference (to discuss preliminary evaluation); and,
9. Report preparation, and if appropriate, recommendations for coming into compliance.

In the case of restaurants, a Permittee may conduct an inspection from the curbside, provided that such "curbside" inspection provides the Permittee with adequate information to determine an operator's compliance with BMPs that must be implemented per requirements of this Order, Regional Board Resolution 98-08, County and municipal ordinances, and the SQMP.

"Large Municipal Separate Storm Sewer System (MS4)" means all MS4s that serve a population greater than 250,000 (1990 Census) as defined in 40 CFR 122.26 (b)(4). The Regional Board designated Los Angeles County as a large MS4 in 1990, based on: (i) the U.S. Census Bureau 1990 population count of 8.9 million, and (ii) the interconnectivity of the MS4s in the incorporated and unincorporated areas within the County.

"Local SWPPP" means the Storm Water Pollution Prevention Plan required by the local agency for a project that disturbs one or more acres of land.

"Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 402(p)(3)(B)(iii) requires

that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. See also State Board Order WQ 2000-11 at page 20.

"Method Detection Limit (MDL)" means the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 CFR 136, Appendix B.

"Minimum Level (ML)" means the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the 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.

"Municipal Separate Storm Sewer System (MS4)" means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, alleys, catch basins, curbs, gutters, ditches, manmade channels, or storm drains) owned by a State, city, county, town or other public body, that is designed or used for collecting or conveying storm water, which is not a combined sewer, and which is not part of a publicly owned treatment works, and which discharges to Waters of the United States.

"National Pollutant Discharge Elimination System (NPDES)" means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under CWA §307, 402, 318, and 405. The term includes an "approved program."

"Natural Drainage Systems" means unlined or unimproved (not engineered) creeks, streams, rivers or similar waterways.

"New Development" means land disturbing activities; structural development, including construction or installation of a building or structure, creation of impervious surfaces; and land subdivision.

"Non-Storm Water Discharge" means any discharge to a storm drain that is not composed entirely of storm water.

"Nuisance" means anything that meets all of the following requirements: (1) is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property; (2) affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal.; (3) occurs during, or as a result of, the treatment or disposal of wastes.

"Parking Lot" means land area or facility for the parking or storage of motor vehicles used for businesses, commerce, industry, or personal use, with a lot size of 5,000 square feet or more of surface area, or with 25 or more parking spaces.

"Permittee(s)" means Co-Permittees and any agency named in this Order as being responsible for permit conditions within its jurisdiction. Permittees to this Order include the Los Angeles County Flood Control District, Los Angeles County, and the cities of Agoura Hills, Alhambra, Arcadia, Artesia, Azusa, Baldwin Park, Bellflower, Bell Gardens, Beverly Hills, Bradbury, Burbank, Calabasas, Carson, Cerritos, Claremont, Commerce, Compton, Covina, Cudahy, Culver City, Diamond Bar, Downey, Duarte, El Monte, El Segundo, Gardena, Glendale, Glendora, Hawaiian Gardens, Hawthorne, Hermosa Beach, Hidden Hills, Huntington Park, Industry, Inglewood, Irwindale, La Canada Flintridge, La Habra Heights, Lakewood, La Mirada, La Puente, La Verne, Lawndale, Lomita, Los Angeles, Lynwood, Malibu, Manhattan Beach, Maywood, Monrovia, Montebello, Monterey Park, Norwalk, Palos Verdes Estates, Paramount, Pasadena, Pico Rivera, Pomona, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, Rosemead, San Dimas, San Fernando, San Gabriel, San Marino, Santa Clarita, Santa Fe Springs, Santa Monica, Sierra Madre, Signal Hill, South El Monte, South Gate, South Pasadena, Temple City, Torrance, Vernon, Walnut, West Covina, West Hollywood, Westlake Village, and Whittier.

"Planning Priority Projects" means those projects that are required to incorporate appropriate storm water mitigation measures into the design plan for their respective project. These types of projects include:

1. Ten or more unit homes (includes single family homes, multifamily homes, condominiums, and apartments)
2. A 100,000 or more square feet of impervious surface area industrial/ commercial development (1 ac starting March 2003)
3. Automotive service facilities (SIC 5013, 5014, 5541, 7532-7534, and 7536-7539)
4. Retail gasoline outlets
5. Restaurants (SIC 5812)
6. Parking lots 5,000 square feet or more of surface area or with 25 or more parking spaces
7. Redevelopment projects in subject categories that meet Redevelopment thresholds
8. Projects located in or directly adjacent to or discharging directly to an ESA, which meet thresholds; and
9. Those projects that require the implementation of a site-specific plan to mitigate post-development storm water for new development not requiring a SUSMP but which may potentially have adverse impacts on post-development storm water quality, where the following project characteristics exist:

a) Vehicle or equipment fueling areas;
b) Vehicle or equipment maintenance areas, including washing and repair;
c) Commercial or industrial waste handling or storage;
d) Outdoor handling or storage of hazardous materials;
e) Outdoor manufacturing areas;
f) Outdoor food handling or processing;
g) Outdoor animal care, confinement, or slaughter; or
h) Outdoor horticulture activities.

"Pollutants" means those "pollutants" defined in CWA §502(6) (33.U.S.C.§1362(6)), and incorporated by reference into California Water Code §13373.

"Potable Water Distribution Systems Releases" means sources of flows from drinking water storage, supply and distribution systems including flows from system failures, pressure releases, system maintenance, distribution line testing, fire hydrant flow testing; and flushing and dewatering of pipes, reservoirs, vaults, and minor non-invasive well maintenance activities not involving chemical addition(s). It does not include wastewater discharges from activities that occur at wellheads, such as well construction, well development (i.e., aquifer pumping tests, well purging, etc.), or major well maintenance.

"Project" means all development, redevelopment, and land disturbing activities. The term is not limited to "Project" as defined under CEQA (Pub. Resources Code §21065).

"Rain Days" are those days with greater than or equal to 0.1 inch of rainfall.

"Rain Event" means any rain event greater than 0.1 inch in 24 hours except where specifically stated otherwise.

"Rare, Threatened, or Endangered Species (RARE)" means a beneficial use for waterbodies in the Los Angeles Region, as designated in the Basin Plan (Table 2-1), that supports habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened, or endangered.

"Receiving Waters" means all surface water bodies in the Los Angeles Region that are identified in the Basin Plan.

"Redevelopment" means land-disturbing activity that results in the creation, addition, or replacement of 5,000 square feet or more of impervious surface area on an already developed site. Redevelopment includes, but is not limited to: the expansion of a building footprint; addition or replacement of a structure; replacement of impervious surface area that is not part of a routine maintenance activity; and land disturbing activities related to structural or impervious surfaces. It does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of facility, nor does it include emergency construction activities required to immediately protect public health and safety.

"Regional Administrator" means the Regional Administrator of the Regional Office of the USEPA or the authorized representative of the Regional Administrator.

December 13, 2001 (As amended on September 14, 2006 by Order R4-2006-0074 and on August 9, 2007 by Order R4-2007-0042)

"Restaurant" means 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).

"Retail Gasoline Outlet" means any facility engaged in selling gasoline and lubricating oils.

"Runoff" means any runoff including storm water and dry weather flows from a drainage area that reaches a receiving water body or subsurface. During dry weather it is typically comprised of base flow either contaminated with pollutants or uncontaminated, and nuisance flows.

"Screening" means using proactive methods to identify illicit connections through a continuously narrowing process. The methods may include: performing baseline monitoring of open channels, conducting special investigations using a prioritization approach, analyzing maintenance records for catch basin and storm drain cleaning and operation, and verifying all permitted connections into the storm drains. Special investigation techniques may include: dye testing, visual inspection, smoke testing, flow monitoring, infrared, aerial and thermal photography, and remote control camera operation.

"Sidewalk Rinsing" means pressure washing of paved pedestrian walkways with average water usage of 0.006 gallons per square foot, with no cleaning agents, and properly disposing of all debris collected, as authorized under Regional Board Resolution No. 98-08.

"Significant Ecological Area (SEA)" means an area that is determined to possess an example of biotic resources that cumulatively represent biological diversity, for the purposes of protecting biotic diversity, as part of the Los Angeles County General Plan.[6]
Areas are designated as SEAs, if they possess one or more of the following criteria:

1. The habitat of rare, endangered, and threatened plant and animal species.
2. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind, or are restricted in distribution on a regional basis.
3. Biotic communities, vegetative associations, and habitat of plant and animal species that are either one of a kind or are restricted in distribution in Los Angeles County.
4. Habitat that at some point in the life cycle of a species or group of species, serves as a concentrated breeding, feeding, resting, migrating grounds and is limited in availability either regionally or within Los Angeles County.
5. Biotic resources that are of scientific interest because they are either an extreme in physical/geographical limitations, or represent an unusual variation in a population or community.
6. Areas important as game species habitat or as fisheries.

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[6] The 61 existing SEAs represent the findings of a study that was completed in 1976 by England and Nelson, Environmental Consultants, as amended through the adoption of a revised Los Angeles County General Plan in 1980. The results of an update study to evaluate existing SEAs within unincorporated Los Angeles County is currently being proposed to the Los Angeles County Planning Commission (*Los Angeles County Significant Ecological Area Update Study 2000, Background Report*, PCR Services Corporation). The *Update Study 2000*, which contains existing and proposed SEA boundaries, can be downloaded from the Los Angeles County Department of Planning website at http://planning.co.la.ca.us/drp_revw.html#SEA

7. Areas that would provide for the preservation of relatively undisturbed examples of natural biotic communities in Los Angeles County.
8. Special areas.[7]

"Significant Natural Area (SNA)" means an area defined by the California Department of Fish and Game (DFG), Significant Natural Areas Program, as an area that contains an important example of California's biological diversity. The most current SNA maps, reports, and descriptions can be downloaded from the DFG website at ftp://maphost.dfg.ca.gov/outgoing/whdab/sna/. These areas are identified using the following biological criteria only, irrespective of any administrative or jurisdictional considerations:

1. Areas supporting extremely rare species or habitats.
2. Areas supporting associations or concentrations of rare species or habitats.
3. Areas exhibiting the best examples of rare species and habitats in the state.

"Site" means the land or water area where any "facility or activity" is physically located or conducted, including adjacent land used in connection with the facility or activity.

"Source Control BMP" means any schedules of activities, prohibitions of practices, maintenance procedures, managerial practices or operational practices that aim to prevent storm water pollution by reducing the potential for contamination at the source of pollution.

"SQMP" means the Los Angeles Countywide Stormwater Quality Management Program.

"State Storm Water Pollution Prevention Plan (State SWPPP)" means a plan, as required by a State General Permit, identifying potential pollutant sources and describing the design, placement and implementation of BMPs, to effectively prevent non-stormwater Discharges and reduce Pollutants in Stormwater Discharges during activities covered by the General Permit.

"Storm Water" means storm water runoff, snow melt runoff, and surface runoff and drainage.

"Storm Water Discharge Associated with Industrial Activity" means industrial discharge as defined in 40 CFR 122.26(b)(14)

"Stormwater Quality Management Program" means the Los Angeles Countywide Stormwater Quality Management Program, which includes descriptions of programs, collectively developed by the Permittees in accordance with provisions of the NPDES Permit, to comply with applicable federal and state law, as the same is amended from time to time.

"Structural BMP" means any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution (e.g. canopy, structural enclosure). The category may include both Treatment Control BMPs and Source Control BMPs.

"Summer Dry Weather" means Dry Weather days occurring from April 1 through October 31 of each year.

[7] These criteria from the 1976 study have been modified in the *Update Study 2000*.

"SUSMP" means the Los Angeles Countywide Standard Urban Stormwater Mitigation Plan. The SUSMP shall address conditions and requirements of new development.

"Total Maximum Daily Load (TMDL)" means the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background.

"Toxicity Identification Evaluation (TIE)" means a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.

"Toxicity Reduction Evaluation (TRE)" means a study conducted in a step-wise process to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

"Treatment" means the application of engineered systems that use physical, chemical, or biological processes to remove pollutants. Such processes include, but are not limited to, filtration, gravity settling, media absorption, biodegradation, biological uptake, chemical oxidation and UV radiation.

"Treatment Control BMP" means any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

"USEPA Phase I Facilities" means facilities in specified industrial categories that are required to obtain an NPDES permit for storm water discharges, as required by 40 CFR 122.26(c). These categories include:

i. facilities subject to storm water effluent limitation guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR N)
ii. manufacturing facilities
iii. oil and gas/mining facilities
iv. hazardous waste treatment, storage, or disposal facilities
v. landfills, land application sites, and open dumps
vi. recycling facilities
vii. steam electric power generating facilities
viii. transportation facilities
ix. sewage of wastewater treatment works
x. light manufacturing facilities

"Vehicle Maintenance/Material Storage Facilities/Corporation Yards" means any Permittee owned or operated facility or portion thereof that:

i. Conducts industrial activity, operates equipment, handles materials, and provides services similar to Federal Phase I facilities;
ii. Performs fleet vehicle service/maintenance on ten or more vehicles per day including repair, maintenance, washing, and fueling;
iii. Performs maintenance and/or repair of heavy industrial machinery/equipment ; and
iv. Stores chemicals, raw materials, or waste materials in quantities that require a hazardous materials business plan or a Spill Prevention, Control , and Counter-measures (SPCC) plan.

December 13, 2001 (As amended on September 14, 2006 by Order R4-2006-0074 and on August 9, 2007 by Order R4-2007-0042)

"Water Quality Standards and Water Quality Objectives" means water quality criteria contained in the Basin Plan, the California Ocean Plan, the National Toxics Rule, the California Toxics Rule, and other state or federally approved surface water quality plans. Such plans are used by the Regional Board to regulate all discharges, including storm water discharges.

"Waters of the State" means any surface water or groundwater, including saline waters, within boundaries of the state.

"Waters of the United States" or "Waters of the U.S." means:

a. All waters that are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;
b. All interstate waters, including interstate "wetlands";
c. All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands," sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation, or destruction of which would affect or could affect interstate or foreign commerce including any such waters:
    1. Which are or could be used by interstate or foreign travelers for recreational or other purposes;
    2. From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or
    3. Which are used or could be used for industrial purposes by industries in interstate commerce;
d. All impoundments of waters otherwise defined as waters of the United States under this definition;
e. Tributaries of waters identified in paragraphs (a) through (d) of this definition;
f. The territorial sea; and
g. "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraph (a) through (f) of this definition.

Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with USEPA.

"Wave Wash" means the point at which a storm drain or creek empties and the effluent from the storm drain initially mixes with the receiving ocean water.

"Wet Season" means the calendar period beginning October 1 through April 15.

Part 6. STANDARD PROVISIONS

A. Standard Requirements

1. Each Permittee shall comply with all provisions and requirements of this permit.

2. Should a Permittee discover a failure to submit any relevant facts or that it submitted incorrect information in a report, it shall promptly submit the missing or correct information.

3. Each Permittee shall report all instances of non-compliance not otherwise reported at the time monitoring reports are submitted.

4. This Order includes the attached Monitoring and Reporting Program, and SUSMP(Regional Board Resolution No. R00-02), which are a part of the permit and must be complied with in the same manner as with the rest of the requirements in the permit.

B. Regional Board Review

Any formal determination or approval made by the Regional Board Executive Officer pursuant to the provisions of this Order may be reviewed by the Regional Board. A Permittee(s) or a member of the public may request such review upon petition within 30 days of the effective date of the notification of such decision to the Permittee(s) and interested parties on file at the Regional Board.

C. Public Review

1. All documents submitted to the Regional Board in compliance with the terms and conditions of this Order shall be made available to members of the public pursuant to the Freedom of Information Act (5 U.S.C. § 552 (as amended) and the Public Records Act (Cal. Government Code § 6250 *et seq.*).

2. All documents submitted to the Regional Board Executive Officer for approval shall be made available to the public for a 30-day period to allow for public comment.

D. Duty to Comply

1. Each Permittee must comply with all of the terms, requirements, and conditions of this Order. Any violation of this order constitutes a violation of the Clean Water Act, its regulations and the California Water Code, and is grounds for enforcement action, Order termination, Order revocation and reissuance, denial of an application for reissuance; or a combination thereof [40 CFR 122.41(a), CWC § 13261, 13263, 13265, 13268, 13300, 13301, 13304, 13340, 13350].

2. A copy of these waste discharge specifications shall be maintained by each Permittee so as to be available during normal business hours to Permittee employees and members of the public.

3. Any discharge of wastes at any point(s) other than specifically described in this Order is prohibited, and constitutes a violation of the Order.

E. Duty to Mitigate [40 CFR 122.41 (d)]

Each Permittee shall take all reasonable steps to minimize or prevent any discharge that has a reasonable likelihood of adversely affecting human health or the environment.

F. Inspection and Entry [40 CFR 122.41(i), CWC § 13267]

The Regional Board, USEPA, and other authorized representatives shall be allowed:

1. Entry upon premises where a regulated facility is located or conducted, or where records are kept under conditions of this Order;

2. Access to copy any records, at reasonable times, that are kept under the conditions of this Order;

3. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and,

4. To photograph, sample, and monitor at reasonable times for the purpose of assuring compliance with this Order, or as otherwise authorized by the CWA and the CWC.

G. Proper Operation and Maintenance [40 CFR 122.41 (e), CWC § 13263(f)]

The Permittees shall at all times properly operate and maintain all facilities and systems of treatment (and related appurtenances) that are installed or used by the Permittees to achieve compliance with this Order. Proper operation and maintenance includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar system that are installed by a Permittee only when necessary to achieve compliance with the conditions of this Order.

H. Signatory Requirements [40 CFR 122.41(k) & 122.22]

Except as otherwise provided in this Order, all applications, reports, or information submitted to the Regional Board shall be signed by the Director of Public Works, City Engineer, or authorized designee and certified as set forth in 40 CFR 122.22.

I. Reopener and Modification [40 CFR 122.41(f) & 122.62]

1. This Order may only be modified, revoked, or reissued, prior to the expiration date, by the Regional Board, in accordance with the procedural requirements of the CWC and CCR Title 23 for the issuance of waste

discharge requirements, 40 CFR 122.62, and upon prior notice and hearing, to:

a) Address changed conditions identified in the required reports or other sources deemed significant by the Regional Board;

b) Incorporate applicable requirements or statewide water quality control plans adopted by the State Board or amendments to the Basin Plan;

c) Comply with any applicable requirements, guidelines, and/or regulations issued or approved pursuant to CWA Section 402(p); and/or,

d) Consider any other federal, or state laws or regulations that became effective after adoption of this Order.

2. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

a) Violation of any term or condition contained in this Order;

b) Obtaining this Order by misrepresentation, or failure to disclose all relevant facts; or,

c) A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

3. The filing of a request by the Principal Permittee or Permittees for a modification, revocation and re-issuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any condition of this Order.

4. This Order may be modified to make corrections or allowances for changes in the permitted activity listed in this section, following the procedures at 40 CFR 122.63, if processed as a minor modification. Minor modifications may only:

a) Correct typographical errors, or

b) Require more frequent monitoring or reporting by the Permittee.

J. Severability

The provisions of this permit are severable; and if any provision of this permit or the application of any provision of this permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected.

K. Duty to Provide Information [40 CFR 122.41(h)]

The Permittees shall furnish, within a reasonable time, any information the Regional Board or USEPA may request to determine whether cause exists for

modifying, revoking and reissuing, or terminating this Order. The Permittees shall also furnish to the Regional Board, upon request, copies of records required to be kept by this Order.

L. Twenty-four Hour Reporting [40 CFR 122.41(l)(6)][8]

1. The Permittees shall report to the Regional Board any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time any Permittee becomes aware of the circumstances. A written submission shall also be provided within five days of the time the Permittee becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
2. The Regional Board may waive the required written report on a case-by-case basis.

M. Bypass [40 CFR 122.41(m)][9]

Bypass (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Regional Board may take enforcement action against Permittees for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);
2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventive maintenance;
3. The Permittee submitted a notice at least ten days in advance of the need for a bypass to the Regional Board; or,

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[8] This provision applies to incidents where effluent limitations (numerical or narrative) as provided in this Order or in the Los Angeles County SQMP are exceeded, and which endanger public health or the environment.

[9] This provision applies to the operation and maintenance of storm water controls and BMPs as provided in this Order or in the SQMP.

4. Permittees may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The Permittee shall submit notice of an unanticipated bypass as required.

N. Upset [40 CFR 122.41(n)][10]

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1. A Permittee that wishes to establish the affirmative defense of an upset in an action brought for non compliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a) An upset occurred and that the Permittee can identify the cause(s) of the upset;

   b) The permitted facility was being properly operated by the time of the upset;

   c) The Permittee submitted notice of the upset as required; and,

   d) The Permittee complied with any remedial measures required.

2. No determination made before an action for noncompliance, such as during administrative review of claims that non-compliance was caused by an upset, is final administrative action subject to judicial review.

3. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

O. Property Rights [40 CFR 122.41(g)]

This Order does not convey any property rights of any sort, or any exclusive privilege.

P. Enforcement

1. Violation of any of the provisions of the NPDES permit or any of the provisions of this Order may subject the violator to any of the penalties described herein, or any combination thereof, at the discretion of the

[10] *Supra.* See footnote number 3.

prosecuting authority; except that only one kind of penalties may be applied for each kind of violation. The CWA provides the following:

a) Criminal Penalties for:

(1) Negligent Violations:

The CWA provides that any person who negligently violates permit conditions implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a fine of not less than $2,500 nor more than $25,000 per day for each violation, or by imprisonment for not more than 1 year, or both.

(2) Knowing Violations:

The CWA provides that any person who knowingly violates permit conditions implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a fine of not less than $5,000 nor more than $50,000 per day of violation, or by imprisonment for not more than 3 years, or both.

(3) Knowing Endangerment:

The CWA provides that any person who knowingly violates permit conditions implementing § 301, 302, 307, 308, 318, or 405 and who knows at that time that he is placing another person in imminent danger of death or serious bodily injury is subject to a fine of not more than $250,000, or by imprisonment for not more than 15 years, or both.

(4) False Statement:

The CWA provides that any person who knowingly makes any false material statement, representation, or certification in any application, record, report, plan, or other document filed or required to be maintained under the Act or who knowingly falsifies, tampers with, or renders inaccurate, any monitoring device or method required to be maintained under the Act, shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years, or by both. If a conviction is for a violation committed after a first conviction of such person under this paragraph, punishment shall be by a fine of not more than $20,000 per day of violation, or by imprisonment of not more than four years, or by both. (See CWA § 309(c)(4))

b) Civil Penalties

The CWA provides that any person who violates a permit condition implementing § 301, 302, 306, 307, 308, 318, or 405 is subject to a civil penalty not to exceed $27,500 per day for each violation.

2. The CWC provides that any person who violates a waste discharge requirement provision of the CWC is subject to civil penalties of up to $5,000 per day, $10,000 per day, or $25,000 per day of violation; or when the violation involves the discharge of pollutants, is subject to civil penalties of up to $10 per gallon per day or $25 per gallon per day of

violation; or some combination thereof, depending on the violation or combination of violations.

Q. Need to Halt or Reduce Activity not a Defense [40 CFR 122.41(c)]

It shall not be a defense for a Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order.

R. Rescission

Regional Board Order No. 96-054 is hereby rescinded.

S. Expiration

This Order expires on December 12, 2006. The Permittees must submit a Report of Waste Discharges and a proposed Storm Water Quality Management Program in accordance with CCR Title 23 as application for reissuance of waste discharge requirements no later than June 12, 2006.

I, Dennis A. Dickerson, Regional Board 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, Los Angeles Region, on December 13, 2001.

_____

Dennis A. Dickerson
Executive Officer

December 13, 2001 (As amended on September 14, 2006 by Order R4-2006-0074 and on August 9, 2007 by Order R4-2007-0042)

FACT SHEET/STAFF REPORT

FOR THE

COUNTY OF LOS ANGELES MUNICIPAL STORM WATER NPDES PERMIT (CAS004001) ORDER No. 01-182

December 13, 2001

Los Angeles Regional Water Quality Control Board

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FACT SHEET/STAFF REPORT

State of California
California Regional Water Quality Control Board Los Angeles Region
National Pollutant Discharge Elimination System (NPDES)
Permit No. CAS004001, CI 6948
Regional Board Order No. 01-182

I. PURPOSE

The purpose of this Fact Sheet/Staff Report is to give the Permittees and interested parties an overview of the final NPDES storm water permit for the County of Los Angeles and the incorporated cities (except Long Beach), adopted on December 13, 2001, as well as to provide the technical basis for the permit requirements. Sections I through IV describe water quality problems from storm water and urban runoff, and permit conditions to address these problems. Sections V and VI discuss each major element of the Permittees' Storm Water Quality Management Plan (SQMP), and are meant to be used as a companion reference document to the permit. Section VII addresses changes that were made at the December 13, 2001 Regional Board Meeting.

II. INTRODUCTION - THE NEED TO REGULATE STORM WATER DISCHARGES

A. Impacts

The quality of storm water and urban runoff is fundamentally important to the health of the environment and the quality of life in Southern California. Polluted storm water runoff is a leading cause of water quality impairment in the Los Angeles Region. Storm water and urban runoff (during dry and wet weather) are often contaminated with pesticides, fertilizers, animal droppings, trash, food wastes, automotive byproducts, and many other toxic substances generated by our urban environment. Water that flows over streets, parking lots, construction sites, and industrial, commercial, residential, and municipal areas carries these untreated pollutants through the storm drain networks directly into the receiving waters of the Region. The water quality impacts and increased public health risks from Municipal Separate Storm Sewer System (MS4) discharges that affect receiving waters nationwide and Los Angeles County and its coastline are well documented.

The **National Urban Runoff Program** (NURP) Study (USEPA 1983) showed that MS4 discharges draining from residential, commercial, and light industrial areas contain significant loadings of total suspended solids and other pollutants. Although the NURP Study did not cover industrial sites, the study suggested that runoff from industrial sites may have significantly higher contaminant levels than runoff from other urban land use sites. Several studies tend to support this observation, for e.g., the City of Fresno, California, a NURP project site, industrial areas there had the poorest storm water quality of the four land-uses evaluated. The study found that pollutant levels from illicit discharges were high enough to significantly degrade receiving water quality, and threaten aquatic life, wildlife, and human health.

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The 1992, 1994, and 1996 National Water Quality Inventory Reports to Congress prepared by USEPA showed a trend of impairment in the Nation's waters from contaminated storm water and urban runoff. The recent 1998 National Water Quality Inventory (305(b) Report)[1] showed that urban runoff/storm water discharges affect 11% of rivers, 12% of lakes, and 28% of estuaries. The report states that ocean shoreline impairment due to urban runoff/storm sewers increased from 55% in 1996 to 63% in 1998. The report notes that urban runoff and storm water discharges are the leading source of pollution and the main factor in the degradation of surface water quality[2] in California's coastal waters, rivers and streams.

The Natural Resources Defense Council (NRDC) 1999 Report, "**Stormwater Strategies, Community Responses to Runoff Pollution**"[3] identifies two main causes of the storm water pollution problem in urban areas. Both causes are directly related to development in urban and urbanizing areas:

1. Increased volume and velocity of surface runoff. There are three types of human-made impervious covers that increase the volume and velocity of runoff: (i) rooftop, (ii) transportation imperviousness, and (iii) non-porous (impervious) surfaces. As these impervious surfaces increase, infiltration will decrease, forcing more water to run off the surface, picking up speed and pollutants.

2. The concentration of pollutants in the runoff. Certain activities, such as those from industrial sites, are large contributors of pollutant concentrations to the storm water system.

The report also identified several activities causing storm water pollution from urban areas, practices of homeowners, businesses, and government agencies.

More recent studies conducted by **United States Geological Survey** (USGS)[4] confirms the link between urbanization and water quality impairments in urban watersheds due to contaminated storm water runoff.

Furthermore, the water quality impacts of urbanization and urban storm water discharges have been summarized by several other recent USEPA reports.[5] Urbanization causes changes in hydrology and increases pollutant loads which adversely impact water quality and impairs the beneficial uses of receiving waters. Increases in population density and imperviousness result in changes to stream hydrology including:

a) increased peak discharges compared to predevelopment levels;

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[1] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress* - USEPA 841-S-00-001 - June 2000; *Water Quality Conditions in the United States: Profile from the 1998 National Water Quality Inventory Report to Congress* - USEPA 841-F-00-006 - June 2000

[2] *Quality of Our Nation's Waters: Summary of the National Water Quality Inventory 1998 Report to Congress,* Chapter 12 State and Territory Summaries, California, pp. 282-83: 1998.

[3] *Clean Water & Oceans: Water Pollution: In Depth Report Stormwater Strategies, Community Responses to Runoff Pollution.* Natural Resources Defense Council (NRDC), 1999.

[4] *Water Quality in the Puget Sound Basin, Washington and British Columbia, 1996-98,*Circular 1216 - USGS 2000; *Water Quality in the Long Island-New Jersey Coastal Drainages, New Jersey and New York, 1996-98,* Circular 1201 - USGS 2000

[5] *Storm Water Phase II Report to Congress* (USEPA 1995); Report to Congress on the Phase II Storm Water Regulations (USEPA1999); Coastal Zone Management Measures Guidance (USEPA 1992)

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b) increased volume of storm water runoff with each storm compared to pre-development levels;

c) decreased travel time to reach receiving water; increased frequency and severity of floods;

d) reduced stream flow during prolonged periods of dry weather due to reduced levels of infiltration;

e) increased runoff velocity during storms due to a combination of effects of higher discharge peaks, rapid time of concentration, and smoother hydraulic surfaces from channelization, and

f) decreased infiltration and diminished groundwater recharge.

The Los Angeles County MS4 program has conducted monitoring to:

1. quantify mass emissions for pollutants;
2. identify critical sources for pollutants of concern in storm water;
3. evaluate BMP effectiveness; and
4. evaluate receiving water impacts.

The monitoring indicates that instream concentrations of pathogen indicators (fecal coliform and streptococcus), heavy metals (such as Pb, Cu, Zn,) and pesticides (such as diazinon) exceed state and federal water quality criteria.[6] The mass emissions of pollutants to the ocean are significant from the urban WMAs such as the Los Angeles River WMA, Ballona Creek WMA, and Coyote Creek WMA, with the Los Angeles River WMA providing more than seventy percent of the loadings. Critical source data for facilities (such as auto-salvage yards, primary metal facilities, and automotive repair shops) show that total and dissolved heavy metals (Pb, Cu, Zn, and Cd), and total suspended solids (TSS) exceeded state and federal water quality criteria by as much as 2 orders of magnitude. The results are consistent with a limited term study conducted by the Regional Board to characterize storm water runoff in the Los Angeles region in 1988 before the issuance of first MS4 permit.[7] Storm water runoff data from predominant land uses in Los Angeles County showed similar patterns. Light-industrial, commercial and transportation land uses showed the highest range of exceedances. A pesticide (diazinon) was detected in higher concentrations from residential land use. The data for polycyclic aromatic hydrocarbons (PAHs), a known pollutant of concern in urban storm water runoff, is inconclusive but improved analytical methods may yield more definitive results in the future. Receiving water impacts studies found that storm water discharges from urban watersheds exhibit toxicity that are attributable to heavy metals. Biosurveys of the benthic communities showed bioaccumulation of toxicants. Sediment analysis showed higher concentrations of pollutants, such as Pb and PAHs, in urban watersheds than in rural watersheds (2 to 4 times higher). In addition, toxicity of dry weather flows

[6] *Los Angeles County 1998-1999 Storm water Monitoring Report*, Los Angeles County Department of Public Works (1999). Data summarizes results of storm water monitoring for the most recent year and the past five years.

[7] *Storm Water Runoff in Los Angeles and Ventura Counties, Final Report* (1988), California Regional Water Quality Control Board, Los Angeles, SCCWRP Contribution C292. This study found the highest mean concentrations of pollutants of concern such as heavy metals in the urban watershed rivers and that they contributed significant loads to the ocean.

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was observed with the cause of toxicity undetermined.[8] Other studies have found chemical concentration of pollutants that exceed state and federal water quality criteria in storm drains flowing to the ocean during dry weather,[9] and that there are adverse health impacts from swimming near them.[10]

B. Benefits of Permit Program Implementation

Implementation of the MS4 permit requirements will significantly reduce pollutants in urban storm water in a cost-effective manner. Implementation of Best Management Practices (BMPs) should also reduce pollutant discharges, and improve surface water quality. The expected benefits of implementing the provisions of the Los Angeles County MS4 NPDES permit include:

- **Enhanced Aesthetic Value**: Storm water affects the appearance and quality of a water body, and the desirability of working, living, traveling, or owning property near that water body. Reducing storm water pollution will increase benefits as these water bodies recover and become more desirable.
- **Enhanced Opportunities for Boating**: reducing sediment and other pollutants, and increasing water clarity, which enhances the boating experience for users, offer additional benefits.
- **Enhanced Commercial Fishing**: Important because commercial fisheries are a part of the region's economy, and 28% of the estuaries are reportedly impacted by storm water/urban runoff.
- **Enhanced Recreational and Subsistence Fishing**: Pollutants in storm water can eliminate or decrease the numbers, or size, of sport fish and shell fish in receiving waters.
- **Reduced Flood Damage**: Storm water runoff controls may mitigate flood damage by addressing problems due to the diversion of runoff, insufficient storage capacity, and reduced channel capacity from sedimentation.
- **Reduced Illness from Consuming Contaminated Seafood**: Storm water controls may reduce the presence of pathogens in seafood caught by commercial or recreational anglers.
- **Reduced Illness from Swimming in Contaminated Water**: Epidemiological studies indicate that swimmers in water contaminated by storm water runoff are more likely to experience illness than those who swim farther away from a storm water outfall.
- **Enhanced Opportunities for Non-contact Recreation**: Storm water controls reduce turbidity, odors, floating trash, and other pollutants, which then allow waters to be used as focal point for recreation, and enhance the experience of the users.
- **Drinking Water Benefits**: Pollutants from storm water runoff, such as solids, toxic pollutants, and bacteria may pose additional costs for treatment, or render the water unusable for drinking.

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[8] *Toxicity of Dry Weather Flow from the Santa Monica Bay Watershed*, Bay, S. et al (1996), Bull. Southern California Acad. Sci. 5(1), pp. 33-45. The paper describes preliminary results on dry weather toxicity, which have been confirmed by the MS4 monitoring program.

[9] *Chemical Contaminant Release into Santa Monica Bay, Final Report*, American Oceans Campaign , Santa Monica (1993)

[10] *The Health Effects of Swimming in Ocean Water Contaminated by Storm Drain Runoff*, Haile, R.W. et al. (1999), Epidemiology 10: 355-363). The study found higher risks of respiratory and gastrointestinal symptoms from swimmers.

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- **Water Storage Benefits**: Storm water is a major source of impairment for reservoirs. The heavy load of solids deposited by storm water runoff can lead to rapid sedimentation of reservoirs and the loss of needed water storage capacity.[11]
- **Ground Water Replenishment**: Storm water can be a significant resource that can be used to recharge ground water basins in the region and reduce its dependence on imported water.

III. STATUTORY AND REGULATORY HISTORY OF THE STORM WATER PROGRAM

Over the past 29 years, water pollution control efforts have focused primarily on certain process wastewater discharges from facilities such as factories and sewage treatment plants, with less emphasis on diffuse sources. The 1972 amendments to the Federal Clean Water Act (CWA) prohibit the discharge of any pollutant to waters from a point source, unless a NPDES permit authorizes the discharge. Because the focus on reducing pollutants was centered on industrial and sewage treatment discharges, the U.S. Congress amended the CWA in 1987, requiring the USEPA to create phased NPDES requirements for storm water discharges.

In response to the 1987 Amendments to the CWA, the USEPA developed Phase I of the NPDES Storm Water Program in 1990. Phase I requires NPDES permits for storm water discharges from: (i) "medium" and "large" MS4s generally serving, or located in incorporated places or counties with, populations of 100,000 or more people; and (ii) eleven categories of industrial activity (including construction activity that disturbs five acres or greater of land). Phase II, adopted in December 2000 and scheduled to take effect in March 2003, requires operators of small MS4s and small construction sites (construction activity disturbing between 1 and 5 acres of land) in urban areas to control storm water runoff discharges.

A. Basis for Permit Conditions

1. **Statutory Basis for Permit Conditions.** The conditions established by this permit are based on CWA § 402(p)(3)(B) which mandates that a permit for discharges from MS4s must: effectively prohibit the discharges of non-storm water to the MS4; and require controls to reduce pollutants in discharges from MS4 to the maximum extent practicable (MEP) including best management practices, control techniques, and system, design and engineering methods, and such other provisions determined to be appropriate. MS4s are not exempted from compliance with Water Quality Standards. CWA § 301(b)(1)(C) requires NPDES permits to incorporate effluent limitations, including those necessary to meet water quality standards, applies. The permit conditions have been developed to meet the statutory mandate of the CWA.

   The permit requires the implementation of a comprehensive Storm Water Quality Management Program (SQMP) through a selection of Best Management Practices (BMPs) (40 CFR 122.44(k)) as the mechanism to

[11] *Report to Congress on Phase II Storm Water Regulations.* USEPA, Office of Water. EPA-833-R-99-001, Oct. 1999.

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achieving the reduction of pollutants in storm water to the maximum extent practicable (MEP) (CWA. § 402(p)(3)(B)(iii)).

2. **Regulatory Basis for Permit Conditions.** As a result of the statutory requirements of the CWA the USEPA promulgated MS4 permit application regulations (40 CFR 122.26(d)). These regulations describe in detail permit application information to be submitted by MS4s operators. The information in the application or Report of Waste Discharge (ROWD) is utilized to develop the permit conditions.

3. **Discharge limitations.** No numeric effluent limitations are proposed at this time. In accordance with 40 CFR 122.44(k), the USEPA has required a series of increasingly more effective BMPs,[12] in the form of a comprehensive SQMP and performance criteria in lieu of numeric limitations.[13]

B. Public Review and Participation Process

Los Angeles County Flood Control District submitted the ROWD for on January 31, 2001. Since that time Regional Board staff dedicated significant time and effort to providing the opportunities for public participation and comment. More than 30 meetings, 2 workshops, and numerous outreach efforts were conducted to ensure that the public, the Permittees, and other interested parties had ample opportunity to participate in the development and comment on permit requirements and language prior to consideration by the Regional Board for adoption.

To invite public comment at the beginning of the renewal process, a preliminary draft, dated March 16, 2001, was issued to a working group of interested parties. This draft was used as a starting point for discussion. The workgroup had approximately 30 days to review it prior to the issuance of the first draft, on April 13, 2001. The first draft was sent to all Permittees, storm water consultants, environmental organizations, and other interested parties. It was also made available on the Regional Board Storm Water web page at www.swrcb.ca.gov/rwqcb4/html/programs/Stormwater/renewal.html. More than 30 days were provided for the submittal of written comments. After considering comments submitted, Regional Board staff issued the second draft permit on June 29, 2001. Comments on the second draft (due by August 6, 2001) were considered and incorporated as appropriate in the tentative draft issued on October 11, 2001. Permittees and interested parties had over thirty days to submit written comments and over forty-five days for review prior to Regional Board consideration. Comments on the tentative draft were considered and incorporated as appropriate in the edited tentative draft, which was proposed for adoption before the Regional Board on December 13, 2001. At the Board Meeting, Regional Board staff gave a presentation of the proposed permit and significant changes, and then all interested parties were invited to comment. The Regional Board members asked questions, addressed the significant public comments, and then adopted the edited tentative draft with minor changes, which are described in Section VII. A public notice announcing the Regional Board Hearing was

[12] *Interpretative Policy Memorandum on Reapplication Requirements* of MS4s issued by USEPA (61 Fed. Reg. 41697)
[13] *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits* (61 Fed. Reg. 43761)

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published in the Los Angeles Times on October 3, 2001, more than 45 days prior to the date of the Board meeting.

Furthermore, Regional Board staff conducted separate meetings to review particular special provisions with Permittees and interested parties as necessary. In addition to these meetings, Regional Board staff held two workshops to review the permit and listen to comments, including one formal workshop with the Board members on July 26, 2001. Two full-day facilitation sessions to discuss the Industrial/Commercial Facilities Program requirements, with the Regional Board, US EPA and Permittees, were also held. Regional Board staff also participated in monthly Executive Advisory Committee meetings conducted by Permittees where they answered questions and discussed permit issues. Staff was also available for public outreach via telephone. The following table outlines some of the many opportunities for Permittee and public input provided by Regional Board staff.

Date	Public Involvement Activity
January 31, 2001	Application for permit renewal (ROWD)
February 27, 2001	Inspections Working Group Meeting
February 28, 2001	Illicit Connection/Discharge Working Group Meeting
March 1, 2001	Monitoring Working Group Meeting
March 12, 2001	Public Information and Participation Working Group Meeting
March 20, 2001	Inspections Working Group Meeting
March 20, 2001	Construction Working Group Meeting
March 22, 2001	Preliminary Draft Working Group Meeting
April 9, 2001	Monitoring Working Group Meeting
April 13, 2001	Issuance of First Draft
April 24, 2001	Public Workshop
April 24, 2001	Construction Meeting with Building Industry Association
April 27, 2001	Monitoring Working Group Meeting
May 9, 2001	Monitoring Working Group Meeting
May 16, 2001	First Draft Comments Due
May 24, 2001	Construction Meeting with BIA
June 4, 2001	Monitoring Working Group Meeting
June 14, 2001	Monitoring Station Identification Field Trip
June 25, 2001	Monitoring Working Group Meeting
June 29, 2001	Issuance of Second Draft
July 26, 2001	Formal Workshop with Regional Board
August 6, 2001	Second Draft Comments Due
August 8, 2001	Executive Advisory Committee Meeting

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Date	Public Involvement Activity
September 12, 2001	Executive Advisory Committee Meeting
September 19, 2001	Meeting with City of Rancho Palos Verdes
September 27, 2001	Meeting with County of Los Angeles Dept. of Public Works
September 27, 2001	Meeting with BIA and AGC
October 3	Meeting with County and City Departments of Health
October 11, 2001	Issue Tentative Draft
November 9, 2001	Mediation Session with EPA
November 13, 2001	Comments on Tentative Draft Due
November 19, 2001	Monitoring Working Group Meeting
November 29, 2001	Mediation Session with EPA
December 13, 2001	Adoption at Board Meeting

IV. BACKGROUND - LOS ANGELES COUNTY MS4

A. Los Angeles County MS4 Permit History

In 1990, the Los Angeles Regional Board (Regional Board) adopted Order No. 90-079, the Los Angeles County MS4 Permit. That permit required the Los Angeles County Flood Control District, the County of Los Angeles and the incorporated cities in Los Angeles County to implement storm water pollution controls including amending ordinances, optimizing existing pollutant controls such as street sweeping, construction site controls, and others. The Regional Board required all Permittees to implement a minimum list of 13 BMPs for consistency across the County. The 1990 permit was issued on a system wide basis due to the highly interconnected storm drain system serving a population well in excess of 100,000 inhabitants. An NPDES permit is valid for a five-year period after the date is issued.[14]

On July 15, 1996, the Regional Board adopted Order No. 96-054 that revised the 1990 permit. The 1996 LA County MS4 permit required model programs be developed and implemented by the Permittees for Public Information and Public Participation, Industrial/Commercial Activities, Development Construction, Illicit Connections and Illicit Discharges, Public Agency Activities, and Development Planning. These model programs were intended to be dynamic and expected to change with time, as more information on storm water impacts became available.

Following the adoption of Order 96-054, the City of Long Beach submitted a ROWD as an application for its own MS4 permit. The City of Long Beach Municipal Storm Water Permit (Order No. 99-060) was adopted on June 30,

[14] 40 CFR §122.46 (a)

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1999. This Order superseded the countywide permit requirements for the City of Long Beach, and the City now operates under its separate MS4 permit.

On January 31, 2001, the Los Angeles County Department of Public Works submitted an application for renewal of their MS4 permit in the form of an ROWD for Los Angeles County and the incorporated cities, except for the City of Long Beach. This application started the process for reissuance of the permit, which enters into its third permit term now.

B. Los Angeles County Storm Drain System

The MS4 covered by this proposed permit for the County of Los Angeles and 83 incorporated cities drains the coastal slopes of the Transverse Mountain Ranges, and flows into the Santa Monica Bay and the Los Angeles/Long Beach Harbor. The storm drain structure consists of thousands of catch basins, thousands of miles of underground storm drains, as well as open channels, all owned and operated separately by Permittees. The length of the system, and the locations of all storm drain connections, are not known exactly, as a comprehensive map for the storm drain system does not exist. Rough estimates, based on information from large municipalities (population > 100,000), indicate that the length exceeds 4,300 miles, as shown below.

Permittee	Area (Square Miles)	Catch Basins	Storm Drain Length	Open Channel Length
LA County	3,100	73,000	2,650 miles	450 miles
City of LA	469	30,000	1,600 miles	31 miles
El Monte	10	316	11 miles	0.4 mile
Glendale	30.6	1,100	Unknown	Unknown
Inglewood	9	1,157	12 miles	Unknown
Pasadena	26	1,050	30	Unknown
Santa Monica	8.3	850	Unknown	Unknown
Torrance	20	2,000	20 miles	3 miles
TOTAL		**109,473**	**4,323**	**484.4**

C. Summary of Water Quality Issues in Los Angeles County Watersheds

Watersheds are geographic areas draining into a river system, ocean or other bodies of water through a single outlet. There are six Watershed Management Areas (WMAs) that represent the six major watersheds covered by the Los

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Angeles County MS4 NPDES permit. The following is a summary of some significant issues in each watershed.[15]

Dominguez Channel/Los Angeles-Long Beach Harbor Watershed

Permitted discharges

- 415 dischargers covered under an industrial storm water permit
- 69 dischargers covered under a construction storm water permit

Potential sources of pollution

- Historical deposits of DDT and PCBs in sediment
- Spills from ships and industrial facilities
- Leakages contaminating groundwater
- **Urban and storm water runoff**
- Impairments: metals, PCBs, PAHs, historic pesticides, coliform, trash, and nitrogen

Los Angeles River Watershed

Permitted discharges

- 1,327 dischargers covered under an industrial storm water permit
- 147 dischargers covered under a construction storm water permit

Potential sources of pollution

- Nitrogen and coliform contributions from septic systems
- Other nonpoint sources (horse stables, golf courses)
- Leakage of MTBE from underground storage tanks
- **Urban and storm water runoff**
- Impairments: nitrogen, trash, selenium, other metals, coliform, PCBs, historic pesticides, chlorpyrifos

San Gabriel River Watershed[16]

Permitted discharges

- 549 dischargers covered under an industrial storm water permit
- 175 dischargers covered under a construction storm water permit

Potential sources of pollution

- Excessive trash in recreational areas of upper watershed
- Nonpoint source loadings from nurseries and horse stables

[15] *Watershed Management Initiative Chapter*. California Regional Water Quality Control Board – Los Angeles Region. Dec. 2000.
[16] *San Gabriel Watershed State of The Watershed* - RWQCB - LA Region - June 2000

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- **Urban and storm water runoff**
- Impairments: nitrogen and effects, trash, metals, historic pesticides, coliform, chlorides, and PCBs

Santa Monica Bay Watershed

- 147 dischargers covered under an industrial storm water permit
- 107 dischargers covered under a construction storm water permit

Potential sources of pollution

- Discharges from Ballona and Malibu Creeks contribute to impairments in the Santa Monica Bay and its beaches.
- Impairments: mercury, selenium, other metals, historical pesticides, PAHs, PCBs, nitrogen, coliform, trash, TBT, habitat alteration, exotic vegetation, and salts

Coastline

- **Acute health risk associated with swimming in runoff contaminated surfzone waters**
- Chronic risk associated with consuming seafood from areas impacted by DDT and PCB contamination
- Historic deposits of DDT and PCBs in sediment

Ballona Creek Watershed

- Trash loading from creek
- Sediment contamination by heavy metals form creek to Marina del Rey Harbor and offshore
- **Toxicity of both dry weather and storm water runoff in creek**
- High bacterial indicators at mouth of creek

Malibu Creek Watershed

- Excessive freshwater, nutrients, and coliform in lagoon; contribution from POTW and other sources
- **Urban runoff from upper watersheds**
- Septic tanks in lower watershed

Santa Clara River Watershed

Permitted discharges

- 4 POTWs
- 98 dischargers covered under an industrial storm water permit
- 190 dischargers covered under a construction storm water permit

Potential sources of pollution

- Agriculture
- Increasing loads of nitrogen and salts in supplies of ground water

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- POTW discharges
- Increasing development and channelization that results in increased runoff volumes and velocities, erosion, and loss of habitat
- Septic tanks
- Impairments: chloride, nutrients (nitrogen), coliform, trash (in parts of watershed)

D. Enforcement Provision

During the renewal process for the existing permit (i.e. in 1995 and 1996), the permittees proposed and the Regional Board agreed to addition of a "Notice to Meet and Confer" provision (Part 2, section G of the existing permit). This was envisioned as an administrative review process for resolving permit disputes before the Regional Board would take formal enforcement action. It has been actually used only once (in 2000), when the Regional Board issued Notice to Meet and Confer letters to permittees in the Los Angeles River and Ballona Creek watersheds. The purpose of this process was to determine the effectiveness of municipalities' efforts to reduce trash in waters that are impaired by trash.

Subsequent to renewal of the existing permit, the State developed an enforcement policy (State Board Resolution 96-030) and guidance, which sets forth a progressive strategy that has the goal of ensuring consistent, predicable, and fair enforcement of regulations. This is now a well-established and widely implemented policy throughout the State, including in the Los Angeles Region. Therefore, with this policy of progressive enforcement in place the Notice to Meet and Confer provision is not needed; accordingly, the proposed permit does not contain this provision.

E. Total Maximum Daily Loads (TMDLs)

Part 3, Section C. of the proposed permit specifies that the Permittees shall amend the SQMP to comply with load allocations approved pursuant to adoption and approval of Total Maximum Daily Loads (TMDLs). The addition of this provision represents a significant difference from the existing permit, which does not contain a provision for implementation of TMDLs. In addition, the Special Provisions for the Permittees' Program for Public Agencies (Part 4, Sections F.7. and F.8.) specifies performance measures for watersheds subject to a trash TMDL.

TMDLs are one of the Regional Board's highest priorities. In view of the Region's highly urbanized environment, it is likely that pollutants in storm water will be allocated significant load reductions. While specific load reductions can't be forecast at this time, the Board does envision that storm water permits will be an important mechanism for implementing pollutant load reductions. An early example of the relationship between TMDLs and storm water permits is the trash TMDL adopted for the Los Angeles River and Ballona Creek on September 13, 2001, which directs municipalities to monitor for baseline trash levels for 2-4

years, and then to start implementing trash prevention and/ or control measures to reduce trash to "zero" by the year 2013. This 5-year permit incorporates the monitoring requirements of the TMDL and, based on the results of the monitoring requirements, specified load reductions of 60% by 2006. Permits that are adopted subsequent to this MS4 permit are expected to incorporate the remaining load allocation reductions to achieve "zero" trash in the Los Angeles River and Ballona Creek by 2013.

Public review of the Regional Board's TMDLs, will occur during the TMDL adoption process (there need not be an additional public process for TMDL implementation and Basin Plan amendment). Upon approval of a TMDL, the waste load allocations and load allocations (specified in that TMDL) will become effective and enforceable under this permit. This TMDL provision is consistent with TMDL provisions in the Long Beach and Ventura County MS4 permits.

F. Revision of the Permittees' Storm Water Quality Management Program

In general, MS4 permits such as the Los Angeles County MS4 Permit do not have numeric effluent limits for storm water discharges. Rather, the Regional Board relies on a BMP approach implemented by the Permittees to reduce the discharge of pollutants in storm water to the MEP. Therefore the development and implementation of the special provisions (i.e. the model programs) become of paramount importance.

The Special Provisions in the next section are - for the most part - based on the Permitees' existing model programs, which they've been implementing since at least 1999. The incremental changes Regional Board staff has made to the current permit include greater specificity, and better measures to determine implementation. Some of the Permittees are already meeting these performance measures. The performance measures in the permit help to clarify the MEP compliance expectations and set a consistent bar for all Permittees.

V. DISCUSSION OF SPECIAL PROVISIONS

A. Public Information and Participation Program (PIPP)

Legal Authority:

CWA § 402(p)(3)(B)(ii-iii), CWC section 13377, and NPDES regulations at 40 CFR 122.26(d)(2)(I)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) provides that the proposed management program include "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from MS4s associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and

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other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) provides that the proposed management program include " A description of education activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

To satisfy the Public Education and Outreach minimum control measure, the Permittees need to: (i) implement a public education program to distribute educational materials to the community, or conduct equivalent outreach activities about the impacts of storm water discharges on local waterbodies and the steps that can be taken to reduce storm water pollution; and (ii) determine the appropriate BMPs and measurable goals for this minimum control measure.

Background:

Implementation of a PIPP is a critical BMP and a necessary component of a storm water management program. The State Board Technical Advisory Committee "recognizes that education with an emphasis on pollution prevention is the fundamental basis for solving nonpoint source pollution problems." The USEPA Phase II Fact Sheet 2.3 (Fact Sheet 2.3) finds that "An informed and knowledgeable community is critical to the success of a storm water management program since it helps insure the following: (i) greater support for the program as the public gains a greater understanding of the reasons why it is necessary and important, and (ii) greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters."[17]

Furthermore, the public can provide valuable input and assistance to a municipal storm water management program and, therefore, should play an active role in the development and implementation of the program. An active and involved community is essential to the success of a storm water management program because it allows for:

- Broader public support since residents who participate in the development and decision making process are partially responsible for the program and, therefore, are more likely to take an active role in its implementation;
- Shorter implementation schedules due to fewer obstacles in the form of public and legal challenges and increased sources in the form of residents volunteers;
- A broader base of expertise and economic benefits since the community can be a valuable, and free, intellectual resource; and
- A conduit to other programs as residents involved in the storm water program development process make important cross-connections and relationships with other community and government programs. This benefit is particularly

[17] *Storm Water Phase II Final Rule - Public Education and Outreach Minimum Control Measure.* USEPA Fact Sheet 2.3, January 2000.

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valuable when trying to implement a storm water program on a watershed basis.

Discussion of New Requirements:

Los Angeles County should continue its comprehensive educational storm water and urban runoff outreach program, which is designed to measurably increase public knowledge and change behavior regarding storm water pollution. The first five-year public education program initiated in 1996 was successful at studying segments of Los Angeles County residents to identify those who pose the greatest threat to storm water quality and those who represent the greatest opportunity to respond positively to a public education program, as well as providing a baseline measurement of residents' storm water-related practices and habits. This information was used to target the residents who are most likely to change their behaviors to improve storm water quality. Using various communication tactics and activities, the program successfully reached 83% of County residents with pollution prevention messages through the Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis (Five-Year Strategy).[18]

Although the Program has been successful at certain goals, it must be augmented to continue increasing public awareness of specific storm water issues. According to the USEPA, materials and activities should be relevant to local situations and issues, and incorporate a variety of strategies to ensure maximum coverage.[19] To help address local situations and sources of specific pollutants, section B.1.d. of the PIPP requires the development of watershed and pollutant-specific education programs.

A need also exists to target ethnic groups that may not be reached by or understand existing storm water educational materials. In an effort to reach these groups the PIPP requires the development of a strategy to provide outreach and bilingual materials to target ethnic communities.

Also, the USEPA encourages partnerships and cooperation among Permittees, businesses and the public.[20] Quarterly meetings will provide the opportunity for Permittees to coordinate their outreach efforts and efficiently build on the County's existing program with local, watershed-specific efforts. Since the Program's inception, Permittees have been required to conduct educational activities within their own jurisdictions. The lack of guidance and coordination has led to duplicate efforts and confusion about developing appropriate programs that are consistent with, and enhance the Principal Permittee's regional education program. This requirement will ensure that all Permittees are coordinated for the most efficient and effective Program. It will also help identify Permittees with insufficient Programs.

[18] Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis, Los Angeles County of Public Works, July 31, 2000.
[19] Phase II Fact Sheet 2.3
[20] *Id.*

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It is generally more cost-effective to have numerous operators coordinate to use an existing program than all developing their own local programs. Therefore, Permittees should build on the regional program with additional information specific to local needs.

Furthermore, directing materials or outreach programs toward specific groups of commercial, industrial, and institutional entities likely to have significant storm water impacts is recommended.[21] Pursuant to Order 96-054, the Principal Permittee conducted educational site visits to Phase I industrial facilities, auto repair shops, retail gasoline outlets, and restaurants over the last 5 years. The next step in this targeted outreach program is education at the corporate level to facilitate employee compliance.[22] Therefore, the Principal Permittee is required to implement a corporate outreach program to educate corporate management at gas stations and restaurant chains about storm water regulations.[23] Also, a non-regulatory business assistance program would encourage small businesses that lack access to the expertise necessary to comply with storm water regulations and to implement pollution prevention measures. The business assistance program is not a requirement, however, its implementation is encouraged.

Program Performance Measures:

The previous public information program did not include a protocol to measure the effectiveness of the different public education efforts. The new permit includes requirements to measure the outcome of outreach efforts and demonstrate that they are effective at increasing knowledge and changing the behavior of the public in regards to storm water pollution. The permit includes requirements for the Principal Permittee to develop a strategy for measuring the effectiveness of different educational programs and to develop a behavioral change target that will become a performance measure that must be reported on in Annual Reports.

In addition to the assessment requirements mentioned above, the Principal Permittee is also required to: (a) ensure that a minimum of 35 million impressions per year are made on the general public about storm water via print, local TV access, local radio, or other appropriate media; and (b) provide all School Districts within its jurisdiction with materials, including videos, live presentations, brochures, and other media necessary to educate a minimum of fifty percent of all school children (K-12) every 2 years on storm water pollution. These performance measure are justified based on their consistency with requirements in the City of Long Beach and Ventura County MS4 permits, and on the Principal Permittee's previous performance of PIPP requirements.

According to the Principal Permittee's Year Four (1999-2000) Highlights, approximately 85 million impressions were made through advertising, media relations, customized coffee jackets, corporate partnerships, special events, and

[21] Phase II Fact Sheet 2.3
[22] *Storm Water/Urban Runoff Public Education Program Five-Year Storm Water Public Education Strategic Analysis*, Los Angeles County Public Works, July 31, 2000. Part P.5.
[23] Permit, Part 4, section B.2.a.

business outreach. Hits on the www.888CleanLA.com web site have been consistently increasing, indicating a growing public interest, as well as greater awareness. Also, increased media attention and public interest in current issues, such as trash TMDLs, is expected. Los Angeles County has committed to making a minimum of 35 million impressions per year.

Furthermore, the requirement is consistent with the number of impressions (3 - 3.5 per resident) required in the Long Beach MS4 Permit and the Ventura County MS4 Permit. The City of Long Beach is required to make a minimum of 1.5 million impressions per year. With a total population of approximately 426,000 people, this amounts to 3.5 impressions per resident per year. Ventura County is required to achieve 3 impressions per resident per year. Los Angeles County's population is 9.5 million people.[24]

According to data provided by Los Angeles County, the School Environmental Education Program has been reaching approximately 50 percent of elementary and secondary schools in the County every 2 years. It is also expected that the required coordination among Permittees will increase the effectiveness and scope of this Program.

B. Industrial/Commercial Facilities Program

Legal Authority:

The Phase I regulations require, in part, that the applicant (i) develop adequate legal authority, (ii) perform a source identification, and (iv) develop a management program to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system design and engineering methods, and such other provisions which are appropriate.[25] Specifically, with regards to industrial controls, the management plan shall include the following.

40 CFR 122.26(d)(2)(iv)(C), A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

> *(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.*
> *(2) Describe a monitoring program for storm water discharges associated with industrial facilities [...]*

Background:

The municipality is ultimately responsible for discharges from the MS4. Because industrial awareness of the program may not be complete, there may be facilities

[24] 2000 U.S. Census Bureau
[25] 40 CFR 122.26(d)(2)

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within the MS4 area that should be permitted but are not (non-filers). In addition, the Phase I regulations that require industries to obtain permit coverage for storm water discharges is largely based on SIC Code. This has been shown to be incomplete in identifying industries that may be significant sources of storm water pollution (*"industries" includes commercial businesses). The word "industries" is used in a broad sense*). Another concern is that the permitting authority may not have adequate resources to provide the necessary oversight of permitted facilities. Therefore, it is in the municipality's best interest to assess the specific situation and implement an industrial/commercial inspection/site visit and enforcement program to control the contribution of pollutants to the MS4 from all high risk sources.

In the preamble to the 1990 regulations, the USEPA clearly states the intended strategy for discharges of storm water associated with industrial activity:

"...Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system's discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system." The USEPA also notes in the preamble that *"... municipalities will be required to meet the terms of their permits related to industrial dischargers.*"

Similarly, in the USEPA's Guidance Manual[1] (Chapter 3.0), it is specified that MS4 applicants must demonstrate that they possess adequate legal authority to:

- Control construction site and other industrial discharges to MS4s;
- Prohibit illicit discharges and control spills and dumping;
- Carry out inspection, surveillance, and monitoring procedures.[26]

The document goes on to explain that *"control"*, in this context means not only to require disclosure of information, but also to *limit, discourage, or terminate* a storm water discharge to the MS4. Further, to satisfy its permit conditions, a municipality may need to impose additional requirements on discharges from permitted industrial facilities, as well as discharges from industrial facilities and construction sites *not* required to obtain permits.

In the same Guidance Manual[27] (Chapter 6.3.3), it is stated that the municipality is ultimately responsible for discharges from their MS4. Consequently, the MS4 applicant must describe how the municipality will help the USEPA and authorized NPDES States to:

- Identify priority industries discharging to their systems;
- Review and evaluate storm water pollution prevention plans (SWPPPs) and other procedures that industrial facilities must develop under general or individual permits;

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[26] *Guidance Manual For the Preparation of Part 2 of the NPDES Permit Applications for Discharges from Municipal Separate Storm Sewer Systems* - USEPA -November 1992
[27] *Id.*

- Establish and implement BMPs to reduce pollutants from these industrial facilities (or require industry to implement them); and
- Inspect and monitor industrial facilities discharging storm water to the municipal systems to ensure these facilities are in compliance with their NPDES storm water permit, if required.

Discussion:

Recognizing that the municipality is ultimately responsible for the quality of storm water discharges from the MS4, the municipalities must evaluate industrial/commercial facilities and determine their compliance with the permit requirements, as well as their contribution to the MS4 and potential impacts to the receiving waters. The following areas are to be addressed in order to implement a meaningful industrial/commercial inspection/site visit and enforcement program.

- **Source Identification**
  - Identification of industrial/commercial sites discharging to the MS4 (by SIC codes and narrative if needed)
  - Characterization of activities, materials used, and potential for contributing pollutants along with the type of pollutants

- **Pollution Prevention**
  - Key concepts are many times overlooked: Prevent, before it happens, and be pro-active rather than reactive. It is more difficult to treat after the pollutant is released or mixes with storm water. BMPs and other site-specific controls are often most appropriate for reducing pollutants in storm water discharges from industrial and commercial facilities.

- **Threat to Water Quality Prioritization**
  - Identify impaired water bodies by pollutants and link with activities and industrial/commercial sites that may contribute those particular pollutants (or potentially contribute to) the water quality impairment

- **Through existing ordinance, order, or similar means, the ability to**
  - enter premises;
  - conduct inspections;
  - review and evaluate SWPPPs and monitoring results review;
  - require control methods (BMPs) implementation; and,
  - take appropriate enforcement actions, if necessary.

It may be necessary to update existing ordinances if they do not provide sufficient legal authority to implement the above mentioned components as required by the regulations.

Integration of NPDES Program for MS4 with NPDES Program for Industrial Activities

Recognizing the dual coverage envisioned by the USEPA regulations[28], and suggested partnership between local and State authorities, municipalities shall coordinate with State activities for the implementation of the General Industrial Activities Storm Water Permit (GIASP). The goal is to control industrial sources and other sources not specifically covered under Phase I storm water regulations but identified as significant contributors of pollutants by the municipalities through their identification and prioritization studies. The net result should be a better and improved coordinated program with greater impact on limiting and eliminating (as a final goal) the contribution of pollutants to the receiving water while maintaining and/or restore the capacity of the receiving water to sustain the beneficial uses without impairments.

The *Critical Source Selection and Monitoring Report*[29] identified seven highest ranked pollution potential activities to be, in order of ranking: (i) wholesale trade (scrap, auto dismantling), (ii) *automotive repair/parking*, (iii) fabricated metal products, (iv) motor freight (including trucking), (v) chemical and allied products, (vi) automotive dealers/gas stations, (vii) primary metals products. The report also outlined a complete study plan to be implemented by the Permittees during the permit term. It is significant to note that five out of seven categories of activities are subject to Phase I industrial storm water regulations. Although *automotive repair/parking* and automotive dealers/gas stations categories were not the focus of the Phase I storm water regulations, the study identified these commercial categories as significant potential pollutant contributors based on the criteria developed in the critical source criteria study.

Rank (pollution potential)[30]	Industrial Category	SIC Code	No. Facilities (estimated)
1	Wholesale trade (scrap, auto dismantling)	50	587
2	*Automotive repair/parking*	*75*	*6,067*
3	Fabricated metal products	34	3,283
4	Motor freight (including trucking)	42	872
5	Chemical and allied products	28	1,069
6	*Automotive Dealers/Gas Stations*	*55*	*2,744*
7	Primary Metals Products	33	703

It is also important to note that heavy metals are significant pollutants transported in storm water discharges and cause impairment of receiving waters in the Los Angeles Region. The above table identifies at least two industrial categories that have the highest potential to contribute those pollutants: fabricated metal products and primary metal products. During the previous permit term, Los Angeles County conducted a Critical Source Study (1998-2000). The aim of the study was to monitor for two years the previously identified

[28] Federal Register Vol. 55, No 222, pp. 48000; USEPA Storm Water Phase II Compliance Assistance Guide, 2000, pp. 4-32 and 5-11, where it clarifies the dual responsibility
[29] Critical Source Selection and Monitoring Report, Woodward-Clyde, 1997
[30] *Critical Source Selection and Monitoring Report (Table 1-3)* - Woodward-Clyde 1996

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five priority industrial and/or commercial critical source categories. The results of the study confirmed that the critical source industries are indeed high risk. Storm water discharges exceeded water quality standards for almost all toxic pollutants in all categories.

Based on the dual coverage and partnership approach between the permitting authority and municipalities that the USEPA called for in the storm water regulations (see letters from Alexis Strauss, USEPA Water Division Director),[31,32] and in order to best use limited resources at the State and local level, the permit includes the following improvements.

Recognizing that this permit represents a *third term* permit, and building upon the experience and tools developed under the previous permits, the Industrial/Commercial program has been elevated to an inspection and enforcement program. The municipalities are required to (i) control the storm water discharges associated with industrial activities and other commercial facilities identified as significant contributors of pollutants, and (ii) assist the Regional Board in ensuring that industrial activities are covered by the general industrial storm water permit. This requirement is consistent with the nationwide approach used by the USEPA in issuing *second term* MS4 permits.[33] Also, this requirement is consistent with other MS4 permits issued in California: San Diego and Santa Clara MS4 permits. Business education and outreach should be continued under the auspices of the Public Education program.

The strategy as outlined in the draft permit builds on the State/municipalities partnership by focusing their limited resources on the following activities:

- The Permittees will take a lead role in inspecting restaurants, automotive service facilities, retail gasoline outlets, industrial facilities mandated specifically by the regulations, top five highest ranking industrial categories identified by the Permittees through their critical sources identification and monitoring studies and site visits at the remaining industrial categories identified through their critical sources identification study while
- The Regional Board will be the lead agency for inspections of facilities covered or in need of coverage under GIASP;
- The Permittees will assist Regional Board in its activities to fully enforce the GIASP through spot check inspections, referrals, data information research, joint inspections;
- The Regional Board and Permittees will coordinate their information systems and task scheduling to avoid duplication and strengthen harmonization of activities;
- The Regional Board may, based on available funding, enter into agreement with Permittees to contract some of the inspection activities required by the GIASP to be done by the Permittees.

[31] Letter dated December 19, 2000, from Alexis Strauss, Director, Water Division, USEPA Region IX, to Dennis Dickerson, Executive Officer, Regional Water Quality Control Board-Los Angeles Region.
[32] Letter dated April 30, 2001, from Alexis Strauss, Director, Water Division, USEPA Region IX, to Honorable Stephen Horn, U.S. House of Representatives
[33] MS4 NPDES Permits issued to Palm Beach County, Broward County, Sarasota County, Florida, Tulsa, Oklahoma, Denver, Colorado.

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Based on comments received from interested parties, various options have been considered for inclusion in the permit, based on the legal requirements and background data already provided by the Permittees:

- First draft (April 13, 2001): Staff took a "top-down" approach to inspections, proposing that Permittees screen databases of tens of thousands of industrial and commercial facilities to identify facilities that should be targeted for an inspection program.

- Second draft (June 29, 2001): In response to comments submitted on the first draft, staff attempted to better structure a partnership between the Regional Board and Permittees. The Regional Board would lead efforts to regulate "Phase 1" industrial facilities (which are subject to the State's General Industrial Activities Storm Water Permit), and the Permittees lead efforts to regulate other problem sectors, such as automotive service facilities, restaurants, and RGOs.

- Third draft (October 11, 2001): Staff proposed three options for Board's consideration. Staff structured an **Option A** to encompass inspections of:
  - USEPA mandated facilities (i.e. landfills, Resource Conservation and Recovery facilities, and toxics treatment storage disposal facilities "TSDF"),
  - the automotive sector,
  - restaurants, and
  - retail gasoline outlets.

  In Regional Board staff's opinion, such a minimal requirement fails to address other critical industrial sources of pollutants. To address this concern and to ensure that pollutants from other critical sources are controlled, staff presented **Option B**. This Option B captures sectors in Option A plus five other priority sectors, which are sources of pollutants that cause many of the impairments to surface waters in Los Angeles County. These five priority sectors are:

  - scrap recycling,
  - automotive dismantling,
  - metal fabrication,
  - motor freight,
  - chemical manufacturing, and
  - primary metal products.

  Option C is status quo – it retains the site visit program as required by the MS4 permit issued by the Regional Board in 1996. It does not recognize the Board's original intent to upgrade the site visit program to an inspection-based program in the long term.

At the request of certain Permittees, the US EPA facilitated two day-long sessions, on November 9th and 29th, during which discussions among Permittees, Regional Board staff, and environmental representatives focused on inspection requirements as presented in the third draft as Options A, B, and C.

Participants made diligent attempts to understand various positions and limitations and, as a result, another option, **Version A/C,** emerged as converging toward a potential consensus.

Version A/C blends elements of the other options previously submitted to the Board and to the public, provides greater clarity with regard to Regional Board expectations and responds to Permittees' concerns over funding by better coordinating State (i.e. Regional Board) inspection efforts with those of the Permittees.

Version A/C clarified and reduced the scope of inspections. In general, frequencies have been reduced from once every 24 months to once every 30 months. In addition, Phase I facilities have been separated in Tier 1 and Tier 2 sites and further reduced the frequency of inspections for Tier 2 category to once every 5 years. The facilities with no exposure of industrial activity to storm water need not be inspected, after the initial determination of no-exposure, during the term of the permit..

Another significant adjustment was the addition of a provision relieving permittees of the responsibility to inspect those Phase I facilities that the Regional Board has inspected within the previous 24 months. In regards to the level of inspection, it was clarified that the Permittees are expected to check during inspections for compliance with the implementation of minimum BMPs, as previously approved by Board Order 98-08, and compliance with the local storm water ordinances.

Version A/C also provides better clarity concerning the scope of enforcement. A progressive enforcement procedure was outlined including minimum steps that Permittees must take in their program to enforce their municipalities' storm water requirements. In recognition of some of the Permittees concerns regarding the resource intensive efforts needed to elevate enforcement actions, a mechanism was provided through which Permittees can refer cases to the Regional Board, and for violations of the State's General Industrial Activities Storm Water permit, the referral can be expedited.

C. Construction Sites Program

Legal Authority:

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

The permit provides consistency with the Long Beach MS4 permit and the Ventura County MS4 permit.

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Background:

There are several environmental impacts associated with construction activity.

As stated in the *California Storm Water Best Management Practice Handbook for Construction Activity* (BMP Handbook), "Construction usually increases the amount of impervious area causing more of the rainfall to runoff, and increasing the speed at which runoff occurs. Unless properly managed, this increased runoff will erode natural and/or unprotected watercourses causing the watercourse to widen...Sedimentation can also contribute to accelerated filling of reservoirs, harbors, and drainage systems.[34]

Discussion:

The prevention of erosion is a key objective of the permit modifications to the construction program. The Permittees currently oversee construction sites within their respective jurisdiction. The oversight of smaller construction sites (those sites under five acres) is inconsistent among Permittees. Some Permittees have incorrectly assumed that responsibility begins only after a discharge of pollutants, sediments for example, has left the site. USEPA storm water regulations do not support such interpretations. Regional Board staff has clarified this in the permit to require that the municipalities better coordinate oversight of construction activity within their jurisdiction. The Permittees are ultimately responsible for what enters and exits the MS4 that they own and/or operate. It is in the best interest of the Permittees to control what enters their storm drain system.

Justifications for New Requirements:

NEW REQUIREMENT: The new permit requires that Permittees promote the use of effective erosion and sediment controls at construction sites regardless of size.

JUSTIFICATION: The need for proper erosion and sediment controls is very apparent during, and immediately after, the rains that occur in Southern California. The environmental effects of erosion are well documented. Erosion can be prevented or reduced with the proper planning and implementation of appropriate BMPs.

NEW REQUIREMENT: Requirements for source control and treatment control BMPs for controlling runoff at construction sites.

JUSTIFICATION: Erosion occurs when land is exposed and the sediments are mobilized. With adequately engineered and implemented structural or non-structural BMPs, the detrimental environmental effects can be eliminated or minimized. Currently, there are many manuals and guidance handbooks available to guide a developer. The municipalities, in general, are aware of

[34] *California Storm Water Best Management Practice Handbook for Construction Activity*. 1993.

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these BMPs, and can work with Regional Board staff to ensure that they are being implemented.

NEW REQUIREMENT: Each Permittee shall require the preparation, submittal, and implementation of a Local SWPPP prior to issuance of a grading permit for construction projects that meet one or more of the following criteria: will result in soil disturbance of one acre or more in size.

JUSTIFICATION: This is to ensure that a site that is being graded, but is less than the required size threshold (5 acres) for a General Construction Activities Storm Water Permit (GCASP) has oversight by the Permittee to ensure implementation of erosion controls and construction waste management practices. Currently, grading requirements are inconsistently applied. Beginning March 2003, USEPA Phase II storm water regulations require that sites one acre to five acres become subject to permitting as well.

NEW REQUIREMENT: The Permittees shall implement a process to review, approve, and enforce any erosion control plan submitted to the Permittee for implementation at construction sites, regardless of size and GCASP coverage of the sites. Local SWPPPs shall be required for projects of one acre or more in size.

JUSTIFICATION: The Permittees need to enforce local storm water ordinances at construction sites to prevent erosion. They should not wait for a discharge to occur before initiating enforcement action.

REQUIREMENT: For sites that require a construction storm water permit, Permittees are required to ensure that a Notice of Intent (NOI) has been filed with the State Board prior to issuing a grading permit. This requirement also applies to land transfers between developers on common plans of sale or development that were five or more acres initially.

JUSTIFICATION: This is currently a requirement in Board Order No. 96-054, but not all Permittees have consistently implemented this provision. Regional Board staff inspect construction sites covered by a GCASP. Some Permittees have issued a grading permit where a GCASP was not obtained. State/municipal coordination will ensure that all construction sites have obtained the required permits.

NEW REQUIREMENT: Wet weather inspections are required of all construction sites one acre or greater. The Permittees need to conduct wet weather inspections to ensure compliance with local ordinances.

JUSTIFICATION: If all sites are inspected, this allows the Permittees to ascertain compliance and focus educational and enforcement efforts on those that most need it. Additionally, Regional Board staff can assist the Permittees in compliance oversight by conducting joint inspections.

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D. Illicit Connections and Illicit Discharges Elimination Program

Legal Authority:

A proposed management program "shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer," per 40 CFR 122.26(d)(2)(iv)(B). A Permittee must include in its proposed management program "a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system," per subsection (1) of the above regulation.

Background:

During dry weather, much of the discharge to storm drain systems consists of wastes and wastewater from non-storm water sources. A significant amount of such discharges may be from illicit discharges or connections, or both. Illicit discharges may occur either through direct connections, such as deliberate or mistaken piping, or through indirect connections, such as dumping, spillage, subsurface infiltration, and washdowns.

The objective of a municipality's illicit connection/illicit discharge (IC/ID) elimination program should be to detect illicit connections and illicit discharges to the storm drain system, and to promptly remove such discharges and connections. Municipalities typically employ the approaches listed below to achieve this objective:

1. Permitting connections to the municipal storm drain.
2. Mapping the storm drain system, locations of catch basins, outfalls, permitted connections, and the names and locations of all waters of the U.S. that receive discharges from the outfalls.
3. Adopting a storm water/ urban runoff ordinance to prohibit unauthorized non-storm water discharges into the MS4, and implementing appropriate enforcement procedures and actions.
4. Implementing a program to detect and eliminate non-storm water discharges to the MS4, including illegal dumping.
5. Educating public employees, businesses, and the general public about the dangers associated with illegal discharges and improper disposal.
6. Establishing a public reporting hotline or other mechanism to report illicit discharges and illegal dumping.
7. Establishing measurable goals to evaluate successful program implementation.

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Discussion:

Existing IC/ID Elimination Program

The Regional Board approved a model IC/ID elimination program for the Permittees' SQMP on March 23, 1999. However, only vague performance standards were specified in this model program.

By July 1999, all Permittees reported that they implemented an IC/ID elimination program. For the most part, however, this was a passive program, and relied upon IC/ID detection during regularly scheduled maintenance. Most Permittees are unable to estimate the extent of their storm drain they have screened during regularly scheduled maintenance.

Results of the Permittees' efforts to eliminate illicit connections are summarized in Tables 1 through 5. Their estimates of fiscal resources required to implement these activities for 1999/00 range widely, with two cities – Culver City and Hermosa Beach – estimating budgets of $4.2 million and $2.8 million, respectively. At the other end, four cities estimated $0 expenditures, namely La Habra Heights, Lawndale, Maywood (which does not operate a storm drain system), and West Covina. Based on the Permittees' estimates of expenditures, the Permittees budgeted an average of $113,900 in 1999/00. Removing the anomalous estimates for Culver City and Hermosa Beach, the high ranges up to $564,809, as estimated by the City of Los Angeles, and averaged $32,500. These activities, as summarized in the tables, do not appear to bear a relationship with IC/ID expenditures by each Permittee.

Illicit Connections: As designed in the model program, Permittees with storm drain systems under their management rely upon field screening, during regularly scheduled maintenance of the storm drain system, to locate illicit connections. However, most Permittees cannot estimate the length of the storm drain system that was field-screened; nor did the Regional Board require reporting such information.

For the 1999/00 annual reporting period, very few Permittees reported illicit connections. The attached tables show that the numbers of illicit connections varied widely among Permittees, with about half reporting no illicit connections, and with the County reporting 877 suspected illicit connections. Part of the reason for this range is that the County is responsible for maintaining over half[35] of the storm drain system. Also, several Permittees believe that few – if any – illicit connections have been identified in many cities because: (a) many cities are primarily residential, and illicit connections are unlikely to occur from residential land use; and (b) cities in the County of Los Angeles are relatively new vis a vis their eastern counterparts, and adequate controls were in place at the time storm drain connections were installed.

[35] The exact length of storm drain systems operated by most cities is unknown.

Table 1: Illicit Connections 1999/00 County, Ballona Creek, and Urban Santa Monica Bay Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
County of Los Angeles	877	124	0	336	417[36]
Beverly Hills	0				
Culver City	None				
El Segundo	0	0	0	0	0
Hermosa Beach	None				
Manhattan Beach	0				
Palos Verdes Estates	0	1	3	3	0
Rancho Palos Verdes	None				
Redondo Beach	0				
Rolling Hills	0	0	0	0	
Rolling Hills Estates	0				
Santa Monica	70	10	50	10	0
West Hollywood	None				
Total	947	135	53	349	417

[36] The County of Los Angeles reported under the "Other" category of illicit connections that 126 connections were already permitted but not properly identified and those 291 illicit connections are still under investigation.

Table 2: Illicit Connections 1999/00 Dominguez Channel and Los Angeles Harbor Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges	Removed	Other
Carson	8	0	0	0	0
Hawthorne	None				
Inglewood	3				3[37]
Lawndale	None				
Lomita	1	0	1	0	0
Torrance	0				
Total	12	0	1	0	3

Table 3: Illicit Connections 1999/00 Malibu Creek and Rural Santa Monica Bay Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
Agoura Hills	0	0	0	0	
Calabasas	2				2
Malibu	15	0	7	0	
Total	17	0	7	0	2

[37] The City of Inglewood reports that 3 illicit connections are to be eliminated.

Table 4: Illicit Connections 1999/00 Los Angeles River Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharges Terminated	Removed	Other
Alhambra	0	0	0	0	0
Arcadia	0	0	0	0	0
Bell	0	N/A	N/A	N/A	N/A
Bell Garden	0	0	0	0	0
Burbank	4		3	1	
Commerce	14	8	6	0	0
Compton	8	6	2	0	0
Cudahy	0	N/A	N/A	N/A	N/A
El Monte	None				
Glendale					
Hidden Hills	0	N/A	N/A	N/A	N/A
Huntington Park	2			2	
La Canada Flintridge	0				
Los Angeles	29	7	8	11	3
Lynwood	0	0	0	0	0
Maywood	0	0			
Monrovia	0	N/A	N/A	N/A	N/A
Montebello	21	0	11	1	9
Monterey Park	2	0	0	2	0
Paramount	0				
Pasadena	None				
Rosemead	0				
San Fernando	None				
San Marino	0	N/A			
Sierra Madre	None				
Signal Hills	None				
South El Monte	None				
South Gate	2	0	1	1	
South Pasadena					
Temple City					
Vernon	1	0	0	0	1
Total	83	21	31	18	13

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Table 5: Illicit Connections 1999/00 San Gabriel River Watershed Management Areas					
Permittee	Number of Illicit Connections:				
	Investigated	Exempt	Discharged Terminated	Removed	Other
Artesia	0				
Azusa	0				
Baldwin Park	None				
Bellflower	0	0	0	0	0
Bradbury	0				
Cerritos	0	0	0	0	0
Claremont	0				
Covina	0				
Diamond Bar	0				
Duarte	3	0	1	0	2
Glendora	4	0	1	0	3
Hawaiian Garden	0				
City of Industry	None				
Irwindale	9	0	9	0	0
La Habra Heights	0				
La Mirada	1	1			
La Puente	0				
La Verne	0				
Lakewood	11	5	6	0	0
Norwalk	6	0	6	0	N/A
Pico Rivera	0				
Pomona	12	10	2	0	0
San Gabriel	2	0	0	2	0
Santa Fe Spring	0	N/A	N/A	N/A	N/A
Walnut	0				
West Covina	0				
Whittier	8	3	5	2	0
Total	56	19	30	4	5

Illicit Discharges: As designed in the model program, Permittees eliminate illicit discharges by preventing spills and, for those that do occur, by responding promptly. To prevent spills, Permittees enacted ordinances prohibiting non-storm water runoff, and are implementing spill prevention guidance. To respond to discharges, Permittees implement containment and cleanup procedures, coordinate with other agencies, investigate the cause of the discharge and – when the source and responsible party is know – take enforcement action. Additionally, employee training is provided on all of the above.

As with illicit connections, the numbers of illicit discharges varies widely for the annual reporting period 1999/00. The County reported a total of 788 suspected illicit discharges. Among the Cities, results at the high end include 1,876 in the City of Los Angeles, 700 in the City of Beverly Hills, and 450 in Santa Monica. At the other end of the range, many cities reported no incidents of suspected illicit

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discharges. Based on information provided to date, staff cannot account for this wide range. Audits of the Permittees' programs in the future should help clarify this.

Table 6: Illicit Discharges 1999/00
County of Los Angeles, and Ballona Creek and Urban Santa Monica Bay Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
County of Los Angeles	788	95	15	2	411	265
Beverly Hills	700	70[38]	35[2]	35[2]	525	35[2]
Culver City	25	0	0	0	25	0
El Segundo	10	7	1	0	2	0
Hermosa Beach	10	2	0	0	8	0
Manhattan Beach	1	0	0	0	1	0
Palos Verdes Estates	6	2	1	0	3	0
Rancho Palos Verdes	6	0	0	0	6	0
Redondo Beach	31	3	0	0	25	3
Rolling Hills	0	N/A	N/A	N/A	N/A	N/A
Rolling Hills Estates	1				1	
Santa Monica	450	5	22	5	398	20
West Hollywood	9	1	0	0	8	0
Total	2037	185	74	42	1413	323

Table 7: Illicit Discharges 1999/00
Malibu Creek and Rural Santa Monica Bay Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Agoura Hills	11	1	0	0	10	0
Calabasas	12	1			10	
Malibu	15	7	0	0	7	8
Total	38	9	0	0	27	8

[38] Documented as percentage.

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Table 8: Illicit Discharges 1999/00 Dominguez Channel and Los Angeles Harbor Watershed Management Areas						
Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Carson	24	12	0	0	0	24
Hawthorne	10	0	1	0	9	0
Inglewood	3				3	
Lawndale	2	1	0	0	1	0
Lomita	14	0	0	0	14	0
Torrance	0					
Total	53	13	1	0	27	24

Table 9: Illicit Discharges 1999/00 Los Angeles River Watershed Management Areas						
Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Alhambra	0	0	0	0	0	0
Arcadia	11	1	0	0	10	0
Bell	0	N/A	N/A	N/A	N/A	N/A
Bell Garden	0	0	0	0	0	0
Burbank	47	2	1	0	43	1
Commerce	21	4	8	0	9	0
Compton	17	9	5	0	3	0
Cudahy	0	N/A	N/A	N/A	N/A	N/A
El Monte	50	0	0	0	48	2
Glendale	?	?	?	?	?	?
Hidden Hills	0	N/A	N/A	N/A	N/A	
Huntington Park	2				2	
La Canada Flintridge	75	15	0	0	60	0
Los Angeles	1896	227	2	5	700	962
Lynwood	0	0	0	0	0	0
Maywood	1		1			
Monrovia	0	N/A	N/A	N/A	N/A	
Montebello	13	12	11	0	0	1
Monterey Park	19	0	0	0	18	1
Paramount	0					
Pasadena	39	1	0	0	37	1
Rosemead	0					
San Fernando	12	1	0	0	11	0

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San Marino	0	N/A				
Sierra Madre	3	0	0	0	3	0
Signal Hills	13	3	0	0	10	0
South El Monte	15	0	0	0	15	0
South Gate	28	3	1	0	22	2
South Pasadena						
Temple City						
Vernon	10	0	0	0	9	0
Total	2271	278	29	5	1000	970

Table 10: Illicit Discharges 1999/00
San Gabriel River Watershed Management Areas

Permittee	Number of Illicit Discharges:					
	Investigated	No Evidence	Exempt	Under Different NPDES Permit	Discontinued	Source Not Determined
Artesia	10	4	0	0	4	2
Azusa	1				1	
Baldwin Park	27	5	0	0	20	2
Bellflower	8	8	0	0	0	0
Bradbury	0					
Cerritos	8	0	0	0	8	0
Claremont	4	1	0	0	3	
Covina	32	5	4	0	18	5
Diamond Bar	1					1
Duarte	3	3	0	0	0	3
Glendora	14	13	0	0	12	0
Hawaiian Garden	0					
City of Industry	None					
Irwindale	23	0	0	0	20	3
La Habra Heights	1			1		
La Mirada	16		3		13	
La Puente	1				1	
La Verne	1				1	
Lakewood	17	0	2	0	9	6
Norwalk	6	0	0	0	6	0
Pico Rivera	12	6	0	0	6	0
Pomona	78	18	8	10	16	26
San Gabriel	4	0	0	0	3	1
Santa Fe Spring	12	3	0	0	0	9
Walnut	2			1	1	0
West Covina	48	6	0	0	7	35
Whittier	32	12	18	15	17	3
Total	361	84	35	27	166	96

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Reporting: As designed in the model program, Permittees have implemented procedures to receive reports of illicit discharge and disposal incidents, and to promptly respond and report such incidents. Most rely upon the countywide hotline system, which is maintained by the County. For hazardous substances, Permittees implement additional reporting procedures.

New IC/ID Elimination Program Requirements

The Special Provisions Section of the permit (Board Order No. 01-182) requires the Permittees to revise their IC/ID Elimination Program in the SQMP to meet the following proposed requirements in the permit:

- General requirements, among which include development (if necessary) and update of a list of permitted connections to the storm drain system, a tracking system for illicit connections and discharges, and compilation of this information in coordination with the Principal Permittee, as well as identification of priority areas for proactive screening.

- Illicit connection requirements for proactive screening of the storm drain system over a 5-year period, including:

  - Field screening of open channels and underground pipes (with a diameter of 36 inches or greater);[39]

  - Permit screening, to ensure that all facilities with connections are effectively implementing the prohibition on non-storm water discharges;

  - Requirements to investigate and terminate illicit connections, including response times; and

- Illicit discharge requirements, specifying response times for abatement and cleanup (within one business day), and investigation (as soon as practicable).

As Permittees have pointed out, and as staff acknowledges, residential land uses are less likely to have illicit connections. However, staff remains concerned that adequate controls be in place at all times to prevent improper connections to the storm drain system. Staff's concern is based upon the wide range of illicit connections reported by Permittees with no apparent relation to land use, the poor water quality of dry weather flows in inland receiving waters, and also incidents of illicit connections reported separately or directly to the Regional Board.

[39] As set forth on page 3-3 and in Appendix I of the Permittees' model program, screening tools for the proactive program will include dye tests, smoke tests, and TV inspections.

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E. Public Agency Activities Program

Legal Authority:

USEPA storm water regulations 40 CFR 122.26(d)(2)(iv)(A)(1,3,4,5,and 6). Each Permittee must develop a program to reduce the discharge of pollutants to and from the MS4 to the maximum extent practicable for all urban land uses and activities, including municipal areas and activities.

Background:

Many Permittees provide services that ultimately result in the enhancement of the lives of the residents. Some of these services include but are not limited to: sewage system operations; public construction activities; vehicle maintenance; material storage; street and road maintenance; landscaping; recreational facility management; parking facility management; public industrial activities; and many other activities.

Justifications for New Requirements:

NEW REQUIREMENT: In sewage system operations, each Permittee is required to implement a response plan in case of an overflow of the sewage system to the storm drain system.

JUSTIFICATION: The response plan will have different requirements dependent upon whether the Permittee owns or operates the sanitary sewer system.

NEW REQUIREMENT: All requirements in the Development Construction Program apply to public construction activities.

JUSTIFICATION: This is proposed to reduce the possibility of a public construction site from becoming a source of pollutants. A public construction site should be a model of what to do efficiently and effectively (preceding a discharge).

NEW REQUIREMENT: Each Permittee with a construction site that meets the size requirements for a GCASP must obtain coverage under the general permit for construction activity. Currently the size threshold is 5 acres but will change to 1 acre on March 10, 2003. However, a municipality of less than 100,000 people (1990 Census) need not apply for coverage for a construction activity until March 10, 2003.

JUSTIFICATION: This change is consistent with USEPA Phase II storm water regulations, and will assist in the tracking of construction sites operated by Permittees.

NEW REQUIREMENT: Each Permittee is required to ensure that public facilities are designed and constructed using construction and post-construction BMPs consistent with the Standard Urban Storm Water Mitigation Plans (SUSMPs) required in the Development Planning section of the permit.

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JUSTIFICATION: This requirement ensures consistency with the planning, design, and construction requirements for private projects. Public projects will be treated the same as private projects.

NEW REQUIREMENT: For Permittee owned or operated vehicle maintenance, material storage areas, and corporation yards the Permittees will implement site specific SWPPPs to minimize pollutants in storm water discharges. Vehicle and equipment wash areas will be required to be self contained or covered, equipped with a clarifier, or other pretreatment device, and/or properly connected to the sanitary sewer. This requirement will take effect when a new facility is constructed or when an existing site is remodeled or reconstructed.

JUSTIFICATION: This requirement ensures consistency with the City of Long Beach MS4 and the Ventura County MS4 permits.

NEW REQUIREMENT: For storm drain operation and maintenance, Permittees are now required to prioritize all catch basins and clean them out according to the permit requirements (Part 4.F.5, Permit). The previous permit required catch basins to be inspected and cleaned once a year. Also, any catch basin greater than 40% full must be cleaned, and after July 1, 2003, any catch basin greater than 25% full must be cleaned. In addition to catch basin cleaning, Permittees must also implement other trash reduction measures. These measures include placing trash receptacles at all transit stops and implementing special actions to cleanup trash when hosting a special event.

Permittees subject to a trash TMDL (Los Angeles River and Ballona Creek WMAs) may continue with their current catch basin cleaning schedule until TMDL implementation measures are developed. The TMDL implementation measures may be different than permit provisions, and requiring Permittees subject to a TMDL to implement different permit requirements would be premature and result in unnecessary expenses for these Permittees. However, if TMDL implementation measures are not in place by October 2003, Permittees subject to a trash TMDL must implement all permit requirements to control trash.

At the December 13, 2001 Board Meeting, concern was raised regarding the storm drain operation and management requirements described above. At the time of the Board Meeting, the requirement did not include a clause in case TMDL implementation measures were not implemented as currently scheduled. Therefore, it was possible that Permittees in the Los Angeles River and Ballona Creek WMAs would be allowed to continue their current practices without any additional trash reduction requirements. This issue was discussed, and the Board approved inserting a phrase that required the TMDL subject Permittees to implement regular storm drain operation and management requirements in the case that the TMDL implementation phase has not begun by 2003.

NEW REQUIREMENT: For storm drain maintenance each Permittee must visually monitor their open channels for debris and identify and prioritize areas of illicit discharge for regular inspection and at least annually remove trash and

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debris from the channels. Permittees must properly dispose of removed material.

NEW REQUIREMENT: The streets and roads maintenance section (Part 4.F.6, Permit) requires each Permittee to designate streets based on the volume of trash that is consistently generated. Priority A (highest) streets must be swept twice a month. Priority B (medium) streets must be swept once a month, and Priority C (lowest) streets must be swept as necessary, but no less than once a year. The basis of prioritization was left for the Permittees to establish and implement.

JUSTIFICATION: The new streets and roads maintenance requirements will allow Permittees to more efficiently use resources to target high priority areas.

NEW REQUIREMENT: Permittees, in cooperation with the Los Angeles County Sanitation District, are required to conduct a study to investigate the possible diversion of dry weather discharges or the use of alternate treatment control BMPs to treat storm water from their jurisdiction. A priority list of possible diversions must be submitted to the Regional Board Executive Officer no later than July 1, 2003. The permit does not require Permittees to implement the list. The purpose of the requirement is to have the prioritized lists available for consideration for possible funding through grants, bonds, supplemental environmental projects (SEPs), or other sources.

F. New Development And Significant Redevelopment Program

Impacts from New Development:

Treatment control BMP requirements on new development and redevelopment offer the most cost-effective strategy to reduce pollutant loads to surface waters. Retrofit of existing development will be expensive and may be considered on a targeted basis. Studies on the economic impacts of watershed protection indicate that storm water quality management has a positive or at least neutral economic effect while greatly improving the quality of surface waters.[40]

USEPA storm water regulations at 40 CFR 122.26 require that pollutants in storm water be reduced to MEP. The USEPA's definition is intentionally broad to provide maximum flexibility in MS4 permitting and to give municipalities the opportunity to optimize pollutant reductions on a program-to-program basis.[41] The definition of MEP has generally been applied to mean implementation of economically achievable management practices. Because storm water runoff rates can vary from storm to storm, the statistical probabilities of rainfall or runoff events become economically significant and are central to the control of pollutants through cost effective BMPs. Further, it is recommended that storm water BMPs be designed to manage both flows and water quality for best

[40] *The Economics of Watershed Protection*, T. Schueler (1999), Center for Watershed Protection, Endicott, MD. The article summarizes nationwide studies to support the statement that watershed planning and storm water management provides positive economic benefits.

[41] *Storm Water Phase II Final Rule* – Pre-Federal Register Version, p 87 (USEPA 1999). See USEPA's discussion in response to challenges that the definition is sufficiently vague to be deemed adequate notice for purposes of compliance with the regulation.

performance. [42] It is equally important that treatment control BMPs once implemented be routinely maintained.

Financing the MS4 program offers a considerable challenge for municipalities. A proven successful financing mechanism is the establishment of a storm water utility.[43] Utility fees, which are assessed on the property owner based on some estimate of storm water runoff generated for the site, are a predictable and dedicated source of funds. Utility fees can also provide a mechanism to provide incentives to commercial and industrial property owners to reduce impervious surface areas. Such incentives offer flexibility to property owners to choose the better economic option – paying more fees or making improvements to reduce runoff from the site.

Review of Design Standards:

The American Society of Civil Engineers (ASCE) and the Water Environment Federation (WEF) have recommended a numerical BMP design standard for storm water that is derived from a mathematical equation to maximize treatment of runoff volume for water quality based on rainfall/ runoff statistics and which is economically sound.[44] The maximized treatment volume is cut-off at the point of diminishing returns for rainfall/ runoff frequency. On the basis of this equation the maximized runoff volume for eighty-five percent treatment of annual runoff volumes in California can range from 0.08 to 0.86 inches depending on the imperviousness of the watershed area and the mean rainfall.[45]

Other methods of establishing numerical BMP design standards include: (i) Percent treatment of the annual runoff; (ii) Full treatment of runoff from rainfall event equal to or less than a predetermined size; and (iii) Percent reduction in runoff based on a rainfall event of standard size.[46] These numerical design standards have been applied to Development Planning in Puget Sound, WA; Alexandria, VA; Montgomery County, MD; Denver, CO; Orlando, FL; Portland, OR; and Austin, TX.

The City of Seattle requires that where new development coverage is 750 square feet or more, storm water detention be provided based on a 25 year storm return frequency, and a peak discharge rate not to exceed 0.2 cubic feet per second.[47] Additionally, for projects that add more than 9,000 square feet in developmental coverage, the peak drainage water discharge rate is limited to 0.15 cubic feet per second per acre for a two-year storm. The City of Denver requires new residential, commercial, and industrial developments to capture and treat the 80th percentile runoff event. This capture and proper treatment is estimated to

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[42] *Urban Runoff Pollution – Summary Thoughts* – The State of Practice Today and For the 21st Century. Wat. Sci. Tech. 39(2) pp. 353-360. L.A. Roesner (1999)

[43] *Preliminary Data Summary of Urban Storm Water Best Management Practices* (1999), Report No. USEPA-821-R-99-012, USEPA. The document reviews municipal financing mechanisms and summarizes experience in the U.S. to date.

[44] *In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87.* WEF, Alexandria, VA; ASCE, Reston, VA. 259 pp. (1998).

[45] *Sizing and Design Criteria for Storm Water Treatment Controls, Presentation to California Storm Water Quality Task Force*, November 13, 1998, Sacramento, CA. L.A. Roesner, Camp Dresser McKee.

[46] *Sizing and Design Criteria for Storm water Quality Infrastructure, Presentation at California Regional Water Quality Control Board Workshop on Standard Urban Storm Water Mitigation Plans*, August 10, 1999, Alhambra, CA., R.A. Brashear, Camp Dresser McKee.

[47] *City of Seattle Municipal Code, Chapter 22.802.015* – Storm water, drainage and erosion control requirements.

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remove 80 to 90 percent of the annual TSS load which is a surrogate measure for heavy metal and petroleum hydrocarbon pollutants.[48]

Some States have established numerical standards for sizing storm water post-construction BMPs for new development and significant redevelopment. The State of Maryland has established storm water numerical criteria for water quality of 0.9 to 1 inch, and BMP design standards in a unified approach combining water quality, stream erosion potential reduction, groundwater recharge, and flood control objectives.[49] The State of Florida has used numerical criteria to require treatment of storm water from new development since 1982, including BMPs sized for 80 percent reduction (95 percent for impaired waters) in annual TSS loads derived from the 90 percent (or greater for impaired waters) annual runoff treatment volume method for water quality.[50] The State of Washington has proposed at least six different approaches of establishing storm water numerical mitigation criteria for new development, which add 10,000 square feet of impervious surface or more for residential development, and 5,000 square feet of impervious surface or more for other types of development.[51] Other mitigation criteria options include the 90th percentile 24-hour rainfall event (used by the State of Maryland) and the six month 24 hour rainfall event (used by the State of Washington).

On a national level, the USEPA is planning to standardize minimum BMP design and performance criteria for post-construction BMPs, and will likely build from the experience of effective state and local programs to establish national criteria.[52] The USEPA, based on the NURP, supports the first half-inch of rainfall as generating first flush runoff.[53] First flush runoff is associated with the highest pollutant concentrations, and not pollutant load. The USEPA considers the first flush treatment method, the rainfall volume method, and the runoff capture volume method as common approaches for sizing of water quality BMPs.

Background:

On April 22, 1999, the Regional Board approved a List of BMPs for MS4 Permittees to select from and required implementation of the most effective BMPs in their Development Planning and Development Construction programs.[54]

The Final SUSMP was issued on March 8, 2000. It established new development and significant redevelopment conditions for all projects in the following categories:

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[48] *Urban Storm Drainage, Criteria Manual – Volume 3, Best Management Practices, Urban Drainage and Flood Control District, Denver*, CO (1999). Manual provides detail design criteria for new development for the Denver Metropolitan area.
[49] *Maryland Storm Water Design Manual* - (Maryland Department of the Environment 2000).
[50] *Florida Development Manual: A Guide to Sound Land and Water Management* (Florida Department of Environmental Protection 1992). The manual describes structural and non-structural construction and post construction BMPs design criteria.
[51] *Storm Water Management in Washington State Volumes 1 – 5.* (Washington Department of Ecology 2001). The volumes 1,3 and 5 are most relevant to new development standards and cover Hydrologic and Flow Control Designs, Minimum Technical Requirements and Treatment BMPs. The volumes were adopted as statewide standards in late 2001.
[52] *Storm Water Phase II Final Rule* – 64 Fed. Reg. 68759. See USEPA's discussion on construction and post-construction BMP requirements for Phase II.
[53] *A Watershed Approach to Urban Runoff: Handbook for Decisionmakers*, Terrene Institute and USEPA Region 5 (1996). See discussion on sizing rules for water quality purposes, p 36.
[54] (Board Resolution No. 99-03).

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- 10 or more home subdivision;
- 100,000+ square-foot commercial development;
- Automotive repair facilities;
- Retail Gasoline Outlets;
- Restaurants;
- Parking lots more than 5,000 square feet or more than 25 parking spaces
- Hillside located single-family dwelling,
- Construction projects adjacent to, in, or discharging directly to Environmentally Sensitive Areas

The SUSMP included numerical design criteria for structural and treatment control BMPs. These criteria are:

Mitigate (infiltrate or treat) storm water runoff from either:

a) the 85th percentile 24-hour runoff event, determined as the maximized capture storm water volume for the area from the formula recommended by the WEF and ASCE study[55];

b) the annual runoff volume, based on unit basin storage water quality volume, to achieve 80 percent or more volume treatment by the method recommended in the BMP Handbook;[56]

c) the volume of runoff produced from each and every storm event up to and including 0.75 inch of rainfall, prior to its discharge to a storm water conveyance system; or

[55] *In Urban Runoff Quality Management, WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87.* WEF, Alexandria, VA; ASCE, Reston, VA. (1998).
[56] *California Storm water Best Management Practices Handbook – Industrial/ Commercial,* (1993)

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d) the volume of runoff produced from each and every storm event up to and including a historical-record based reference 24-hour rainfall criterion for "treatment" (0.75 inch average for the Los Angeles County area) that achieves approximately the same reduction in pollutant loads achieved by the 85th percentile 24-hour runoff event; and/or

e) the flow of runoff produced from a rain event equal to at least 0.2 inches per hour intensity; or

f) the flow of runoff produced from a rain event equal to at least two times the 85th percentile hourly rainfall intensity for Los Angeles County; or

g) the flow of runoff produced from a rain event that will result in treatment of the same portion of runoff as treated using volumetric standards above.

The State Board issued a precedential decision[57] on the matter in Order WQ 2000-11, largely sustaining the SUSMP as approved by the Regional Board. The State Board amended the SUSMP to limit its application to discretionary projects as defined by CEQA, eliminated the category for projects in environmentally sensitive areas, and set aside the requirement for retail gasoline outlets to treat storm water until a threshold is developed in the future. In addition, the State Board articulated its support for regional solutions and the mitigation banking.

The new permit amends the SUSMP requirements to clarify implementation, make it consistent with recent Regional Board actions, and where appropriate correct procedural and other deficiencies identified by the State Board in its SUSMP ruling. The proposed changes include:

- SUSMPs for hillside developments that are 1 acre or more. Hillside residential homes below the threshold would be required to incorporate BMPs to facilitate drainage and pollutant removal but would not be subject to the numerical mitigation criteria. Currently, all hillside developments regardless of size are subject to the numerical mitigation criteria. This change normalizes post-construction controls for home developments irrespective of location.
- Numerical design criteria retail gasoline stations, where they meet both thresholds, (i) projected average daily traffic of 100 cars or more; and (ii) 5,000 square feet or more of surface area.
- Clarify that the 100,000 square feet commercial development includes heavy industrial development. The category is designated 'industrial/commercial'.

[57] *State Water Board Order WQ 2000-11*: SUSMP; Memorandum from Chief Counsel to Regional Board Executive Officers, (December 26, 2000) discusses statewide policy implications of the decision.

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- Lower the industrial/commercial category threshold from 100,000 square feet to 1-acre (43,560 square feet) beginning March 9, 2003, to be consistent with the USEPA Phase 2 storm water regulations for small construction projects.
- SUSMP requirements apply to all developments, both ministerial and discretionary. As presently implemented the SUSMP requirements apply to only discretionary projects as defined under CEQA.
- SUSMP requirements apply to projects situated in, adjacent to, or discharging directly to environmentally sensitive areas where the development (a) creates 2,500 square feet or more of impervious area, and (b) discharge storm water and urban runoff that is likely to impact a sensitive biological species or habitat.
- Redevelopment clarification.

Technical papers that provide more detail have been prepared and are included in the Administrative record.

VI. MONITORING PROGRAM

Background:

Using data collected from a monitoring program, storm water management efforts can be prioritized, helping limited resources be most effective in improving receiving water quality. For example, a monitoring program can provide data that can allow for specific receiving waters and watersheds to be targeted for urban runoff management and education efforts based on their need. Particular pollutants and their sources can also be identified and targeted using monitoring data. In addition, monitoring data can be useful in assessing the effectiveness of an urban runoff management program. Successful efforts that have resulted in receiving water quality improvements can be analyzed for use elsewhere, while areas that need follow-up efforts can also be identified. In general, a comprehensive monitoring program can supply a wealth of data that can be used in a wide range of applications for improving water quality.

Storm Water Monitoring History:

In the 1994-95 storm season, the Los Angeles County Department of Public Works began monitoring storm water quality in Los Angeles County. The first two years of monitoring were conducted pursuant to the 1990 permit. Over the past five years, the Los Angeles County storm water monitoring program consisted of four main components: mass emission monitoring, land use monitoring, critical source monitoring, and a Santa Monica Bay receiving water study. The results of each objective are summarized below.

- **Mass Emission Monitoring**

  Mass emissions were monitored for four major watersheds: Ballona Creek, Malibu Creek, Los Angeles River, and San Gabriel River. The County also monitored mass

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emissions from Coyote Creek, although it was not a requirement of Order 96-045. The mass emission monitoring identified the Los Angeles River as consistently contributing the most zinc, copper, and suspended solids[58]. Sixteen chemical constituents of concern were identified from the comparison of mass emission annual concentrations to the objectives of the Ocean Plan, Basin Plan, and the CTR (several other constituents of concern were identified through research)[1]. The mass emission monitoring was also successful at identifying toxic levels of zinc and copper from Ballona Creek discharge, toxicity in the Los Angeles and San Gabriel Rivers, and the extent of severity of bacterial indicators in both dry and wet weather.

- **Land Use Monitoring**

  The County selected eight land use types to be monitored to identify sources of pollutants in storm water monitoring. These land uses include retail/commercial, vacant, high-density single family residential, transportation, light industrial, education, multifamily residential, and mixed residential. The land use monitoring identified light industrial, transportation, and retail/commercial land uses as producing the highest median concentrations for total and dissolved zinc[1]. Light industrial and transportation displayed the highest median concentrations for total and dissolved copper, and light industrial produced the highest concentrations of suspended solids. The majority of the Land Use monitoring requirement was completed, however, Event Mean Concentrations (EMCs) for several constituents (many due to the lowering of method detection limits) were not achieved. Pesticide, nutrient, and PAHs are among the constituents that do not have EMCs for most land uses.

- **Critical Source Monitoring**

  Five critical sources, including industrial and commercial facilities, were monitored to evaluate the effectiveness of voluntary good housekeeping and preventative BMPs. The critical sources included in the study were motor freight, auto dealers, chemical manufacturing, machinery manufacturing, and rubber/plastics. The critical source monitoring program identified fabricated metal businesses as producing the highest median concentrations for zinc, copper, and suspended solids[59]. The inability to require or control the implementation of BMPs made this study somewhat ineffective at evaluating BMP effectiveness. In most cases, there was no significant difference in pollutant levels from critical sources with and without BMPs. However, levels of total and dissolved copper at the fabricated metal industry were significantly reduced with the implementation of BMPs[1].

- **Receiving Water Study**

  A three-year study was conducted to assess the impacts of urban storm water runoff, specifically ecosystem health, on the receiving waters of the Santa Monica Bay. The study examined plume characteristics, water column and seafloor biology. Ballona and Malibu Creek were compared to evaluate the effects of different watershed types. The study discerned the presence of well-developed plumes

[58] Los Angeles County 1994-2000 Integrated Receiving Water impacts Report, Los Angeles County Department of Public Works

[59] *Ibid.*

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containing toxic materials, identified zinc and copper as contaminants in Ballona Creek, and concluded that sediments offshore of Ballona Creek generally had higher concentrations of urban contaminants. These findings demonstrate the need for further studies and for the identification of sources of toxic pollutants.

New Storm Water Monitoring Program:

The objectives of the Storm Water Monitoring Program include, but are not limited to: 1) assessing compliance with the MS4 permit; 2) measuring and improving the effectiveness of the SQMP; 3) assessing the chemical, physical, and biological impacts of receiving waters resulting from urban runoff; 4) characterization of storm water discharges; 5) identifying sources of pollutants; and 6) assessing the overall health and evaluating long-term trends in receiving water quality.

Mass Emissions Monitoring

Seven mass emissions stations will be monitored. Monitoring at the five existing stations will continue, and new stations were required in Dominguez Channel, and the Santa Clara River.

The Dominguez Channel watershed contains the highest percentage of impervious area. Studies reveal that the level of imperviousness in an area strongly correlates with the quality of the nearby receiving waters.[60] Also, the Dominguez Channel Watershed is a highly industrialized area and the storm water runoff needs to be characterized to determine its contribution of pollutants in the San Pedro Bay.

A new mass emission station in the Santa Clara watershed is also required. The purpose of this station is to characterize mass emissions from Los Angeles County and to monitor the impacts from new development. Therefore, the station should be located as close to the Ventura County line as practicable. The Santa Clara is currently the most natural and least impacted watershed in the County. However, it is rapidly urbanizing and contains a significant amount of proposed development. Several factors, including the natural state of the river and the lack of accessibility, have made it difficult to select a location for a sampling station. However, Regional Board and Los Angeles County DPW staff conducted a field investigation of the watershed that revealed a couple of potential monitoring locations. Prior to the next rainy season, the County will determine the location that is most feasible for them.

Method Detection Limits

The Minimum Levels (MLs) listed in Appendix 4 of the State Board Policy for Implementation of Toxics Standards for Inland Surface Water, Enclosed bays, and Estuaries of California, 2000 (SIP) represent the lowest quantifiable concentration in a sample based on the proper application of all method-based analytical procedures and the absence of any matrix interferences.[61] These MLs must be incorporated into all water quality monitoring programs to detect priority toxic pollutants. The MLs are the only established criteria that take into consideration recent improvements in chemical analytical methods. If they are not used in the storm water program, concentrations of

[60] 64 *Fed. Reg.* 68725
[61] SIP

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concern of priority toxic pollutants may not be detected, which has occurred throughout the history of the Los Angeles County storm water monitoring program. Detection and control of toxic pollutants in surface waters is necessary to achieve the CWA's goals and objectives.[62] Numeric criteria for toxic pollutants is necessary to evaluate the adequacy of existing and potential control measures to protect aquatic ecosystems and human health.[63] Also, using MLs will provide quantifiable data that is necessary to better assess water quality and to develop Waste Load Allocations and Load Allocations for TMDLs. Furthermore, non-detects cannot be used to accurately determine mass loadings. The criteria established in the CTR are legally applicable in the State of California for inland surface waters, enclosed bays and estuaries for all purposes and programs under the CWA.[64] Section 402(p)(3)(B)(iii) gives USEPA and states the authority to incorporate appropriate water quality-based effluent limitations in NPDES permits for discharges from MS4s.[65] The MLs have been incorporated in Attachment U-1 of the Monitoring and Reporting Program.

TSS Monitoring

Every storm greater than .25 inch shall be sampled and analyzed for TSS. The purpose of this requirement is to consider the high variability of storm water discharges and determine more accurate average mass emission values. The high variability of storm water makes it unlikely to characterize a storm season based on a few mass emission samples. Studies show that the median event mean concentration for storm water programs that do not sample every storm is consistently biased low, relative to the annual flow-weighted mean[66]. To adequately characterize a storm and capture central tendencies, many storms would need to be sampled. However, this is cost-prohibitive. Therefore, the correlation between TSS and trace metals should be used. Studies have indicated that runoff contaminants tend to be highly correlated with suspended solids in large rivers and creeks throughout southern California[67]. TSS measurements are one-tenth the cost of trace metal analyses. However, TSS concentrations accounted for up to 95% of the variability in some trace metal concentrations in a study of the Santa Ana River (urbanized watershed in Orange County) conducted by the Southern California Coastal Water Research Project (SCCWRP)[2].

Water Column Toxicity Monitoring

Storm water samples were found to be toxic in the Los Angeles River, the San Gabriel River, Ballona Creek, and the Santa Monica Bay, demonstrating the need for this toxicity monitoring requirement.

Toxicity testing is used to assess the impact of storm water pollutants on the overall quality of aquatic systems[68]. It can be a very useful tool for storm water managers. The Center for Watershed Protection rated toxicity testing as a "very useful" indicator for assessing municipal storm water programs. Toxicity testing can also be used to evaluate the effectiveness of storm water BMPs and other storm water pollution

[62] 65 Fed. Reg. 31683
[63] *Id.*
[64] 65 Fed. Reg. 31682
[65] 65 Fed. Reg. 31703
[66] Temporal variability patterns of stormwater concentrations in urban stormwater runoff. Leisl L. Tiefenthaler, Kenneth C. Schiff, and Molly Leecaster, Southern California Coastal Water Research Project (SCCWRP) annual Report 2000.
[67] SCCWRP. 1992. Surface Runoff to the Southern California Bight.
[68] Center for Watershed Protection, Environmental Indicators to Assess Stormwater Control Programs and Practices (1996).

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reduction measures[69]. Managers can use the results of toxicity testing to identify areas of high concern and to establish priority locations for BMPs. Furthermore, Toxicity Identification Evaluations (TIEs) and Toxicity Reduction Evaluations (TREs) can be used to identify specific pollutants and their sources so that management actions can be more specifically prioritized.

Previous toxicity testing was only conducted using the *Stronglyocentrotus purpuratus* (sea urchin) fertilization test, a marine species. Toxicity testing using multiple species is needed to provide a more complete assessment of the causes of toxicity in storm water[70]. The identification of zinc and copper as contaminants of concern in previous studies in the County were based primarily on studies with the sea urchin. Reliance on single species tests may not provide an accurate assessment of toxicity[71]. Because different species vary in their sensitivity to contaminants, tests with multiple species are needed to determine if other contaminants are present at toxic concentrations[72]. Specifically, an organism that is sensitive to pesticides, which have been found to be important factors in the toxicity of storm water from other watersheds, should be used[73]. USEPA recommends the use of the *Ceriodaphnia dubia* (water flea) reproduction and survival test for the measurement of receiving water toxicity. The water flea is one of the most sensitive aquatic species to diazinon, whereas the sea urchin fertilization test is insensitive to organophosphorus pesticides[74]. By contrast, sea urchin sperm are approximately 10 times more sensitive to trace metals than are water fleas.

Furthermore, the toxicity component of the Monitoring Program should include toxicity identification procedures so that potential constituents of concern can be confirmed and others can be discounted. TIEs are needed to prioritize management actions.

Two wet weather and two dry weather samples will be analyzed for toxicity from each mass emission station every year. When a sample is substantially toxic to either test species, a Phase I TIE will begin immediately. Substantial toxicity means the amount of toxicity necessary to successfully conduct a Phase I TIE. For example, Ceriodaphnia TIEs require at least 50% mortality in undiluted sample at any time during the 7-day duration of the initial chronic bioassay.[75] If enough toxicity is not present at the beginning of a TIE, it cannot be successfully completed. The City of Long Beach Storm Water Monitoring Program has been modified to include similar TIE procedures.

Based on the results from the Long Beach Monitoring Report, the Regional Board determined that using consecutive hits of toxicity in storm water as a trigger for a TIE does not yield adequate results. For example, every single storm event sampled at the Long Beach mass emission stations was toxic to some extent to at least one of the three species tested, but only one TIE was conducted on one species.[76] Also, due to the high variability of storm water, there is no guarantee that substantial toxicity will be present after the two consecutive hits. To increase the chances of a successful TIE and to better identify all causes of toxicity in storm water, TIEs should begin immediately when substantial toxicity is detected in a sample.

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[69] Ibid.
[70] Bay, Jones, Schiff. Study of the Impact of Stormwater Discharge on Santa Monica Bay (1999).
[71] Center for Watershed Protection
[72] Bay, et al.
[73] Bay, et al.
[74] Kinnetic Laboratories, inc., City of Long Beach Storm Water Monitoring Report (2000-2001).
[75] SCCWRP
[76] City of Long Beach Storm Water Monitoring Report, 2000-2001. Kinnetic Labs, Inc. and SCCWRP

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Furthermore, after a toxic pollutant or class of pollutants is identified as causing at least 50% of the toxic responses in at least 3 samples at a sampling location, Toxicity Reduction Evaluations (TRE) will be conducted. If a Phase I TIE only identifies a broad category of toxicants (i.e., nonpolar organics), additional TIE analysis, to the extent possible, will be conducted until the source of toxicity is identified. The purpose of this requirement is to evaluate the extent and causes of toxicity in inland and coastal receiving waters, and to eliminate or reduce the sources of toxicity in storm water.

TRE development and implementation is directly tied to the SQMP, to ensure that management actions are taken when problems are identified. The Principal Permittee expressed concern to Regional Board staff that the TRE requirement could potentially be too involved and costly to be completed with the available funds and resources during the course of the Order. To address this concern, the Regional Board clarified the TRE language. It was decided that a third party should be involved in the source analysis and BMP recommendations, and that each Permittee shall be responsible for the implementation of BMPs in their areas of jurisdiction that are causing or contributing to toxicity. The Principal Permittee is responsible for retaining a neutral third party to evaluate possible sources of toxicity and recommend appropriate BMPs, based on available information. Regional Board staff agreed with the Principal Permittee's proposed funding limit for TRE development, to ensure that the majority of the monitoring budget is not used for TRE purposes.

In addition to the funding limit, the Principal Permittee is also encouraged to coordinate TREs with concurrent TMDLs where overlap exists. If a TMDL is being developed or implemented for an identified toxic pollutant, much of the work necessary to meet the objectives of a TRE may already be underway, and information and implementation measures should be shared.

Overall, the toxicity monitoring program will assess the impact of storm water on the overall quality of aquatic systems and implement measures to ensure that those impacts are eliminated or reduced. Chemical monitoring does not necessarily reveal the impacts of storm water on aquatic life or beneficial uses of water bodies. Therefore, toxicity monitoring is a necessary component of a storm water monitoring program.

Tributary/Source Identification Monitoring

Based on the results of previous storm water quality monitoring and toxicity testing, there is a need to monitor subwatersheds to determine pollutant sources and prioritize management actions. Exceedances of various pollutants, including toxic levels of zinc and copper in the Ballona Watershed, have been occurring at the mass emission stations for many years, but there has not yet been an effort to monitor tributaries to determine where the pollutants are actually coming from.[77] Regional Board staff worked with Los Angeles County staff, and other interested stakeholders, to design a tributary monitoring program.

[77] Los Angeles County 1994-2000 Integrated Receiving Water Impacts Report, July 31, 2000. LA County DPW, SCCWRP, Woodward Clyde.

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Shoreline Monitoring

The City of Los Angeles has conducted shoreline and nearshore water quality monitoring off the Santa Monica Bay since the 1950s under the monitoring program for the Hyperion Waste Water Treatment Plant (NPDES No. CA0109991). The monitoring results indicate that effluent from Hyperion's 5-Mile Outfall does not impinge the shoreline, and that elevated bacterial counts are associated with runoff from storm drains and discharges from piers. In 1994, the Regional Board approved the relocation of Hyperion's shoreline stations to implement a bay-wide, regional shoreline monitoring program associated with storm drain outfalls in the Santa Monica Bay. The City of Los Angeles requested that the shoreline monitoring requirement be incorporated in this Order. Regional Board staff and the County of Los Angeles determined that the shoreline monitoring is an appropriate requirement for the storm water monitoring program, per the conditions listed in Section D of the Monitoring Program.

Trash Monitoring

Trash is a pollutant that impacts storm water runoff, and a trash monitoring program should be included in the MS4 permit. The permit requirement is consistent with the monitoring language in the trash TMDL for the Los Angeles River watershed[78]. The Regional Board Executive Officer issued a CWC § 13267 Request for Trash Monitoring letter, dated December 21, 2001, which required this monitoring. The Regional Board does not intend to require two separate monitoring programs through the MS4 permit and the TMDL. The letter is referenced in the trash monitoring requirement to clarify that monitoring conducted pursuant to the TMDL is sufficient for the permit requirement.

Regional Monitoring

Regional Monitoring efforts address public health concerns, monitor trends in natural resources and nearshore habitats, and assess regional impacts from all pollutant sources. Los Angeles County is a major discharger in this region and should participate in regional programs. Also, participation in Regional Monitoring, such as the SCCWRP Bight-wide study in 2003, can accomplish several goals of the Monitoring Program.

Estuary Sampling

The main goal of the estuary sampling is to determine the spatial extent of sediment fate from storm water, and the magnitude of its effects. Previous studies indicate that contaminated sediments can be linked to suspended solids in storm water[79]. From the information this sampling effort generates, a map of each estuary that depicts the impacted areas will be produced. Such a map will be used to direct future monitoring efforts. Once the impacted areas are identified, regular monitoring can be conducted to determine trends and accumulation of sediment from storm water. The specific sampling requirements are consistent with the Hyperion Waste Water Treatment Plant NPDES permit. This sampling program is also consistent with the objectives of the SCCWRP Bight-wide 2003 study. The results will be incorporated into a larger study of the entire coast of Southern California, from Santa Barbara to the boarder of Mexico.

[78] Trash Total Maximum Daily Loads for the Los Angeles River Watershed, June 18, 2001, Regional Board
[79] Los Angeles County 1994-2000 integrated Receiving Water Impacts Report, Los Angeles County Department of Public Works, Contaminated Sediments and Total Suspended Solids (Section 4.2.4)

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This will provide a comparison of the storm water impacts from Los Angeles County to other larger MS4s, as well as individual dischargers.

Bioassessment

Bioassessment data can be an important indicator of stream health and storm water impacts. It can detect impacts that chemical and physical monitoring cannot. In the Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, EPA encourages permitting authorities to consider requiring biological monitoring methods to fully characterize the nature and extent of storm water problems. Therefore, this Regional Board and other Regional Boards commonly require bioassessment monitoring in storm water and point source NPDES permits.

However, the fact that a biological index does not yet exist for this region is an issue that Regional Board staff took into consideration for this requirement. Without a biological index, including reference conditions and knowledge of background variability, data cannot be fully analyzed to accurately indicate stream health or impacts. However, it can be used to determine trends in the biological community, and it is necessary for index development. Also, bioassessment data can be analyzed in the future, after an index is developed.

Considering the importance of bioassessment and the need for an index, the Principal Permittee is required to develop a bioassessment program as part of a regional effort (Southern California Stormwater Research/Monitoring Program) and to coordinate with the Surface Water Ambient Monitoring Program (SWAMP), organized by the Regional Board. This is to ensure that the most useful data is collected for the purposes of detecting biological trends in receiving waters and for developing a biological index.

New Development Impact Study in the Santa Clara Watershed

The Santa Clara River is the largest river system in southern California that remains in a relatively natural state. For much of its length, it is a high quality natural resource[80]. There is also a great amount of current and future development in the watershed. Therefore, it is important to monitor this watershed to detect water quality impacts from new development and implement measures to prevent degradation from occurring. To accomplish this, a special study is appropriate.

The special study will consist of monitoring tributaries in the Santa Clara watershed to accomplish two goals. The first is to determine impacts from new development. The second is to assess the effectiveness of SUSMPs by comparing storm water quality between subwatersheds with and without post-construction storm water BMPs. Two tributary stations will be selected and monitored for this study. One will be chosen that is representative of a subwatershed in which the majority of development has occurred without SUSMP implementation. The second station will be representative of a subwatershed in which the majority of development has/will include SUSMP implementation.

The City of Santa Clarita will cooperate with the County to conduct the New Development Impact Study (as well as the Peak Discharge Study, if they are combined). The City has proposed to contribute a maximum of $100,000 over the course of the New

[80] Watershed Management Initiative Chapter, January 2000. California Regional Water Quality Control Board, Los Angeles Region

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Development Impact Study. The City also has 2 field staff that may be available for sampling and other field measurements during normal working hours. The City is also interested in participating in site selection and study design.

Peak Discharge Impact Study

The Development Planning section (Part 4.C.2) of the permit requires that the Principal Permittee determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by urbanization. The purpose of the Peak Discharge Impact Study is to help meet that requirement and to study the extent of physical impacts to Natural Drainage Systems from storm water discharges. The Ventura County MS4 permit contains a similar requirement. The Ventura County Flood Control District has designed a study that can possibly be extended to a watershed in Los Angeles County.

Since this study and the New Development Impact Study are both related to monitoring impacts from developed areas, selected sites may be similar. It may be possible to meet the requirements of both studies by studying the chemical characteristics of storm water runoff from a site, and the physical characteristics in the water body downstream of the same site before and after rain events.

BMP Effectiveness Study

The BMP Effectiveness Study is an integral part of the storm water monitoring program. It is necessary to document the effectiveness of treatment control BMPs so that the storm water management agency can make informed decisions on the use of BMPs.

VII. FINAL QUESTIONS AND CHANGES

After the staff presentation and public hearing at the December 13, 2001 Board Meeting, a few questions and issues remained. Prior to adoption, Board Members asked staff and the public to discuss these issues. The main questions were in regards to due process and noticing, the Receiving Water Limitations language, and the storm drain operation and management requirements. The issues and their outcomes are described below.

First, many interested parties expressed a concern that additional time was needed to review and comment on the change sheets. The change sheets contained detailed descriptions of minor changes that were proposed after the issuance of the third draft on October 11, 2001. Almost all of these changes were made at the request of Permittees for clarification. Questions regarding due process and notice procedures for these changes were asked of staff attorney Michael Lauffer. Lauffer Esq. responded by saying that particular attention had been paid to this issue. Prior to the Board Meeting, staff counsel analyzed whether or not any of the changes contained in the change sheets were significant enough to trigger concerns with respect to due process and permit re-noticing. He concluded that the changes were all insignificant and represented logical outgrowths of what the Regional Board had already noticed.[81]

[81] Reporter's Transcript of Proceedings from the December 13, 2001 Regional Board Meeting, Item 10. Pages 155-59.

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In regards to Version A/C of the Industrial/Commercial Facilities Program, staff counsel concluded that it was not a significant change, since it is a combination of Versions A and C, which had already been public noticed. Lauffer stated that none of the changes triggered a requirement to re-notice the proposed permit.[82]

Next, the Receiving Water Limitations (Part 2, Permit) and lack of a "safe harbor" clause were raised as issues during the public hearing. Some Permittees and other interested parties expressed concern that under the new permit municipalities will be in immediate violation due to exceedances of water quality standards which may occur during storm events. Counsel Lauffer referenced the State Board's precedential decision on the San Diego County MS4 permit petition and the State Board's rationale for not including some of the language requested by municipalities.[83] He explained that the Receiving Water Limitations language affirms that an iterative process is the preferred approach. Including specific protection for Permittees above and beyond what the iterative process provides may hinder the Regional Board's enforcement ability in cases where Permittees do not fully implement their SQMPs or appropriate BMPs and exceedances persist.[84] Overall, staff counsel concluded that the existing Receiving Water Limitation language is consistent with the State Board Order WQ 2001-15, and is a necessary component of MS4 permits.

The last issue that was discussed in detail at the Board Meeting was the storm drain operation and management requirements. The concern was raised that Permittees subject to a trash TMDL would not be required to implement any additional trash reduction BMPs, as all other Permittees are, if the trash TMDL implementation phase is delayed or held up in litigation. This issue is described in Section V.E. of this report. In summary, the Board approved inserting a phrase that required TMDL subject Permittees to implement the regular storm drain operation and management requirements in case TMDL implementation has not begun by October 2003.

[82] *Id.*
[83] State Board Order WQ 2001-15
[84] *Id.* Page 164

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California Regional Water Quality Control Board
Los Angeles Region

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Arnold Schwarzenegger
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April 29, 2004

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Administration – 12th Floor
900 South Fremont Ave.
Alhambra, CA 91803

Ken Farfsing
City Manager
City of Signal Hill
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Signal Hill, CA 90755-3799

SUBJECT: CERTIFICATION OF THE HAMILTON BOWL TRASH NETS AS FULL CAPTURE SYSTEMS

Dear Messrs. Wolfe and Farfsing:

We are following up on your request for certification of the Fresh Creek Technologies, Inc.'s trash net system as a full capture system in your October 18, 2002 letter. The trash net system was installed at Hamilton Bowl in an effort to comply with the Los Angeles River Trash TMDL. As you are aware, the Los Angeles River Trash TMDL has been the subject of litigation in San Diego Superior Court and is presently on appeal.

In our February 4, 2003 letter, we expressed our concern with regard to the adequate sizing and maintenance of the capture device. Therefore, the system was given conditional certification for a period of one year, and you were encouraged to provide monitoring data and/or other evidence to support the claim that the system has the capacity and demonstrated reliability to qualify for a permanent certification.

In your June 16, 2003 letter, you stated that the trash net system could adequately handle a one-year, one-hour storm flow using the rational method. In addition, the trash net system was reportedly free of any operational problems during the first year of operation. Based on your findings, you have again requested certification of the trash net as a full capture system.

The Regional Board's February 4, 2003, conditional certification had been issued applying the full capture definition originally adopted by the Regional Board. That certification still applies and is being extended in this letter. However, as you are probably aware, the definition of "full

capture system" for the Ballona Creek Trash TMDL was amended per Resolution No. 04-023 adopted on March 4, 2004 by the Los Angeles Regional Water Quality Control Board. It is likely that this definition will be applicable in future revisions of the Los Angeles River Trash TMDL. As a result, the Regional Board staff has also analyzed the Hamilton Bowl installation for compliance with the Ballona Creek Trash TMDL's full capture system definition. This analysis will remove any uncertainty in the event the Los Angeles River Trash TMDL's definition is subsequently modified.

The definition of a "full capture system" as defined in the Resolution No. 04-023 is as follows:

> " A full capture system is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the subdrainage area. Rational equation is used to compute the peak flow rate: $Q = C \times I \times A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map in Figure A), and A = subdrainage area (acres)."

Your consultant, John Hunter of the Hunter and Kennedy Associates (HKA) has provided runoff coefficient and subdrainage area information for Hamilton Bowl. Dr. Iraj Nasseri with the Los Angeles County Department of Public Works (LACDPW) provided an isohyetal map for one-year, one- hour rainfall intensity per definition of a full capture system. Figure A referenced above showed isohyetal map for one-year 30-minute rainfall intensity. From the information provided, the peak flow rate is calculated as follows:

C = 0.49 based on September 8, 2003 email from HKA (attached)
A = 191 acres based on 1970 bond map as detailed on August 28, 2003 email from HKA (attached)
I = 0.3 inches/hour based on isohyetal map submitted with October 27, 2003 email from LACDPW (attached)

$Q = 0.49 \times 191 \times 0.3 = 28.08$ cfs

The reported trash net capacity is at 70 cfs. Therefore, using amended definition of a full capture system and the information provided, the trash net appears to have an adequate capacity and can be certified as a full capture system for the Hamilton Bowl drainage area under the following conditions:

- End-of-Pipe Configuration: The trash netting system must have an end-of-pipe configuration and not rely on diversion weirs.

- Adequate Pipe Sizing: The pipes carrying the flows from the subdrainage area should be able to handle peak flows. During September 5, 2003 telephone conversation with the Regional Board staff, John Hunter of the HKA indicated that the pipes are adequately sized to handle flows from 0.3 inches/hour of rainfall.

- Regular Inspections: The netting system will be checked monthly during the dry season, weekly during the rainy season and after all rainfall events.
- Regular Maintenance: Adequate number of employees (currently four) will be used to change the nets. The nets will be changed when ¾ full during the dry season and when ½ full during the rainy season thereby allowing the nets to continually maintain adequate flow through capacity.

The determination that the Fresh Creek Technology trash net system satisfies the full capture definition of the trash TMDL will allow the system to be used elsewhere in the region. Dischargers will have an on-going obligation to demonstrate that the installation of a particular system is appropriately sized. Likewise, dischargers will be responsible for on-going maintenance to ensure the systems perform to design specifications. The Regional Board will review and consider performance data on continuing basis. In the event data demonstrate that the systems are not performing to the full capture design standard established by the trash TMDL, then the Regional Board reserves the ability to rescind the certification for subsequent installations.

Please contact Michael Yang of my staff at 213/620-2093, if you have any further questions.

Sincerely,

ORIGINAL SIGNED BY
Dennis A. Dickerson
Executive Officer

Attachments

cc: Michael Lauffer, Office of Chief Counsel, State Water Resources Control Board
Terry Fleming, Water Division, U.S. Environmental Protection Agency, Region 9
Mark Christoffels, Department of Public Works, City of Long Beach
Mr. John Hunter, Hunter and Kennedy Associates
John Meakim, Fresh Creek Technologies
Robert Skands, Tetra Tech, Inc.

California Regional Water Quality Control Board
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Arnold Schwarzenegger
Governor

October 7, 2004

Jai Paul Thakur, Chief
Department of Transportation
District 7, Office of Engineering Services
120 South Spring Street, MS13
Los Angeles, CA 90012

SUBJECT: CERTIFICATION OF THE GROSS SOLIDS REMOVAL DEVICES AS FULL CAPTURE SYSTEMS

Dear Mr. Thakur:

We have reviewed your request for certification on two trash capture devices, Linear Radial – Configuration 1 (LR1 I-10) and Inclined Screen – Configuration 1 (IS1 SR-170) as full capture systems in your January 13, 2004 letter and at your presentation to the Los Angeles Regional Water Quality Control Board staff on September 1, 2004. The Linear Radial Gross Solids Removal Device (GSRD) – Configuration 1 and Inclined Screen GSRD – Configuration 1 were installed by Interstate I-10 at Rosemead and along State Route 170 at North Hollywood, respectively in an effort to comply with the Ballona Creek and Los Angeles River Trash TMDLs.

Based on your *Phase I Gross Solids Removal Devices Pilot Study: 2000-2002 Final Report, October 2003* (Phase I Report), the above GSRDs met the performance criteria for certification as listed below:

1. Particle Capture – The device or system must capture all particles retained by a 5 mm mesh screen from all runoff generated from a one-year, one-hour storm.

2. Clogging – The device or system must be designed to prevent plugging or blockage of the screening module.

3. Hydraulic Capacity – The device or system must pass the 25-year peak flow.

4. Drainage – The device or system must drain within 72 hours to avoid vector breeding.

5. Gross Solids Storage Capacity – The device or system will hold the estimated annual load of gross solids, so that it requires only one cleaning per year.

6. Maintenance Requirements – The device or system will not require any maintenance other than inspections throughout the storm season.

As you are probably aware, the definition of "full capture system" for the Ballona Creek Trash TMDL was amended per Resolution No. 04-023 adopted on March 4, 2004 by the Los Angeles Regional Water Quality Control Board. It is likely that this definition will be applicable in future revisions of the Los Angeles River Trash TMDL. As a result, the Regional Board staff has also analyzed the GSRD installations for compliance with the Ballona Creek Trash TMDL's full capture system definition. This analysis will eliminate any uncertainty in the event the Los Angeles River Trash TMDL's definition is subsequently modified.

The definition of a "full capture system" as defined in the Resolution No. 04-023 is as follows:

> " A full capture system is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the subdrainage area. Rational equation is used to compute the peak flow rate: Q = C x I x A, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map in Figure A), and A = subdrainage area (acres)."

Based on your Phase I Report, both LR1 I-10 and IS1 SR-170 have a 5 mm mesh screen and meet the particle capture criteria for a full capture system. Since these GSRDs are designed for 24-year peak flow, it also satisfies 1-year, 1-hour design criteria. Based on information from your handouts at the September 1, 2004 presentation, the flow capacity for LR1 I-10 and IS1 SR-170 are 11.9 and 9.1 ft^3/sec, respectively. The peak flow rates resulting from a one-year, one-hour storm for these GSRDs are as follows:

For LR1 I-10,

C = 0.9 (assuming impermeable surface)
I = 0.38 in/hr (from attached Figure A, showing 1-year, 1-hour rainfall intensity)
A = 3.7 acres (from Phase I Report)

Q = 0.9 x 0.38 in/hr x 3.7 acres x [(1.008 ft^3/sec) /(in/hr acres)] = 1.28 ft^3/sec

Since design flow capacity is much greater than estimate flow rate, LR1 I-10 meets the design criteria for a full capture system.

Similarly, design flow capacity is much greater than estimated peak flow rate for ISI SR-170 as shown below:

For ISI SR-170,

C = 0.9 (assuming impermeable surface)
I = 0.36 in/hr (from attached Figure A, showing 1-year, 1-hour rainfall intensity)
A = 2.5 acres (from Phase I Report)

$Q = 0.9 \times 0.36$ in/hr x 2.5 acres x [(1.008 ft^3/sec) /(in/hr acres)] = 0.82 ft^3/sec

The drainage criterion is not part of the definition for a full capture system. However, it is important for the system to drain within 72 hours to avoid vector issues. These GSRDs met this requirement.

The Gross Solids Storage Capacity ranged from 0.13 to 0.93 m^3/ha/yr during 2000 to 2002 Pilot Study. The estimated annual gross solids loading rate used for the design was 0.7 m^3/ha/yr. Some GSRDs required cleaning more than once a year.

Based on the above information, the Linear Radial Gross Solids Removal Device (GSRD) – Configuration 1 and Inclined Screen GSRD – Configuration 1 meet the definition of full capture system and can be certified as a full capture system under the following conditions:

- Adequate Pipe Sizing: The pipes carrying the flows from the subdrainage area should be able to handle peak flows.
- Adequate Drainage: The GSRDs must drain within 72 hours to avoid vector issues.
- Regular Inspections: The GSRDs should be checked at minimum, three times during the rainy season.
- Regular Maintenance: Adequate number of employees will be used to clean out the GSRDs. The GSRDs will be cleaned when ¾ full.

The determination that the Linear Radial Gross Solids Removal Device (GSRD) – Configuration 1 and Inclined Screen GSRD – Configuration 1 satisfy the full capture definition of the trash TMDL will allow the systems to be used elsewhere in the region. Dischargers will have an on-going obligation to demonstrate that the installation of a particular system is appropriately sized. Likewise, dischargers will be responsible for on-going maintenance to ensure the systems perform to design specifications. The Regional Board will review and consider performance data on a continuing basis. In the event data demonstrate that the systems are not performing to the full capture design standard established by the trash TMDL, then the Regional Board reserves the ability to rescind the certification for subsequent installations.

Please contact Dr. Xavier Swamikannu at 213/620-2094, if you have any further questions.

Sincerely,

ORIGINAL SIGNED BY
Jonathan Bishop, P.E.
Executive Officer

Attachment

cc: Michael Lauffer, Office of Chief Counsel, State Water Resources Control Board
Terry Fleming, Water Division, U.S. Environmental Protection Agency, Region 9
Bill Depoto, Los Angeles County Department of Public Works
Robert Wu, Department of Transportation, District 7

California Regional Water Quality Control Board
Los Angeles Region

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Arnold Schwarzenegger
Governor

May 4, 2005

Mr. Jim Valentine, Chair
Four Cities Trash TMDL Subcommittee
Burbank Department of Public Works
100 N Garfield Avenue
Pasadena, CA 91109-7215

CERTIFICATION OF A BEST MANAGEMENT PRACTICE (BMP) FOR TRASH CONTROL AS A FULL CAPTURE SYSTEM – FOUR-CITIES REQUEST

Dear Mr. Valentine:

We received the February 16, 2005, Cities of Burbank, Glendale, La Canada Flintridge (Four-Cities) request for Full Capture System Certification of the BMP developed by the Four-Cities.

After reviewing your request and additional data on BMP's performance and schedule of maintenance, including street sweeping and catch basin debris removal, Regional Board staff determined that your proposal consisting of a combination of brush material and aluminum mesh installed at catch basins meets the criteria for an effective method of full capture of debris as required by the Trash TMDL.

Regional Board staff recommends that the Four-Cities continue to evaluate the performance of the system over time to meet the requirements of the Trash TMDL. We suggest that the progress in implementation and performance of the BMP be summarized as a comment in the Annual Program Report submitted under the Los Angeles Municipal Storm Water Permit.

The Regional Board will review and consider performance data on a continuing basis. In the event, the data demonstrate that the systems are not performing to the full capture design standard established by the trash TMDL, then the Regional Board reserves the ability to rescind the certification for subsequent installations.

We appreciate your efforts, ingenuity and dedication to meet the goal of protecting the water quality in the Los Angeles Region.

Should you have any questions or comments regarding this topic, please contact Melinda Becker at (213) 576-6681, or Xavier Swamikannu at (213) 620-2094.

Sincerely,

ORIGINAL SIGNED BY
Jonathan Bishop
Executive Officer

cc: Mr. Michael Lauffer, Office of Chief Counsel, State Water Resources Control Board

State of California
California Regional Water Quality Control Board, Los Angeles Region

RESOLUTION NO. 06-013

June 8, 2006

To set aside action in adopting the Trash Total Maximum Daily Load for the Los Angeles River Watershed, dated September 19, 2001, and in adopting Resolution No. 01-013; and to direct staff to revise the California Environmental Quality Act documentation as required by the Court of Appeal and to submit for the Regional Board's reconsideration a total maximum daily load for trash in the Los Angeles River Watershed as early as practical

WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region, finds that:

1. The Federal Clean Water Act (CWA) requires the California Regional Water Quality Control Board (Regional Board) to develop water quality objectives which are sufficient to protect beneficial uses for each water body found within its region.
2. A consent decree between the U.S. Environmental Protection Agency (USEPA), Heal the Bay, Inc. and BayKeeper, Inc. was approved on March 22, 1999. This court order directs the USEPA to complete Total Maximum Daily Loads (TMDLs) for all impaired waters within 13 years. A schedule was established in the consent decree for the completion of the first 29 TMDLs within 7 years. The remaining TMDLs will be scheduled by Regional Board staff within the 13-year period.
3. Upon establishment of TMDLs by the State or USEPA, the State is required to incorporate the TMDLs along with appropriate implementation measures into the State Water Quality Management Plan (40 CFR 130.6(c)(1), 130.7, Wat. C. § 13242). This Water Quality Control Plan for the Los Angeles Region (Basin Plan), and applicable statewide plans, serves as the State Water Quality Management Plans governing the watersheds under the jurisdiction of the Regional Board.
4. On September 19, 2001, the Regional Board adopted a Basin Plan Amendment (Resolution 01-013) incorporating the Los Angeles River Trash TMDL into the Water Quality Control Plan (Basin Plan) for the Coastal Watersheds of Los Angeles and Ventura Counties. The TMDL was created to implement narrative water quality objectives that require:

   "Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses;" and

   "Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses."
5. The Los Angeles River is located in Los Angeles County, California. The Los Angeles River flows 51 miles from the western end of the San Fernando Valley to the Queensway Bay and Pacific Ocean at Long Beach. Also parts of the watershed include a number of lakes including Peck Lake, Echo Lake, and Lincoln Lake. Beneficial uses of the Los Angeles River and surrounds include wildlife and marine habitat, including habitat for endangered species, and recreational activities such as fishing, walking, hiking, jogging, bicycling, horseback riding, bird watching and photography.
6. The Regional Board determined that the primary source of trash is litter from the streets of the cities that surround the Los Angeles River. When a storm event occurs, the litter is washed through the storm drain sewers, into the Los Angeles River, and into the Estuary and onto the beaches at Long Beach.

7. Twenty-two cities[1] ("Cities") sued the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) and State Water Resources Control Board (State Water Board) to set aside the TMDL, which would halt the thousands of tons of garbage that blankets the Los Angeles River and estuary. The Los Angeles Water Board and the State Water Board were also sued by the City of Los Angeles and by Los Angeles County and the Los Angeles County Flood Control District. These suits resulted in a settlement agreement, effective September 24, 2003, whereby the Los Angeles Water Board agreed to make certain changes to the Trash TMDLs for both the Los Angeles River and the Ballona Creek watersheds. While amendments were made to the Ballona Creek TMDL, similar changes agreed to by the Los Angeles Water Board have not yet been made to the Los Angeles River Trash TMDL, due to litigation.

8. The trial court entered an order deciding some claims in favor of the Los Angeles Water Board and State Water Board (collectively "California Water Boards"), and some in favor of the Cities. Both sides appealed, and on January 26, 2006, the Court of Appeal decided every one of the Cities' claims in favor of the California Water Boards, except with respect to their CEQA compliance. (*City of Arcadia et al., Los Angeles Regional Water Quality Control Board et al.* (2006) 135 Cal.App.4th 1392.) The Cities filed a petition for review by the California Supreme Court, but on April 19, 2006, the Supreme Court declined to hear any of the Cities' claims.

9. The Court of Appeal rejected the following claims litigated by the Cities:

   a. The Court rejected the Cities' claim that the target of zero trash is unattainable and inordinately expensive. (135 Cal.App.4th at 1413 and 1427-1430.)

   b. The Court rejected the Cities' claim that an assimilative capacity study was required before the Water Boards could determine how much trash, a pollutant that does not assimilate, would violate the narrative objectives. (135 Cal.App.4th at 1409-1413.)

   c. The Court rejected the Cities' claim that the California Water Boards were required, but failed, to conduct a cost/benefit analysis and consideration of economic factors. (135 Cal.App.4th at 1415-1418.)

   d. The Court rejected the Cities' claim that the California Water Boards were prohibited from establishing a TMDL for the Los Angeles River Estuary until it was formally listed on the 303(d) list. (135 Cal.App.4th at 1418-1420.)

   e. The Court rejected the Cities' claims that TMDLs for storm water may not require agencies to perform better than the "maximum extent practicable", and must allow compliance through best management practices. (135 Cal.App.4th at 1427-1430.)

   f. The Court rejected the Cities' claim that the California Water Boards were required to implement load allocations for nonpoint sources of trash pollution. (135 Cal.App.4th at 1430-1432.)

   g. The Court rejected the Cities' claim that the California Water Boards failed to adhere to the data collection and analysis required by federal and state law (135 Cal.App.4th at 1433-34.)

   h. The Court rejected the Cities' claim that the California Water Boards relied on nonexistent, illegal, and irrational uses to be made of the Los Angeles River. (135 Cal.App.4th at 1432-33.)

   i. The Court rejected the Cities' claim that the California Water Boards violated the Administrative Procedures Act (APA). (135 Cal.App.4th at 1434-35.)

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[1] The cities include Arcadia, Baldwin Park, Bellflower, Cerritos, Commerce, Diamond Bar, Downey, Irwindale, Lawndale, Monrovia, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, Sierra Madre, Signal Hill, South Pasadena, Vernon, West Covina, and Whittier. They are members of a group that refers to itself as "The Coalition for Practical Regulation."

10. The Court did find, however, that the California Water Boards did not adequately complete the environmental checklist, and that evidence of a "fair argument" of significant impacts existed such that the California Water Boards should have performed an EIR level of analysis through an EIR or its functional equivalent. (135 Cal.App.4th at 1420-26.) The Court therefore affirmed a writ of mandate issued by the trial court, which orders the California Water Boards to set aside and not implement the TMDL, until it has been brought into compliance with California Environmental Quality Act (CEQA). A Return to the writ must be filed by July 24, 2006.

11. Staff is diligently working on revising the CEQA analysis, and will present the TMDL for re-adoption as soon as possible..

THEREFORE, be it resolved that pursuant to the writ of mandate and to sections 13240 and 13242 of the Water Code, the Regional Board hereby:

1. Sets aside the Los Angeles River Trash TMDL, and resolution # 01-013 which established it. However, setting aside the TMDL shall not be deemed a repudiation of the settlement agreement entered into between the Los Angeles Regional Water Quality Control Board and the City of Los Angeles and the County of Los Angeles, which was executed on September 24, 2003, and the Los Angeles Water Board hereby expresses its continued intent to be bound by that agreement;

2. Directs staff to revise the CEQA documentation as directed by the writ of mandate;

3. Directs staff to prepare and submit for the Regional Board's reconsideration, as soon as possible, a TMDL for Trash in the Los Angeles River Watershed, consistent with the requirements of the writ. Staff is directed to incorporate into its proposed revised TMDL the changes agreed upon in the settlement with the City of Los Angeles, Los Angeles County and the Los Angeles County Flood Control District;

4. Authorizes and instructs the Executive Officer to convey this resolution to the State Water Board, in accordance with the requirements of section 13245 of the California Water Code;

5. Requests that the State Water Board approve resolution in accordance with the requirements of sections 13245 and 13246 of the California Water Code and forward it to OAL and the USEPA.

BE IT FURTHER RESOLVED, that:

6. If during its approval process Regional Board staff, the State Board or OAL determines that minor, non-substantive corrections to the language of the amendment are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes;

7. The Executive Officer is directed to cause a Return to the writ to be prepared and timely filed with the Superior Court; and

8. The Executive Officer is directed to ensure that the Regional Board complies with all relevant terms of the writ, as modified by the Appellate Decision, including the applicable provisions of CEQA.

I, Jonathan Bishop, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on. June 8, 2006.

Jonathan S. Bishop
Executive Officer

As adopted on June 8, 2006

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,

LOS ANGELES REGION
320 W. 4TH STREET
SUITE 200
LOS ANGELES, CA 90013

FACT SHEET

SUPPORTING THE AMENDMENTS TO THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT (ORDER NO. 01-182; NPDES PERMIT NO. CAS004001) TO INCORPORATE SUMMER DRY WEATHER WASTE LOAD ALLOCATIONS FOR BACTERIA PURSUANT TO THE SANTA MONICA BAY BEACHES BACTERIA TMDL

September 14, 2006

Summary of Proposed Action

The Los Angeles Regional Water Quality Control Board (LA Water Board) staff proposes a limited reopening of the LA County Municipal Separate Storm Sewer System (MS4) Permit to incorporate the Santa Monica Bay Beaches Bacteria (SMB Beaches Bacteria) Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for summer dry weather discharges from MS4 outfalls to Santa Monica Bay beaches. The LA Water Board adopted the SMB Beaches Bacteria TMDL in 2002. This TMDL was subsequently approved by the State Water Resources Control Board, Office of Administrative Law, and the United States Environmental Protection Agency and became effective on July 15, 2003. This TMDL required compliance with the Summer Dry Weather WLAs by July 15, 2006.

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The summer dry weather period (April 1 to October 31) is the highest period of beach use. A recent study estimated that there is a substantial economic and public health cost associated with swimming in waters contaminated with bacteria (*Regional Public Health Cost Estimates of Contaminated Coastal Waters: A Case Study of Gastroenteritis at Southern California Beaches,* Given S., L.H. Pendelton, and A.B. Boehm. Env. Sci. Technol. (2006)). The SMB Beaches Bacteria summer dry weather WLAs will be incorporated as receiving water limitations and a supporting prohibition on discharges that are inconsistent with the limits. The LA County MS4 Permit already prohibits discharges that cause or contribute to the exceedance of water quality standards. The proposed changes clarify that prohibition as it relates to discharges of bacteria that could affect the Santa Monica Bay beaches during summer dry weather.

The proposed changes will directly affect the County of Los Angeles, Los Angeles County Flood Control District, the Cities of Los Angeles, El Segundo, Hermosa Beach, Malibu, Manhattan Beach, Redondo Beach, Santa Monica, and Torrance. The proposed changes will make the SMB Beaches Bacteria summer dry weather WLAs a provision of the LA County MS4 permit. Portions of the Cities of Thousand Oaks and Simi Valley in Ventura County, the cities of Agoura Hills, Beverly Hills, Calabasas, Culver City, Hidden Hills, Inglewood, Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills, Rolling Hills Estates, West Hollywood, and West Lake Village, that are tributary to Santa Monica Bay beaches are also subject to the SMB Beaches Bacteria TMDLs. For the cities in Ventura County, a similar change will be made to the Ventura County Municipal Storm Water Permit, which is expected to be considered by the LA Water Board soon. For cities in Los Angeles County that are tributary to Santa Monica Bay but do not directly discharge, the summer dry weather discharge prohibition for bacteria, will be included as the bacteria WLA, when the LA County MS4 Permit is reissued after expiration. The California Department of Transportation (Caltrans) owns or operates storm drains that discharge to Santa Monica Bay Beaches. Thus, Caltrans is also subject to the SMB Beaches Bacteria summer dry weather WLAs. Caltrans MS4 discharges are covered by a statewide storm

water discharge permit (NPDES No. CAS000003) issued by the State Water Board, which expired on July 15, 2004. The LA Water Board will notify the State Water Board that it will need to incorporate all adopted TMDL WLAs for the LA Region that apply to Caltrans, when the storm water permit is reissued, and to include provisions to ensure compliance, including the prohibition against the discharge of bacteria in excess of water quality objectives for protection of REC-1 to SMB Bay beaches during summer dry weather.

Statutory History

The federal Clean Water Act (CWA) generally prohibits the "discharge of any pollutant," 33 U.S.C. § 1311(a), from a "point source" into the navigable waters of the United States. 33 U.S.C. § 1362(12)(A). An entity can, however, obtain a National Pollutant Discharge Elimination System (NPDES) permit that allows conditionally for the discharge of some pollutants. 33 U.S.C. § 1342(a)(1). The CWA defines point sources as "discernible, confined and discrete conveyances, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure" such as a pipe, ditch, container, rolling stock, concentrated animal feeding operation, landfill leacheate collections system, vessel or other floating craft from which pollutants are or may be discharged. 33 U.S.C. § 1362; 40 CFR 122.2.

In 1987, the U.S. Congress enacted the Water Quality Act recognizing both the environmental threats posed by storm water runoff and the U.S. EPA's problems in implementing regulations for storm water discharges (NRDC II, 966 F.2d at 1296). These Amendments to the CWA established new statutory requirements to control industrial and municipal storm water discharges to waters of the United States (CWA § 402(p).)

The amendments require NPDES permits for storm water discharges from Municipal Separate Storm Sewer Systems (MS4s) to waters of the United States, and the MS4 was designated a "point source". The storm water discharge permits for MS4s (i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit [unauthorized] non-storm water

discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants from storm water to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (See CWA §402(p) (3) (B)).

Ordinarily, an NPDES permit imposes [numerical] effluent limitations on such discharges. See 33 U.S.C.§ 1342(a)(1) (incorporating effluent limitations found in 33 U.S.C. § 1311). First, a permit-holder "shall . . . achiev[e] . . . effluent limitations . . . which shall require the application of the best practicable control technology [BPT] currently available." 33 U.S.C. § 1311(b)(1)(A). Second, a permit-holder "shall . . . achiev[e] . . . any more stringent limitation, including those necessary to meet water quality standards, treatment standards or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by section 1370 of this title)." 33 U.S.C. § 1311(b)(1)(C). In the case of MS4 NPDES discharge permits, federal courts have ruled that the U.S. EPA has the discretionary authority under "33 U.S.C. § 1342(p)(2)(E) to determine that ensuring strict compliance with state water-quality standards is necessary to control pollutants, or to require less than strict compliance with state water-quality standards, such as a BMP approach" (*Defenders of Wildlife v. Browner*, 191 F.3d 1159 (9th Cir., 1999)). Under 33 U.S.C. § 1342(p)(3)(B)(iii), the U.S. EPA has the choice to include either best management practices or numeric limitations in the permits. NRDC II, 966 F.2d at 1308 ("Congress did not mandate a minimum standards approach or specify that [the] EPA develop minimal performance requirements.").

Regulatory Scheme

On November 16, 1990, pursuant to CWA § 402(p), the U.S. EPA promulgated regulations at 40 CFR 122.26 which established requirements for storm water discharges under the NPDES program. The U.S. EPA defines storm water at 40

CFR 122.26 (b)(13) as 'storm water runoff, snow melt runoff, and surface runoff and drainage' [related to storm events or snow melt] (55 Fed. Reg. 47990, 47995). Non storm water discharges to the MS4 are to be "effectively prohibited" by the MS4 operator. "Effective prohibition" meant that the MS4 Permittee was to implement programs to eliminate "illicit discharges" to the storm drain system unless authorized under NPDES permits issued independent of the MS4 permit (55 Fed. Reg. 47995). The storm water regulations also intended to not hold MS4 Permittees responsible for certain categories of non storm water discharges, such as uncontaminated ground water infiltration, natural springs, rising groundwater, stream and diversions, from the MS4. Such discharges might need to be addressed under independent NPDES permits when specifically identified on a case-by case basis by the MS4 Permittee or the permitting authority.

The U.S. EPA intended that storm water discharges from the MS4 be primarily addressed through the implementation of BMPs on an iterative approach because of the intermittent and variable nature of storm flows and pollutant concentrations as well as insufficient data rather than numerical effluent limitations (61 FR 43761). However, the U.S. EPA's scheme for non-storm water discharges from the MS4 is to bring them under the existing framework of the NPDES program at 40 CFR 122.44(d). (55 Fed. Reg. 47995). Non-numerical limitations such as BMPs for non-storm water discharges may be authorized only where numerical limits are not feasible (40 CFR 122.44(k)). In any case, if the Permittee fails to implement adequate BMPs to prevent exceedance of the receiving water objectives, the permitting authority "may have to consider other approaches to water quality protection" (61 Fed. Reg. 43761; *Interim Permitting Approach*, Response #6, EPA 833-D-96-00, 1996).

The CWA §303(d)(1)(A) requires each State to conduct a biennial assessment of its waters, and identify those waters that are not achieving water quality standards. The resulting list is referred to as the 303(d) list. The CWA also requires States to establish a priority ranking for waters on the 303(d) list of impaired waters and to develop and implement TMDLs for these waters. A TMDL specifies the maximum amount of a pollutant that a waterbody can receive and

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still meet water quality standards, and allocates the acceptable pollutant load to point and nonpoint sources. The elements of a TMDL are described in 40 CFR 130.2 and 130.7. A TMDL is defined as "the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background" (40 CFR 130.2). Regulations further require that TMDLs must be set at "levels necessary to attain and maintain the applicable narrative and numeric water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality" (40 CFR 130.7 (c) (1)). The regulations at 40 CFR 130.7 also state that TMDLs shall take into account critical conditions for stream flow, loading and water quality parameters. The U.S. EPA has issued guidance for establishing WLAs for storm water discharges in TMDLs and their incorporation as numerical limitations in MS4 Storm Water Permits (U.S. EPA Office of Water Memo, *Establishing Total Maximum Daily Load Wasteload Allocations for Storm Water Sources and NPDES Permit Requirements Based on those WLAs*, Nov 22, 2002 Memo).

Since provisions in NPDES permits must reflect the assumptions and requirements of available TMDLs (40 CFR 122.44 (d)(1)(vii)(B)), the NPDES permit must incorporate the WLAs as either BMPs (reasonably expected to achieve the WLAs when implemented and properly maintained), under specified circumstances (40 CFR 122.44(k)(2) & (3)), or as a Water Quality Based Limitation (WQBEL) expressed numerically. Where a non-numeric effluent limitation is selected, the permits administrative record must support the expectation that the BMPs are sufficient to achieve the WLAs. (40 CFR 124.8, 124.9, and 124.18.) The guidance, however, does not address non-storm water discharges from an MS4.

State Regulatory Authority and Permit History

The State of California is one of forty-five States with duly delegated authority under the CWA to implement the NPDES permitting program. The Porter-

Cologne Act (California Water Code) authorizes the State Board, through the nine regional boards, to issue NPDES permits, and regulate and control the discharge of pollutants into waters of the State. To comply with the CWA, the Los Angeles Regional Water Board (LA Water Board) issued the first storm water permit ("predecessor permit") on June 18, 1990, to the municipalities (Permittees) in Los Angeles County (Order No. 90-079; NPDES Permit No. CA0061654). The LA County MS4 Permit was reissued in 1996, and the current iteration of the permit was adopted on December 13, 2001 (Order No. 01-182; NPDES Permit No. CAS004001).

Because of the complexity and networking of the storm drain system and drainage facilities within and tributary to the County of Los Angeles, the LA Water Board adopted a countywide approach in permitting storm water and urban runoff discharges. The permit requires Permittees to conduct monitoring and to implement programs in the areas of public involvement and participation, industrial/commercial inspection, development planning, development construction, public agency activities, and to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the U.S. In addition, Permittees are required to effectively prohibit the discharge of unauthorized non storm water into the MS4 (except where they are authorized under a NPDES permit), by implementing a program to detect and eliminate illicit discharges/connections to the MS4.

The LA County MS4 Permit requires Permittees to develop, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP) to the waters of the U.S. In addition, it states that discharges from the MS4 to waters of the U.S. including Santa Monica Bay are required to meet water quality standards. Upon establishment of TMDLs by the State or the U.S. EPA, the State is required to incorporate the TMDLs into the State Water Quality Management Plan (40 CFR 130.6 (c) (1), 130.7). The Water Quality Control Plan for the Los Angeles Region (Basin Plan), and applicable statewide

plans, serves as the State Water Quality Management Plan governing the watersheds under the jurisdiction of the LA Water Board. LA Water Board-issued NPDES permits must contain provisions consistent with the State Water Quality Management Plan.

The LA Water Board adopted a dry weather bacteria TMDL, including WLAs, to address documented bacteriological water quality impairments at 44 beaches along the Santa Monica Bay from the Los Angeles/Ventura County line, to the northwest, to Outer Cabrillo Beach, just south of the Palos Verdes Peninsula. The WLAs for bacteria during summer dry weather (April 1 to October 31) for the LA County MS4 Permittees that discharge to the Santa Monica Bay are set at zero allowable exceedance days of the single sample bacteria objectives at each beach location for the protection of public health. The WLAs, expressed as exceedance days of the single sample bacteria objectives, for each beach location during winter dry weather (November 1 to March 31) are specified in Attachment 1 (Basin Plan Table 7-4.2a). No exceedances of the geometric mean bacteria objectives are allowed during summer or winter dry weather. Winter dry weather bacteria WLAs do not go into effect until July 15, 2009, and so are not considered for inclusion at this time. Dry weather is defined in the TMDL as those days with less than 0.1 inch of rainfall, and more than three days after a rain day (in consideration of the 72 hours used by the County Department of Health Services to post beaches with rain advisories). The TMDL defines rain days as those days with greater than or equal to 0.1 inch of rainfall. (0.1 inch of rainfall is the minimum amount of rainfall that will produce runoff and is also the smallest unit of measure on standard rain gauges operated by flood management agencies). The summer dry weather day when a flow occurs from an MS4 outfall to SMB beaches is being equated to a non-storm water discharge.

The summer dry weather bacteria TMDLs were adopted to reduce the risk of illness associated with swimming in marine waters contaminated with human sewage and other sources of bacteria. It has been estimated that between 627,800 and 1,479,200 excess gastrointestinal illness cases may occur annually among swimmers in Los Angeles County and Orange County beaches as a

result of enterococci contaminated waters. The corresponding economic loss annually has been estimated to range from $21 million to $51 million. (*Regional Public Health Cost Estimates of Contaminated Coastal Waters: A Case Study of Gastroenteritis at Southern California Beaches*, Given S., L.H. Pendelton, and A.B. Boehm. Env. Sci. Technol. (2006).)

Related State Administrative Actions

The State Water Board has issued standard receiving water limitations language to be included in municipal storm water permits. (State Board WQO 99-05, which amended WQO 98-01). The State Board affirmed that NPDES storm water permits must prohibit discharges that cause or contribute to violations of water quality standards (See WQ 98- 01, at p. 8). The State Water Board had ruled earlier that municipal storm water permits must include effluent limitations necessary to achieve water quality standards (State Board Orders WQ 91-03 and WQ 91-04)[1], and that these may be non-numerical. Also, Discharge Prohibitions need not be iterative (State Board Order WQ 2001-15, see footnote 18). The State Water Board modified the prohibition in WQO 2001-15, because the plain text in the San Diego County MS4 Permit prohibited the discharge of storm water containing pollutants exceeding water quality standards to the MS4, not non-storm water discharges. The discharge of non storm waters to waters of the U.S. from an MS4 must strictly comply with 33 U.S.C. § 1311(b)(1)(C).

Even if the Water Boards were to allow for an iterative adaptive approach for storm water and non storm water dischargers to comply with receiving water limitations, instead of establishing WQBELs or strict discharge prohibitions, it is the Permittees who are ultimately responsible for evaluating and revising BMPs to achieve compliance with water quality standards in an iterative manner. The Water Boards have no affirmative obligation to notify MS4 Permittees that they

[1] In Order WQ 91-04, the State Board reviewed a complaint brought by the environmental community that the 1990 LA County MS4 Permit lacked numerical effluent limits and violated federal law.

are in violation of permit provisions, for them to initiate corrective action to remedy exceedances of water quality standards.

In September 2005, the State Water Board convened an expert panel to make findings and recommendations on the feasibility of including numerical effluent limitations in storm water discharge permits, including MS4 permits. The panel issued a report titled, *The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities* (June 2006). The panel concluded that it was not feasible to set enforceable numeric effluent criteria for municipal storm water discharges or storm water BMPs at this time. Nevertheless, the panel recommends an interim approach using action levels based either on consensus, or ranked percentile distributions, or statistically derived population parametrics. The panel neither deliberated nor made any determination on how non-storm water discharges from MS4s that adversely affect receiving waters are to be addressed in storm water permits. While the State Water Board has convened workshops to discuss the panel's report, the State Board has not yet taken any action on the report. Again, this panel's report does not address non storm water discharges from point sources like the MS4.

Permittee Implementation under the MS4 Permit

LA County MS4 Permittees have been implementing an illicit connections/ discharges elimination (IC/IDE) program over nearly three permit terms (1990 – present) and have been accorded ample opportunity to eliminate unauthorized non-storm water discharges from the MS4 that are causing or contributing to the exceedance of a water quality objective, or to require operators of such discharges to be permitted through the Water Board's NPDES program. In 2001, the LA Water Board revised its single sample and geometric mean water quality objectives for bacteria to reflect U.S. EPA recommended criteria and the findings

of a peer-reviewed local epidemiological study (Regional Board Resolution 2001-018)[2] and Permittees should have revised their IC/IDE programs to eliminate the bacteria exceedances. However, very few Permittees have made changes to their Storm Water Quality Management Programs in response to exceedances of bacteria standards at SMB beaches. A review of the two most recent Annual Program Reports (2003-2004 and 2004-2005) for Permittees discharging to Santa Monica Bay reveals that the primary mechanism for IC/ID elimination is a reactive program based on reported or discovered illicit discharges. Although the municipal response to reported or discovered illicit discharges appears to be effective in all the documented cases, there is a potential deficiency in identifying illicit connections. Less than half of the programs reviewed conducted illicit connection screening during the 2003/2004 and 2004/2005 fiscal years. Further, the majority of the Permittees that conducted illicit connection screening examined only a small portion of their storm drain system. The review of the IC/ID programs shows that while municipal response appears to be effective in eliminating reported or discovered illicit connections/illicit discharges, overall a proactive approach in preventing illicit connections is lacking. Furthermore, dry weather discharges from the MS4 continue to cause violations of bacterial water quality standards at the Santa Monica Bay beaches.

Potential Options for Summer Dry Weather WLA Compliance

Technical options for compliance with the dry weather WLAs for SMB Beaches have been previously analyzed by many Permittees (Santa Monica Bay Beaches Bacteria TMDL Implementation Plan for Jurisdictional Groups 2 and 3, (Feb 2005); Marina del Rey Harbor Mother's Beach and Back Basins Bacteria TMDL Dry- and Wet Weather Implementation Plan (March 2005)). Potential solutions include (i) Institutional (Non Structural source controls) such as public education and restaurant inspections; (ii) Local (Distributed or Decentralized) controls such

[2] As far back as the 1994 update, the Basin Plan included single sample and geometric mean water quality objectives for a subset of the fecal indicator bacteria included in the 2001

as small scale infiltration and limited treatment; (iii) Regional controls such as capture, storage and treatment systems including bio-infiltration systems and disinfection system, and (iv) flow diversion to waste water treatment plants. The LA County MS4 Permittees within the Santa Monica Bay Watershed have submitted TMDL Implementation Plans for the LA Water Board's review. The Board reviewed and acknowledged support for these plans under Resolutions 2006-005, 2006-006, 2006-007, and 2006-008.

State Grants and Bond Funds for Implementation

The State Water Board and the LA Regional Water Board have funded a total of 27 projects costing $18.7 million within the Santa Monica Bay Watershed to address bacterial contamination. Six of these projects worth $3.5 million dollars are for the treatment of bacteria or pathogens as the primary pollutant. In addition, there are twenty-one Clean Beach Initiative Projects worth $15.1 million, primarily dry-weather diversion projects, within the Santa Monica Bay. These are managed by the State Water Board and are for bacteria reduction. Most of the projects are underway and are at various stages of completion. Similarly, the Santa Monica Bay Restoration Commission has issued grant funds of about $5.8 million for 16 projects to treat dry weather flows to Santa Monica Bay, eight of which have been completed.

Opportunity for Public Comment

When approving the Santa Monica Bay Beaches Dry Weather Bacteria TMDL, the State Water Board included findings that state: "The [LA Water Board] will develop permit requirements [to implement the TMDL] through a subsequent permit action that will allow all interested persons, including but not limited to municipal storm water dischargers, to provide input as to how the waste load

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amendments.

allocations will be translated into permit requirements." (State Board Resolution 2002-0149.) The notice of the LA Water Board's proceedings to incorporate the SMB Beaches Bacteria Dry Weather WLAs in the LA County MS4 Permit was first circulated on May 18, 2006, which requested comments by June 20, 2006. It stated that the Board would consider the action at its July 13, 2006, Board meeting. Numerous commenters requested more time to evaluate the proposed action, a more detailed explanation of how the permit conditions were derived, and consideration of a variety of different approaches to incorporation. As a result, the July 13, 2006 discussion was postponed, and LA Water Board staff held a workshop on July 21, 2006, to solicit from Permittees and other interested persons the most appropriate way(s) to incorporate the provisions of the TMDL. Specifically suggestions were requested about how the summer dry weather waste load allocations of no exceedance days at the Santa Monica Bay beaches should be translated into enforceable permit requirements in an NPDES permit. Commenters attended the workshop or submitted written comments, all of which were considered by LA Water Board staff and responses included within our Response to Comments.

Options Considered

The LA Water Board staff considered the following alternatives for making enforceable the summer dry weather SMB beaches WLAs for MS4 non-storm water discharges containing bacteria. A special workshop was held on July 21 to solicit input and comment from Permittees and interested persons on potential approaches to making the Board adopted and U.S. EPA approved SMB Beaches Bacteria summer dry weather WLAs enforceable within the NPDES permitting framework for MS4s.

a. MS4 Storm Water Quality Management Program (SQMP) – An MS4 Storm Water Permittee's SQMP is its primary documentation for utilizing the iterative adaptive approach using BMPs or other methods to comply with receiving water limitations for storm water discharges. Similarly for non-storm water discharges,

the SQMP should have included an effective Illicit Connection/Illicit Discharge Elimination (IC/IDE) program and other source control measures to eliminate non-storm water discharges to the MS4 or to ensure that they are permitted through the Water Board's NPDES program. MS4 Permittees in the SMB Watershed Management Area have had more than a decade and a half to effectively implement this provision. The fact that MS4 non storm water discharges to Santa Monica Bay still cause or contribute to exceedances of bacteria receiving water limitations, and that the LA Water Board adopted dry weather WLAs for SMB beaches in 2002 demonstrates the need for greater action and strict enforcement of the WLAs. Permittees have never taken the initiative to submit a Receiving Water Limits Compliance Report, despite recurring exceedances of water quality standards. As noted earlier, few Permittees have documented revisions to the SQMP to address chronic exceedances of water quality standards.

b. MS4 Unauthorized Non Storm Water Discharge Prohibition – The LA MS4 Permit includes provisions to effectively prohibit unauthorized non storm water discharges. Permittees may achieve the effective prohibition by implementing other source control measures or an IC/ID Elimination program to remove unauthorized non storm water discharges or to get them permitted through the Water Board's NPDES program. Given the fact that the proposed action is limited in scope in that it seeks to prohibit discharges during summer dry weather (non storm water) from MS4s to SMB Beaches, and that compliance is determined by receiving water limitations imposed in the wave wash rather than end-of-pipe, it is a reasonable action by the LA Water Board to protect water quality and human health, while considerate of the burden it imposes on MS4 Permittees in the Santa Monica Bay Watershed. Thus even if end-of-pipe numbers exceed receiving water limitations, there is no exceedance unless the discharge reaches the wave wash and causes or contributes to the exceedance of the Receiving Water Limits (RWLs) at that point. In essence, the prohibition option does not impose an end-of-pipe water quality based numeric effluent limitation, contrary to arguments raised by many Permittees. Rather, compliance with the bacteria

WLAs is determined in the wave wash. New language has been added to the RWLs section to clarify how compliance with the relevant limitations will be determined. Under federal law, when a non-numeric water quality based effluent limit is imposed, the permit's administrative record, and fact sheet needs to support the approach as sufficient to attain the WLA (See 40 CFR 124.8, 124.9 and 124.18). The LA Water Board's administrative record adequately supports the proposed approach as being sufficient to meet the SMB beaches summer dry weather WLAs.

c. Combined Non Storm water/ Storm water MS4 Permit – An MS4 storm water permit may also cover non storm water discharges. In that case, both storm water discharges and non storm water discharges can be included in the same permit (or in multiple permits). The non storm water discharges will be subject to the existing regulations promulgated for point source non-storm water discharges at 40 CFR 122.44(d). The MS4 was effectively designated a point source by the U.S. Congress in 1987, and thus the MS4 non storm water discharges that have a reasonable potential to adversely impair the beneficial uses of receiving waters are subject to the stricter of the CWA BAT/ BCT technology based controls or WQBELs. MS4 storm water discharges are subject to the discretionary provisions of CWA § 402(p). This continues to remain an option for the Water Board when regulating MS4 storm water and non-storm water discharges within a single NPDES permit.

d. Separate Individual Permit for MS4 Non Storm water discharges – A separate permit for MS4 non storm water discharges may be issued, which would require strict compliance with BAT/ BCT technology based controls or WQBELs, whichever is more stringent. It is possible that the LA Water Board may elect this approach in the future, as it is required to consider numerical effluent limitations to implement non storm water WLAs for dry weather non storm water discharges from the MS4 to enforce the WLAs within the NPDES framework.

e. No Action Option – Given the limited scope of the action, which is to prohibit the discharge to Santa Monica Bay beaches of summer dry weather flows

containing bacteria in excess of Basin Plan objectives, and the economic and health costs associated with non-action or non-enforcement of the SMB Beaches Bacteria summer dry weather WLAs, the proposed action is reasonable and necessary. Furthermore, the SMB Beaches Bacteria TMDL required compliance with the summer dry weather WLAs by July 15, 2006, but exceedances continue to occur at the Santa Monica Bay beaches during summer dry weather. The Regional Board is obligated by federal regulation (40 CFR 122.44(d)) to ensure that NPDES permits are consistent with the assumptions and requirements of any available waste load allocation. Failing to incorporate the summer dry weather bacteria waste load allocations into the permit at this time would be contrary to the federal regulatory purpose of making surface waters 'fishable and swimmable'.

Recommended Action

Given the narrow purpose of the amendments, which is to make the Santa Monica Bay Beaches Bacteria summer dry weather WLAs enforceable for non storm water discharges from the MS4, after July 15, 2006, staff recommends 'Option b'.

Option b amends the LA County MS4 permit in a limited manner with revisions to Findings; Part 1. Discharge Prohibitions Section; Part 2. Receiving Water Limitations Section; and Part 5. Definitions to incorporate the SMB Beaches Bacteria Summer Dry Weather WLAs. The changes are the addition of new receiving water limitations for bacteria and a prohibition against non storm water discharges from the MS4 to Santa Monica Bay that result in an exceedance of the bacteria receiving water limitations.

This action amending an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (Cal. Public Resources Code § 21100 *et. seq*) in accordance with Cal. Water Code § 13389. Nevertheless, staff considered the environmental impacts that may result from this action by evaluating the fiscal burden associated with eliminating bacteria exceedances at

SMB beaches through various control measures and engineering practices with the economic and health costs associated with continuing exceedance of the beach bacteria standards, and determined that the environmental and public health benefits far outweigh the fiscal burden.

Part 6 of the permit identifies the limited conditions under which the LA County MS4 permit may be reopened for modification prior to its expiration, and the procedures to be followed. The procedures for this hearing and the recommended action fully comply with the terms of those permit provisions.

Final Action

The LA Water Board unanimously voted to amend the LA County MS4 permit to incorporate the Santa Monica Bay summer dry weather bacteria TMDL WLA at its Board Meeting on September 14, 2006, as recommended by staff.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,

LOS ANGELES REGION
320 W. 4TH STREET
SUITE 200
LOS ANGELES, CA 90013

FACT SHEET

SUPPORTING THE AMENDMENTS TO THE LOS ANGELES COUNTY MUNICIPAL SEPARATE STORM SEWER SYSTEM PERMIT (ORDER NO. 01-182 AS AMENDED BY ORDER NO. R4-2006-0074; NPDES PERMIT NO. CAS004001) TO INCORPORATE SUMMER DRY WEATHER WASTE LOAD ALLOCATIONS FOR BACTERIA PURSUANT TO THE MARINA DEL REY HARBOR MOTHERS' BEACH AND BACK BASINS BACTERIA TMDL

Summary of Proposed Action

The Los Angeles Regional Water Quality Control Board (LA Water Board) staff proposes a limited reopening of the LA County Municipal Separate Storm Sewer System (MS4) Permit to incorporate the Marina del Rey Harbor Mothers' Beach[1] and Back Basins Bacteria (MDR Bacteria) Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for summer dry weather discharges from MS4 outfalls to Marina del Rey Harbor (MDRH). The LA Water Board adopted the MDR Bacteria TMDL in 2003 Resolution No. 2003-012. This TMDL was subsequently approved by the State Water Resources Control Board Resolution No. 2003-0072, Office of Administrative Law, and the United States Environmental Protection Agency and became effective on March 18, 2004. This TMDL required compliance with the summer dry weather WLAs and winter dry weather WLAs by March 18, 2007. The compliance deadline for the wet weather

[1] Mothers' Beach is referred to as Marina Beach in the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacterial TMDL Coordinated Monitoring Plan* and the *Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL Dry- and Wet-Weather Implementation Plan.*

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WLAs is March 18, 2014 or if an integrated water resources approach is implemented then the compliance deadline is no later than July 15, 2021.

The WLAs for winter dry weather discharges from MS4 outfalls to MDRH will not be incorporated into the MS4 permit at this time. The Regional Board will be reconsidering the MDR Bacteria TMDL in the fall of 2007. The Regional Board expects to reconsider the allowable exceedances days during winter dry weather and wet weather based on a re-evaluation of site-specific variability; the reference system selected to calculate allowable exceedance levels; and the reference year selected to calculate the allowable exceedance days. Based on this reconsideration the winter dry weather WLAs may be revised. Therefore, it is not prudent to incorporate the winter dry weather WLAs into the MS4 Permit at this time.

The summer dry weather period (April 1 to October 31) is the highest period of beach use. A recent study estimated that there is a substantial economic and public health cost associated with swimming in waters contaminated with bacteria (*Regional Public Health Cost Estimates of Contaminated Coastal Waters: A Case Study of Gastroenteritis at Southern California Beaches,* Given S., L.H. Pendelton, and A.B. Boehm. Env. Sci. Technol. (2006)). The MDR Bacteria summer dry weather WLAs will be incorporated as receiving water limitations and a supporting prohibition on discharges that are inconsistent with the limits. The LA County MS4 Permit already prohibits discharges that cause or contribute to the exceedance of water quality standards. The proposed changes make more specific the permit provisions, as they relate to discharges of bacteria that could affect Mothers' Beach and the back basins of Marina del Rey Harbor during summer dry weather. The proposed changes will make the MDR Bacteria summer dry weather WLAs a provision of the LA County MS4 Permit.

The proposed changes will affect the County of Los Angeles, the Los Angeles County Flood Control District, and the Cities of Los Angeles and Culver City. The California Department of Transportation (Caltrans) owns or operates storm drains that discharge or are tributary to Marina del Rey Harbor. Therefore, Caltrans is also subject to the MDR Bacteria summer dry weather WLAs. Caltrans MS4 discharges are covered by a statewide storm water discharge permit (NPDES No. CAS000003) issued by the State

Water Board, which expired on July 15, 2004. The LA Water Board will notify the State Water Board that it will need to incorporate all adopted TMDL WLAs for the LA Region that apply to Caltrans when the storm water permit is reissued, and to include provisions to ensure compliance, including the prohibition against the discharge of bacteria in excess of water quality objectives for protection of REC-1 to Mothers' Beach and Basins D, E and F in Marina del Rey Harbor during summer dry weather.

On September 14, 2006, the LA Water Board amended the LA County MS4 Permit to incorporate the Santa Monica Bay (SMB) Beaches Bacteria TMDL WLAs for summer dry weather. Although the Marina del Rey Watershed is a subwatershed of the Santa Monica Bay Watershed, there are separate Bacteria TMDLs for each because of MDRH's unique characteristics as an enclosed bay. However, all of the responsible agencies under the MDR Bacteria TMDL are also responsible agencies under the SMB Beaches Bacteria TMDL. The proposed action is identical to the Board's previous action to incorporate the SMB Beaches Bacteria summer dry weather WLAs into the LA County MS4 Permit; it simply extends the provisions to the MDR Watershed.

The reopener provisions in Part 6.I.1 identify the authority and procedures for the Board to modify the permit. The proposed consideration by the LA Water Board to incorporate the MDR Bacteria TMDL summer dry weather WLAs complies with these provisions. The MDR Bacteria TMDL requires compliance with the summer dry weather WLAs by April 1, 2007. This limited reopener of the MS4 Permit to incorporate the summer dry weather WLAs allows the timely enforcement of these WLAs during the summer months, when beach usage is at its highest and the risk to public health from non-compliance with the WLAs is greatest.

The LA Water Board staff is proposing a limited reopener instead of reissuing the MS4 Permit at this time in order to expedite the inclusion of the MDR Bacteria summer dry weather WLAs, and ensure that the TMDL's terms are enforced as required by the Basin Plan's relevant provisions. Presently, the format of the LA Water Board's MS4 permit is being redesigned. The new format is being vetted in the Ventura County Municipal Storm Water NPDES Permit (Board Order No. 00-108; NPDES Permit No. CAS004002), which is currently in the process of reissuance. The Los Angeles MS4

Permit will be reissued following the Ventura Permit. That will not occur until 2008, and therefore, waiting until permit reissuance would prevent implementation of the TMDL's regulatory requirements until more than a year after compliance is to occur. Moreover, the permit modification does not impose requirements on any new agencies, but only makes requirements that are already applicable to some of the Permittees for SMB Beaches discharges, equally applicable to those agencies' discharges to MDRH. Therefore, the LA Water Board is reopening the existing permit during its administrative extension, instead of reissuing the permit at this time.

Statutory History

The federal Clean Water Act (CWA) generally prohibits the "discharge of any pollutant," 33 U.S.C. § 1311(a), from a "point source" into the navigable waters of the United States. 33 U.S.C. § 1362(12)(A). An entity can, however, obtain a National Pollutant Discharge Elimination System (NPDES) permit that allows conditionally for the discharge of some pollutants. 33 U.S.C. § 1342(a)(1). The CWA defines point sources as "discernible, confined and discrete conveyances, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure" such as a pipe, ditch, container, rolling stock, concentrated animal feeding operation, landfill leacheate collections system, vessel or other floating craft from which pollutants are or may be discharged. 33 U.S.C. § 1362; 40 CFR 122.2.

In 1987, the U.S. Congress enacted the Water Quality Act recognizing both the environmental threats posed by storm water runoff and the U.S. EPA's problems in implementing regulations for storm water discharges (NRDC II, 966 F.2d at 1296). These Amendments to the CWA established new statutory requirements to control industrial and municipal storm water discharges to waters of the United States (CWA § 402(p).)

The amendments require NPDES permits for storm water discharges from Municipal Separate Storm Sewer Systems (MS4s) to waters of the United States, and the MS4 was designated a "point source". The storm water discharge permits for MS4s (i) may

be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit [unauthorized] non-storm water discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants from storm water to the maximum extent practicable, including management practices, control techniques and systems, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. (See CWA §402(p) (3) (B)).

Ordinarily, an NPDES permit imposes [numerical] effluent limitations on such discharges. See 33 U.S.C. § 1342(a)(1) (incorporating effluent limitations found in 33 U.S.C. § 1311). First, a permit-holder "shall . . . achiev[e] . . . effluent limitations . . . which shall require the application of the best practicable control technology [BPT] currently available." 33 U.S.C. § 1311(b)(1)(A). Second, a permit-holder "shall . . . achiev[e] . . . any more stringent limitation, including those necessary to meet water quality standards, treatment standards or schedules of compliance, established pursuant to any State law or regulations (under authority preserved by section 1370 of this title)." 33 U.S.C. § 1311(b)(1)(C). In the case of MS4 NPDES discharge permits, federal courts have ruled that the U.S. EPA has the discretionary authority under "33 U.S.C. § 1342(p)(2)(E) to determine that ensuring strict compliance with state water-quality standards is necessary to control pollutants, or to require less than strict compliance with state water-quality standards, such as a BMP approach" (*Defenders of Wildlife v. Browner*, 191 F.3d 1159 (9th Cir., 1999)). Under 33 U.S.C. § 1342(p)(3)(B)(iii), the U.S. EPA has the choice to include either best management practices or numeric limitations in the permits. NRDC II, 966 F.2d at 1308 ("Congress did not mandate a minimum standards approach or specify that [the] EPA develop minimal performance requirements.").

Regulatory Scheme

On November 16, 1990, pursuant to CWA § 402(p), the U.S. EPA promulgated regulations at 40 CFR 122.26 which established requirements for storm water discharges under the NPDES program. The U.S. EPA defines storm water at 40 CFR

122.26 (b)(13) as 'storm water runoff, snow melt runoff, and surface runoff and drainage' [related to storm events or snow melt] (55 Fed. Reg. 47990, 47995). Non-storm water discharges to the MS4 are to be "effectively prohibited" by the MS4 operator. "Effective prohibition" meant that the MS4 Permittee was to implement programs to eliminate "illicit discharges" to the storm drain system unless authorized under NPDES permits issued independent of the MS4 permit (55 Fed. Reg. 47995). The storm water regulations also intended not to hold MS4 Permittees responsible for certain categories of non-storm water discharges, such as uncontaminated ground water infiltration, natural springs, rising groundwater, stream and diversions, from the MS4. Such discharges might need to be addressed under independent NPDES permits when specifically identified on a case-by case basis by the MS4 Permittee or the permitting authority.

The U.S. EPA intended that storm water discharges from the MS4 be primarily addressed through the implementation of BMPs on an iterative approach because of the intermittent and variable nature of storm flows and pollutant concentrations as well as insufficient data rather than numerical effluent limitations (61 FR 43761). However, the U.S. EPA's scheme for non-storm water discharges from the MS4 is to bring them under the existing framework of the NPDES program at 40 CFR 122.44(d). (55 Fed. Reg. 47995). Non-numerical limitations such as BMPs for non-storm water discharges may be authorized only where numerical limits are not feasible (40 CFR 122.44(k)). In any case, if the Permittee fails to implement adequate BMPs to prevent exceedance of the receiving water objectives, the permitting authority "may have to consider other approaches to water quality protection" (61 Fed. Reg. 43761; *Interim Permitting Approach*, Response #6, EPA 833-D-96-00, 1996).

The CWA §303(d)(1)(A) requires each State to conduct a biennial assessment of its waters, and identify those waters that are not achieving water quality standards. The resulting list is referred to as the 303(d) list. The CWA also requires States to establish a priority ranking for waters on the 303(d) list of impaired waters and to develop and implement TMDLs for these waters. A TMDL specifies the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and allocates the acceptable pollutant load to point and nonpoint sources. The elements of

a TMDL are described in 40 CFR 130.2 and 130.7. A TMDL is defined as "the sum of the individual waste load allocations for point sources and load allocations for nonpoint sources and natural background" (40 CFR 130.2). Regulations further require that TMDLs must be set at "levels necessary to attain and maintain the applicable narrative and numeric water quality standards with seasonal variations and a margin of safety that takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality" (40 CFR 130.7 (c) (1)). The regulations at 40 CFR 130.7 also state that TMDLs shall take into account critical conditions for stream flow, loading and water quality parameters. The U.S. EPA has issued guidance for establishing WLAs for storm water discharges in TMDLs and their incorporation as numerical limitations in MS4 Storm Water Permits (U.S. EPA Office of Water Memo, *Establishing Total Maximum Daily Load Wasteload Allocations for Storm Water Sources and NPDES Permit Requirements Based on those WLAs*, Nov 22, 2002 Memo).

Since provisions in NPDES permits must reflect the assumptions and requirements of available TMDLs (40 CFR 122.44 (d)(1)(vii)(B)), the NPDES permit must incorporate the WLAs as either BMPs (reasonably expected to achieve the WLAs when implemented and properly maintained), under specified circumstances (40 CFR 122.44(k)(2) & (3)), or as a Water Quality Based Limitation (WQBEL) expressed numerically. Where a non-numeric effluent limitation is selected, the permit's administrative record must support the expectation that the BMPs are sufficient to achieve the WLAs. (40 CFR 124.8, 124.9, and 124.18.) The guidance, however, does not address non-storm water discharges from an MS4.

State Regulatory Authority and Permit History

The State of California is one of forty-five States with duly delegated authority under the CWA to implement the NPDES permitting program. The Porter-Cologne Water Quality Control Act (California Water Code) authorizes the State Board, through the nine regional boards, to issue NPDES permits, and regulate and control the discharge of pollutants into waters of the State. To comply with the CWA, the Los Angeles Regional Water Board (LA Water Board) issued the first storm water permit ("predecessor

permit") on June 18, 1990, to the municipalities (Permittees) in Los Angeles County (Order No. 90-079; NPDES Permit No. CA0061654). The LA County MS4 Permit was reissued in 1996, and the current iteration of the permit was adopted on December 13, 2001 (Order No. 01-182; NPDES Permit No. CAS004001).

On June 12, 2006, a Report of Waste Discharge was submitted as the Los Angeles County Municipal Stormwater application for renewal of waste discharge requirements adopted in Order 01-182. On September 14, 2006, the LA County MS4 Permit (Order No. 01-182) was amended by Order No. R4-2006-0074. Order No. 01-182 as amended by Order R4-2006-0074 expired on December 12, 2006. Pursuant to 40 CFR 122.6, Order 01-182 as amended by Order R4-2006-0074 will remain in effect and enforceable until a replacement LA County MS4 Permit is adopted by the LA Water Board.

Because of the complexity and networking of the storm drain system and drainage facilities within and tributary to the County of Los Angeles, the LA Water Board adopted a countywide approach in permitting storm water and urban runoff discharges. The permit requires Permittees to conduct monitoring and to implement programs in the areas of public involvement and participation, industrial/commercial inspection, development planning, development construction, public agency activities, and to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP) from the permitted areas in the County of Los Angeles to the waters of the U.S. In addition, Permittees are required to effectively prohibit the discharge of unauthorized non-storm water into the MS4 by implementing a program to detect and eliminate illicit discharges/illicit connections to the MS4.

The LA County MS4 Permit requires Permittees to develop, and implement a timely, comprehensive, cost-effective storm water pollution control program to reduce the discharge of pollutants in storm water to the Maximum Extent Practicable (MEP) to the waters of the U.S. In addition, it states that discharges from the MS4 to waters of the U.S. (which includes Marina del Rey Harbor) are required to meet water quality standards. Upon establishment of TMDLs by the State or the U.S. EPA, the State is required to incorporate the TMDLs into the State Water Quality Management Plan (40 CFR 130.6 (c) (1), 130.7). The Water Quality Control Plan for the Los Angeles Region

(Basin Plan), and applicable statewide plans, serves as the State Water Quality Management Plan governing the watersheds under the jurisdiction of the LA Water Board. LA Water Board-issued NPDES permits must contain provisions consistent with the State Water Quality Management Plan.

TMDL History

The LA Water Board adopted the MDR Bacteria TMDL, including WLAs, to address documented bacteriological water quality impairments at Mothers' Beach and Basins D, E, and F in Marina del Rey Harbor. The WLAs for bacteria during summer dry weather (April 1 to October 31) for the LA County MS4 Permittees that discharge to Marina del Rey Harbor are set at zero allowable exceedance days of the single sample bacteria objectives at each sampling location for the protection of public health. The WLAs, expressed as exceedance days of the single sample bacteria objectives, for each sampling location during winter dry weather (November 1 to March 31) are specified in Basin Plan Table 7-5.2. No exceedances of the geometric mean bacteria objectives are allowed during summer or winter dry weather under the MDR Bacteria TMDL. Winter dry weather bacteria WLAs are not considered for inclusion at this time because of the pending reconsideration of the MDR Bacteria TMDL, which is scheduled to take place in the fall of 2007. Dry weather is defined in the TMDL as those days with less than 0.1 inch of rainfall, and more than three days after a rain day (consistent with the 72-hour period used by the County Department of Health Services to post beaches with rain advisories). The TMDL defines rain days as those days with greater than or equal to 0.1 inch of rainfall. (One-tenth inch of rainfall is the minimum amount of rainfall that will produce runoff and is the smallest unit of measure on standard rain gauges operated by flood management agencies.) Flow from an MS4 outfall to Marina del Rey Harbor on a summer dry weather day is identified as a non-storm water discharge.

The MDR Bacteria TMDLs were adopted to reduce the risk of illness associated with swimming in marine waters contaminated with human sewage and other sources of bacteria. Approximately 200,000 beachgoers visit Mothers' Beach annually and is popular among mothers with children because of the absence of surf tides. In addition,

Marina del Rey Harbor is the homeport for over 5,000 pleasure boats, 6 yacht clubs, and 19 anchorages. Regionally, it has been estimated that between 627,800 and 1,479,200 excess gastrointestinal illness cases may occur annually among swimmers in Los Angeles County and Orange County beaches as a result of enterococci contaminated waters. The corresponding economic loss annually has been estimated to range from $21 million to $51 million. (*Regional Public Health Cost Estimates of Contaminated Coastal Waters: A Case Study of Gastroenteritis at Southern California Beaches*, Given S., L.H. Pendelton, and A.B. Boehm. Env. Sci. Technol. (2006).)

Related State Administrative Actions

The State Water Board has issued standard receiving water limitations language to be included in municipal storm water permits. (State Board WQO 99-05, which amended WQO 98-01). The State Board affirmed that NPDES storm water permits must prohibit discharges that cause or contribute to violations of water quality standards (See WQ 98-01, at p. 8). The State Water Board had ruled earlier that municipal storm water permits must include effluent limitations necessary to achieve water quality standards (State Board Orders WQ 91-03 and WQ 91-04)[2], and that these may be non-numerical. Also, Discharge Prohibitions need not be iterative (State Board Order WQ 2001-15, see footnote 18). The State Water Board modified the prohibition in WQO 2001-15, because the plain text in the San Diego County MS4 Permit prohibited the discharge of storm water containing pollutants exceeding water quality standards to the MS4, not non-storm water discharges. The discharge of non-storm waters to waters of the U.S. from an MS4 must strictly comply with 33 U.S.C. § 1311(b)(1)(C).

Even if the Water Boards were to allow for an iterative adaptive approach for storm water and non-storm water dischargers to comply with receiving water limitations, instead of establishing WQBELs or strict discharge prohibitions, it is the Permittees who are ultimately responsible for evaluating and revising BMPs to achieve compliance with

[2] In Order WQ 91-04, the State Board reviewed a complaint brought by the environmental community that the 1990 LA County MS4 Permit lacked numerical effluent limits and violated federal law.

water quality standards in an iterative manner. The Water Boards have no affirmative obligation to notify MS4 Permittees that they are in violation of permit provisions, for them to initiate corrective action to remedy exceedances of water quality standards.

In September 2005, the State Water Board convened an expert panel to make findings and recommendations on the feasibility of including numerical effluent limitations in storm water discharge permits, including MS4 permits. The panel issued a report titled, *The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities* (June 2006). The panel concluded that it was not feasible to set enforceable numeric effluent criteria for municipal storm water discharges or storm water BMPs at this time. Nevertheless, the panel recommends an interim approach using action levels based either on consensus, or ranked percentile distributions, or statistically derived population parametrics. The panel neither deliberated nor made any determination on how non-storm water discharges from MS4s that adversely affect receiving waters are to be addressed in storm water permits. While the State Water Board has convened workshops to discuss the panel's report, the State Board has not yet taken any action on the report.. Again, this panel's report does not address non-storm water discharges from point sources like the MS4.

Implementation under the MS4 Permit through the IC/IDE Program

LA County MS4 Permittees have been implementing an illicit connections/illicit discharges elimination (IC/IDE) program over nearly three permit terms (1990 – present) and have been accorded ample opportunity to eliminate unauthorized non-storm water discharges from the MS4 that are causing or contributing to the exceedance of a water quality objective, or to require operators of such discharges to be permitted through the Water Board's NPDES program. In 2001, the LA Water Board revised its single sample and geometric mean water quality objectives for bacteria to reflect U.S. EPA recommended criteria and the findings of a peer-reviewed local

epidemiological study (Regional Board Resolution 2001-018)[3] and Permittees should have revised their IC/IDE programs to eliminate the bacteria exceedances. However, very few Permittees have made changes to their Storm Water Quality Management Programs in response to exceedances of bacteria standards at SMB beaches and MDRH. A review of the three most recent Annual Program Reports (2003-2004, 2004-2005, and 2005-2006) for Permittees discharging to Santa Monica Bay and MDRH reveals that the primary mechanism for IC/IDE is a reactive program based on reported or discovered illicit discharges. Although the municipal response to reported or discovered illicit discharges appears to be effective in all the documented cases, there is a potential deficiency in identifying illicit connections. Less than half of the programs reviewed conducted illicit connection screening during the 2003/2004, 2004/2005 and 2005/2006 fiscal years. Further, the majority of the Permittees that conducted illicit connection screening examined only a small portion of their storm drain system. The review of the IC/IDE programs shows that while municipal response appears to be effective in eliminating reported or discovered illicit connections/illicit discharges, overall a proactive approach in preventing illicit connections is lacking.

Of the permittees in the MDRH Watershed, the County of Los Angeles screened approximately 30% of their closed storm drain system during the 2003/2004 and 2005/2006 fiscal years and approximately 20% during the 2004/2005 fiscal year for illicit connections. The City of Los Angeles did not report the length of closed storm drain pipes that were screened for illicit connections. The City of Culver City did not conduct illicit connection screening during the 2003/2004 fiscal year. During the 2004/2005 and 2005/2006 fiscal years Culver City screened 100% of their closed storm drain system for illicit connections. It is unknown whether the screened portions of the Los Angeles County and Culver City storm drain systems are within the MDRH Watershed. Furthermore, dry weather discharges from the MS4 continue to cause violations of bacterial water quality standards at Marina del Rey Harbor Basins D, E, and F.

[3] As far back as the 1994 update, the Basin Plan included single sample and geometric mean water quality objectives for a subset of the fecal indicator bacteria included in the 2001 amendments.

Implementation under the MDR Bacteria TMDL

The MS4 permittees in the MDR Watershed have already begun taking actions to reduce bacteria impairments in MDRH, including at Mothers' Beach. Technical options for compliance with the dry weather WLAs for MDRH have been previously analyzed by the Permittees (Marina del Rey Harbor Mother's Beach and Back Basins Bacteria TMDL Dry- and Wet-Weather Implementation Plan (January 2007); Santa Monica Bay Beaches Bacteria TMDL Implementation Plan for Jurisdictional Groups 2 and 3, (Feb 2005)). Potential solutions include (i) institutional controls (non-structural source controls) such as public education and restaurant inspections; (ii) sub-regional (distributed or decentralized) controls such as small-scale infiltration and limited treatment; (iii) regional controls such as capture, storage and treatment systems or constructed wetlands; and (iv) low-flow diversion to waste water treatment plants. The LA County MS4 Permittees within the MDR Watershed have already submitted an Implementation Plan, to achieve the MDR Bacteria TMDL, for the LA Water Board's review. In April of 2006, the Board reviewed and acknowledged support for this plan under Resolution 2006-009.

State Grants and Bond Funds for Implementation

The State Water Board and the LA Regional Water Board have funded a total of 27 projects costing $18.7 million within the Santa Monica Bay Watershed, of which the MDR Watershed is a part, to address bacterial contamination. Accordingly, some of the monies granted to the SMB Watershed are directed toward MDRH projects. Six of these projects worth $3.5 million dollars are for the treatment of bacteria or pathogens as the primary pollutant. In addition, there are twenty-one Clean Beach Initiative (CBI) Projects worth $15.1 million, primarily dry-weather diversion projects, within the Santa Monica Bay. These projects are managed by the State Water Board and are for bacteria reduction. Most of the projects are underway and are at various stages of completion. Similarly, the Santa Monica Bay Restoration Commission (SMBRC) has issued grant funds of about $5.8 million for 16 projects to treat dry weather flows to Santa Monica Bay, eight of which have been completed.

Within the MDR Watershed, the Marina Beach Water Quality Improvement Project received $2 million as a CBI Project to increase the water circulation at Marina (Mothers') Beach and to divert sheet flow from Basin D. The circulation phase of the project was completed in October 2006. In addition, the SMBRC provided $200,000 through Proposition 50 for the Boone-Olive Plant low-flow diversion project, which was completed in December 2006.

Opportunity for Public Comment

The notice of the LA Water Board's proceedings to incorporate the MDR Bacteria TMDL summer dry weather WLAs into the LA County MS4 Permit was circulated on May 11, 2007, which requested comments by June 25, 2007. It stated that the Board would consider the action at its July 12, 2007, Board meeting.

Options Considered

The LA Water Board staff considered the following alternatives for making enforceable the MDR Bacteria TMDL summer dry weather WLAs for MS4 non-storm water discharges.

a. MS4 Storm Water Quality Management Program (SQMP) – An MS4 Storm Water Permittee's SQMP is its primary documentation for utilizing the iterative adaptive approach using BMPs or other methods to manage the quality of storm water discharges in order to comply with receiving water limitations. In contrast, non-storm water discharges are to be prohibited under federal storm water regulations. Therefore, the SQMP should have included an effective Illicit Connection/Illicit Discharge Elimination (IC/IDE) program and other source control measures to eliminate non-storm water discharges to the MS4 or to ensure that they are permitted through the Water Board's NPDES program. MS4 Permittees in the MDR Watershed have had more than a decade and a half to effectively implement this provision. The fact that MS4 non-storm water discharges to Marina del Rey Harbor still cause or contribute to exceedances of bacteria receiving water limitations, and that the LA Water Board adopted dry weather WLAs for Mothers' Beach and Basins D, E and F of Marina del

Rey Harbor in 2003 demonstrates the need for greater action and strict enforcement of the WLAs. Permittees have never taken the initiative to submit a Receiving Water Limits Compliance Report, despite recurring exceedances of water quality standards. As noted earlier, few Permittees have documented revisions to the SQMP to address chronic exceedances of water quality standards.

b. MS4 Unauthorized Non-Storm Water Discharge Prohibition – The LA MS4 Permit includes provisions to effectively prohibit unauthorized non-storm water discharges. Permittees may achieve the effective prohibition by implementing other source control measures or an IC/IDE program to remove unauthorized non-storm water discharges or to get them permitted through the Water Board's NPDES program. Given the fact that the proposed action is limited in scope in that it seeks to prohibit discharges during summer dry weather (non-storm water) from MS4s to Mothers' Beach and Basins D, E, and F in MDRH and that compliance is determined by receiving water limitations rather than end-of-pipe (i.e., effluent) limitations, it is a reasonable action by the LA Water Board to protect water quality and human health, while considering the burden it imposes on MS4 Permittees in the MDR Watershed. Thus, even if end-of-pipe concentrations exceed receiving water limitations, there is no exceedance unless the discharge causes or contributes to the exceedance of the Receiving Water Limits (RWLs). In essence, the prohibition option does not impose an end-of-pipe water quality based numeric effluent limitation, contrary to arguments raised by many Permittees. Rather, compliance with the bacteria WLAs is determined in the receiving water at the initial point of mixing. New language has been added to the RWLs section to clarify how compliance with the relevant limitations will be determined. Under federal law, when a non-numeric water quality based effluent limit is imposed, the permit's administrative record, and fact sheet needs to support the approach as sufficient to attain the WLA (See 40 CFR 124.8, 124.9 and 124.18). The LA Water Board's administrative record adequately supports the proposed approach as being sufficient to meet the MDR Bacteria TMDL summer dry weather WLAs.

c. Combined Non-Storm Water/Storm Water MS4 Permit – An MS4 storm water permit may also cover non-storm water discharges. In that case, both storm water discharges and non-storm water discharges can be included in the same permit (or in multiple

permits). The non-storm water discharges will be subject to the existing regulations promulgated for point source non-storm water discharges at 40 CFR 122.44(d). The MS4 was effectively designated a point source by the U.S. Congress in 1987, and thus the MS4 non-storm water discharges that have a reasonable potential to adversely impair the beneficial uses of receiving waters are subject to the stricter of the CWA BAT/BCT technology based controls or WQBELs. MS4 storm water discharges are subject to the discretionary provisions of CWA § 402(p). This continues to remain an option for the Water Board when regulating MS4 storm water and non-storm water discharges within a single NPDES permit.

d. Separate Individual Permit for MS4 Non-Storm Water Discharges – A separate permit for MS4 non-storm water discharges may be issued, which would require strict compliance with BAT/BCT technology based controls or WQBELs, whichever is more stringent. It is possible that the LA Water Board may elect this approach in the future, as it is required to consider numerical effluent limitations to implement non-storm water WLAs for dry weather non-storm water discharges from the MS4 to enforce the WLAs within the NPDES framework.

e. No Action Option – Given the limited scope of the action, which is to prohibit the discharge to Marina del Rey Harbor of summer dry weather flows containing bacteria in excess of Basin Plan objectives, and the economic and health costs associated with non-action or non-enforcement of the MDR Bacteria summer dry weather WLAs, the proposed action is reasonable and necessary. Furthermore, the MDR Bacteria TMDL required compliance with the summer dry weather WLAs by March 18, 12007, but exceedances continue to occur at Mothers' Beach during summer dry weather. The Regional Board is obligated by federal regulation (40 CFR 122.44(d)) to ensure that NPDES permits are consistent with the assumptions and requirements of any available waste load allocation. Failing to incorporate the summer dry weather bacteria waste load allocations into the permit at this time would be contrary to the federal regulatory purpose of making surface waters 'fishable and swimmable'.

Recommended Action

Given the narrow purpose of the amendments, which is to make the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL summer dry weather WLAs enforceable for discharges from the MS4 staff recommends 'Option b'.

Option b amends the LA County MS4 permit in a limited manner with revisions to Findings; Part 1. Discharge Prohibitions Section; and Part 2. Receiving Water Limitations Section to incorporate the MDR Bacteria summer dry weather WLAs. The changes are the addition of new receiving water limitations for bacteria and a prohibition against non-storm water discharges from the MS4 to MDRH Basins D, E, and F that result in an exceedance of the bacteria receiving water limitations.

This action amending an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (Cal. Public Resources Code § 21100 *et. seq*) in accordance with Cal. Water Code § 13389. Nevertheless, staff considered the environmental impacts that may result from this action by evaluating the fiscal burden associated with eliminating bacteria exceedances at Mothers' Beach and MDR Harbor through various control measures and engineering practices with the economic and health costs associated with continuing exceedance of the beach bacteria standards, and determined that the environmental and public health benefits far outweigh the fiscal burden.

Part 6.I.1 of the permit identifies the limited conditions under which the LA County MS4 permit may be reopened for modification and the procedures to be followed. The procedures for this hearing and the recommended action fully comply with the terms of those permit provisions.

California Regional Water Quality Control Board
Los Angeles Region

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.waterboards.ca.gov/losangeles

Linda S. Adams
Cal/EPA Secretary

Arnold Schwarzenegger
Governor

April 25, 2007

Shahram Kharaghani, Ph.D, P.E.
City of Los Angeles, Department of Public Works
Bureau of Sanitation, Watershed Protection Division
1149 South Broadway, 10th Floor
Los Angeles, CA 90015

CERTIFICATION OF CATCH BASIN INSERT SCREEN DEVICES AS FULL CAPTURE SYSTEMS FOR TRASH REMOVAL

Dear Dr. Kharaghani:

We have reviewed the City of Los Angeles' (City) October 19, 2006, letter requesting "Full Capture Certification" for trash capture devices in two different configurations - a horizontal trash capture device and a vertical trash capture device. Subsequent to receiving this letter, additional information was provided to the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) staff during meetings between our respective staff on January 31, 2007 and February 21, 2007.

The purpose of this letter is to inform you of our approval of both configurations of your catch basin trash capture devices as "Full Capture Systems."

The definition of "full capture system" for the Ballona Creek Trash Total Maximum Daily Load (TMDL) was amended per Resolution No. 04-023 adopted on March 4, 2004 by the Los Angeles Regional Water Quality Control Board. It is likely that this definition will be applicable in future revisions of the Los Angeles River Trash TMDL. As a result, the Los Angeles Water Board staff has also analyzed your Report for compliance with the Ballona Creek Trash TMDL's full capture system definition. The definition of a "full capture system" as defined in the Resolution No. 04-023 as the following:

" A full capture system is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the subdrainage area. Rational equation is used to compute the peak flow rate: $Q = C \times I \times A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map in Figure A), and A = subdrainage area (acres)."

The Los Angeles Water Board's criterion for certification as a full capture device is that it must trap all particles retained by a 5-mm mesh screen, and have a treatment capacity exceeding peak flow rate resulting from a one-year, one-hour, storm in the subdrainage area. In addition, the following requirements must be met: 1. End-of-Pipe Configuration - Certain BMPs, which

can create a pressure drop, must have an end-of-pipe configuration and not rely on diversion weirs; 2. Adequate Pipe Sizing - The pipes carrying the flows from the subdrainage area should be able to handle peak flows; and 3. Regular Inspections and Maintenance - The full capture system must be regularly inspected and serviced to continually maintain adequate flow through capacity.

The City of Los Angeles' installations

1. The horizontal screen inserts and vertical trash capture screen inserts were installed in the City of Los Angeles in the area of Exposition Park and the LA Coliseum with a watershed of approximately 138 acres, in an effort to comply with the Ballona Creek and Los Angeles River Trash TMDLs. Based on the City's Pilot Study as submitted on October 19, 2006 and revised in February 2007, (Report), the above 2 types of devices meet the performance criteria for full capture certification.

Summary of City of Los Angeles Information Submitted

- Based on the City's Report, both inserts have a 5 mm mesh screen and meet the particle capture criteria for a full capture system. These inserts are designed for greater than a 1-year, 1-hour peak flow, and therefore satisfy the minimum 1-year, 1-hour design criteria;

- The flow capacity is greater than the estimated flow rate, therefore the inserts meet the design criteria for a full capture system;

- The drainage criterion is not part of the definition for a full capture system. However, it is important to note that the inserts do not retain storm water and therefore avoid any vector issues; and

- The Gross Solids Storage Capacity ranges depending on the size of each catch basin and its configuration. Some trash capture screen inserts may require cleaning more than once per year.

Based on the above information, the City of Los Angeles' trash capture screen inserts meet the definition of full capture system and are certified as a full capture system under the following conditions:

1. Adequate Pipe Sizing: The pipes carrying the flows from the subdrainage area should be able to handle peak flows.

2. Regular Inspections: The trash capture screen inserts should be visually inspected before and after rain events to allow for cleaning for optimal performance.

3. Regular Maintenance: The trash capture screen inserts shall be adequately maintained and cleaned ensure full capture of trash during the design storm.

This letter serves as a determination that the vertical and horizontal trash capture screen inserts, when installed and maintained in appropriately sized catch basins, satisfy the full capture definition of the trash TMDL and will allow the systems to be used elsewhere in the region. However, all parties installing these devices will have an on-going obligation to demonstrate that the installation of a particular system is appropriately sized and meets the intent of this program. Likewise, dischargers will be responsible for on-going maintenance to ensure the systems perform to design specifications. The Regional Water Board will review and consider performance data on a continuing basis. In the event data demonstrate that the systems are not performing to the full capture design standard established by the trash TMDL, this Los Angeles Water Board Executive Officer reserves the right and ability to rescind the certification for subsequent installations deemed non-conforming or inappropriate.

If you should have any questions regarding this Full Capture Certification, please feel free to contact Carlos Urrunaga at (213) 620-2083.

Sincerely,

Jonathan S. Bishop, P.E.
Executive Officer

Attachment

cc: Mr. Michael Levy, Office of the Chief Counsel, State Water Resources Control Board
Mr. Terry Fleming, Water Division, U.S. Environmental Protection Agency, Region 9
Mr. Eugene Bromley, U.S. Environmental Protection Agency, Region 9
Mr. Mark Pestrella, Los Angeles County Department of Public Works
Mr. Tom Leary, City of Long Beach
All Los Angeles County Municipal Storm Water Permittees
All Ventura County Municipal Storm Water Permittees

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Linda S. Adams
Cal/EPA Secretary

Arnold Schwarzenegger
Governor

August 1, 2007

Mr. Donald Wolfe, Director
County of Los Angeles
Department of Public Works
900 South Fremont Avenue
Alhambra, CA 90803-1331

CERTIFICATION OF THE CONNECTOR PIPE SCREEN DEVICE AS A FULL CAPTURE SYSTEM FOR TRASH REMOVAL UNDER THE BALLONA CREEK AND THE LOS ANGELES RIVER TRASH TOTAL MAXIMUM DAILY LOADS

Dear Mr. Wolfe:

We have reviewed the County of Los Angeles' (County) letter and report entitled, "Technical Report, Connector Pipe Screen Design, Full Capture TMDL Compliance, Screen And Bypass Sizing Requirements" dated October 17, 2006, and April 2007, and additional information provided by your staff in support of your request for "Full Capture Certification" for a trash capture device referred to as a "Connector Pipe Screen Design." The purpose of this letter is to inform you of our approval of the County's Connector Pipe Screen Design as a "Full Capture System" for use within catch basins as a trash capture device under the Ballona Creek and the Los Angeles River Trash Total Maximum Daily Loads.

A Connector Pipe Screen is a vertical stainless screen with 5 mm openings, installed inside a catch basin directly upstream of the connector pipe in such a manner that all water entering the basin must pass through the device. A vertical opening is provided around the perimeter of the screen to allow storm water to bypass in the event of a large storm or if the screen becomes clogged.

The definition of "full capture system" for the Ballona Creek Trash Total Maximum Daily Load (TMDL) was amended per Resolution No. 04-023 adopted on March 4, 2004 by the Los Angeles Regional Water Quality Control Board. It is likely that this definition will be applicable in future revisions of the Los Angeles River Trash TMDL. As a result, the Los Angeles Water Board staff have also analyzed your Report for compliance with the Ballona Creek Trash TMDL's full capture system definition. The definition of a "full capture system" as defined in the Resolution No. 04-023 as the following:

" A full capture system is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the subdrainage area. Rational equation is used to compute the peak flow rate: Q = C x I x A, where Q = design flow rate (cubic feet per

second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map in Figure A), and A = subdrainage area (acres)."

The Los Angeles Water Board's criterion for certification as a full capture device is that it must trap all particles retained by a 5-mm mesh screen, and have a treatment capacity exceeding peak flow rate resulting from a one-year, one-hour, storm in the subdrainage area. In addition, the following requirements must be met:

1. End-of-Pipe Configuration - Certain BMPs, which can create a pressure drop, must have an end-of-pipe configuration and not rely on diversion weirs;
2. Adequate Pipe Sizing - The pipes carrying the flows from the subdrainage area should be able to handle peak flows; and
3. Regular Inspections and Maintenance - The full capture system must be regularly inspected and serviced to continually maintain adequate flow through capacity.

Summary of the County of Los Angeles' Hydraulic Analysis

Staff from the County of Los Angeles Department of Public Works (Public Works) performed a hydrologic analysis to establish a method of calculating the maximum treatment flow resulting from a one-year, one-hour storm. With this information, extensive hydraulic analyses were conducted using different types and sizes of trash and debris to establish minimum sizing requirements for the CPS screen. Public Works engineers also established minimum sizes for the bypass opening to provide flood protection during large storm events.

Based on the County's Technical Report submitted on October 17, 2006 and revised in April 2007, (Report), the above-mentioned device meets the performance criteria for full capture certification.

Summary of the County of Los Angeles Information Submitted

Based on the County's Report, the Connector Pipe Screen has a 5 mm mesh screen and meets the particle capture criteria for a full capture system. The devices are designed for greater than a 1-year, 1-hour peak flow, and therefore satisfy the minimum 1-year, 1-hour design criteria;

The flow capacity of the devices is greater than the estimated flow rate, therefore the Connector Pipe Screens meet the design criteria for a full capture system;

The drainage criterion is not part of the definition for a full capture system. However, it is important to note that the inserts do not retain storm water and therefore avoid any vector issues; and

The Gross Solids Storage Capacity ranges depending on the size of each catch basin and its configuration. Some trash capture Connector Pipe Screens may require cleaning more frequently.

Based on the above information, the County of Los Angeles' Connector Pipe Screens meet the definition of full capture system and are certified as a full capture system under the following conditions:

1. Adequate Pipe Sizing: The pipes carrying the flows from the subdrainage area must be able to handle peak flows.

2. Regular Inspections: The Connector Pipe Screens should be visually inspected before and after rain events to allow for cleaning for optimal performance.

3. Regular Maintenance: The Connector Pipe Screens shall be adequately maintained and cleaned to ensure full capture of trash during the design storm.

This letter serves as a determination that the vertical Connector Pipe Screens (as described and identified via photographs in the County's April 2007 Technical Report), when installed and maintained in appropriately sized catch basins, satisfy the full capture definition of the trash TMDL and will allow the systems to be used elsewhere in the region. However, all parties installing these devices will have an on-going obligation to demonstrate that the installation of a particular system is appropriately sized and meets the intent of this program. Likewise, dischargers will be responsible for on-going maintenance to ensure the systems perform to design specifications. The Regional Water Board will review and consider performance data on a continuing basis. In the event data demonstrate that the systems are not performing to the full capture design standard established by the trash TMDL, the Los Angeles Water Board Executive Officer reserves the right and ability to rescind the certification for subsequent installations deemed non-conforming or inappropriate.

If you should have any questions regarding this Full Capture Certification, you may call me at (213) 576-6609, or have your staff contact Carlos Urrunaga at (213) 620-2083 or via email at currunaga@waterboards.ca.gov.

Sincerely,

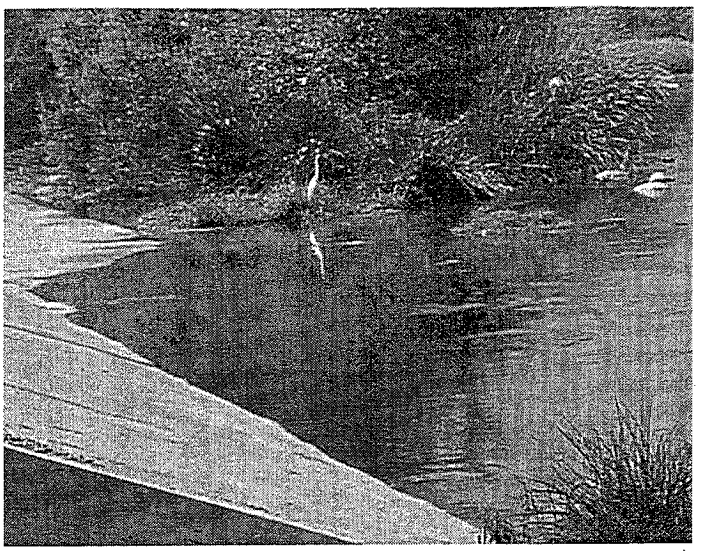
Deborah Smith
Interim Executive Officer

cc: Mr. Michael Levy, Office of the Chief Counsel, State Water Resources Control Board
Mr. Terry Fleming, Water Division, U.S. Environmental Protection Agency, Region 9
Mr. Eugene Bromley, U.S. Environmental Protection Agency, Region 9
Mr. Paul Thakur, Caltrans, District 7
Mr. Mark Pestrella, Los Angeles County Department of Public Works
Mr. Tom Leary, City of Long Beach
All Los Angeles County Municipal Storm Water Permittees
All Ventura County Municipal Storm Water Permittees

Trash Total Maximum Daily Loads

for the

Los Angeles River Watershed



August 9, 2007

California Regional Water Quality Control Board
Los Angeles Region
320 West Fourth Street, Suite 200
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24-811

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I. Introduction – Legal Background

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the "Regional Board") has developed this total maximum daily load (TMDL) designed to attain the water quality standards for trash in the Los Angeles River. The TMDL has been prepared pursuant to state and federal requirements to preserve and enhance water quality in the Los Angeles Basin River Watershed.

The California Water Quality Control Plan, Los Angeles Region, also known as the *Basin Plan*, sets standards for surface waters and ground waters in the regions. These standards are comprised of designated beneficial uses for surface and ground water, and numeric and narrative objectives necessary to support beneficial uses and the state's antidegradation policy. Such standards are mandated for all waterbodies within the state under the Porter-Cologne Water Quality Act. In addition, the Basin Plan describes implementation programs to protect all waters in the region. The Basin Plan implements the Porter-Cologne Water Quality Act (also known as the "California Water Code") and serves as the State Water Quality Control Plan applicable to the Los Angles River, as required pursuant to the federal Clean Water Act (CWA).

Section 305(b) of the CWA mandates biennial assessment of the nation's water resources, and these water quality assessments are used to identify and list impaired waters. The resulting list is referred to as the 303(d) list. The CWA also requires states to establish a priority ranking for impaired waters and to develop and implement TMDLs. A TMDL specifies the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and allocates pollutant loadings to point and non-point sources.

The United States Environmental Protection Agency (USEPA) has oversight authority for the 303(d) program and must approve or disapprove the state's 303(d) lists and each specific TMDL. USEPA is ultimately responsible for issuing a TMDL, if the state fails to do so in a timely manner.

As part of California's 1996 and 1998 303(d) list submittals, the Regional Board identified the reaches of the Los Angeles River at the Sepulveda Flood Basin and downstream as being impaired due to trash.

A consent decree between the USEPA, the Santa Monica BayKeeper and Heal the Bay Inc., represented by the Natural Resources Defense Council (NRDC), was signed on March 22, 1999. This consent decree requires that all TMDLs for the Los Angeles Region be adopted within 13 years. The consent decree also prescribed schedules for certain TMDLs. According to this schedule, a Trash TMDL for the Los Angeles River watershed had to be approved before March 2001.

On September 19, 2001, the Regional Board adopted a Trash TMDL for the Los Angeles River Watershed. The TMDL was subsequently approved by the State Water Resources Control Board on February 19, 2002 and by the Office of Administrative Law on July 16, 2002. The United States Environmental Protection Agency approved the Los Angeles River Trash TMDL on August 1, 2002.

The City of Los Angeles and the County of Los Angeles both filed petitions and complaints in Los Angeles Superior Court challenging the Los Angeles River Trash TMDL. Subsequent negotiations led to a settlement agreement, which became effective on September 23, 2003. Twenty-two other cities[1] ("Cities") sued the Regional Board and State Water Resources Control Board (State Water Board) to set aside the TMDL, on several grounds. The trial court entered an order deciding some claims in favor of the Los Angeles Water Board and State Water Board (collectively "California Water Boards"), and some in favor of the Cities. Both sides appealed, and on January 26, 2006, the Court of Appeal decided every one of the Cities' claims in favor of the California Water Boards, except with respect to CEQA compliance. (*City of Arcadia et al., Los Angeles Regional Water Quality Control Board et al.* (2006) 135 Cal.App.4th 1392.) The Cities filed a petition for review by the California Supreme Court, but on April 19, 2006, the Supreme Court declined to hear any of the Cities' claims.

The Appellate Court found that the California Water Boards did not adequately complete the environmental checklist, and that evidence of a "fair argument" of significant impacts existed such that the California Water Boards should have performed an EIR level of analysis through an EIR or its functional equivalent. (135 Cal.App.4th at 1420-26.) The Court therefore affirmed a writ of mandate issued by the trial court, which orders the California Water Boards to set aside and not implement the TMDL, until it has been brought into compliance with California Environmental Quality Act (CEQA).

On June 8, 2006 the Regional Board set aside the trash TMDL and resolution # 01-013 which established it, pursuant to the writ of mandate and to sections 13240 and 13242 of the Water Code. Setting aside the TMDL was not deemed a repudiation of the settlement agreement entered into between the Los Angeles Regional Water Quality Control Board and the City of Los Angeles and the County of Los Angeles, which was executed on September 24, 2003, and the Los Angeles Water Board expressed its continued intent to be bound by that agreement. The Regional Board also directed staff to revise the CEQA documentation as directed by the writ of mandate, and to prepare and submit for the Regional Board's reconsideration, a TMDL for Trash in the Los Angeles River Watershed, consistent with the requirements of the writ. Staff was also directed to incorporate into its proposed revised TMDL the changes agreed upon in the settlement with the City of Los Angeles, Los Angeles County and the Los Angeles County Flood Control District.

This TMDL staff report and accompanying Basin Plan Amendment incorporate, the changes agreed upon in the settlement with the City of Los Angeles, Los Angeles County and the Los Angeles County Flood Control District. Additional revisions have been made to the TMDL to update the Implementation and Compliance schedules and include city-specific baseline waste load allocations derived from results of the baseline monitoring program

[1] The cities include Arcadia, Baldwin Park, Bellflower, Cerritos, Commerce, Diamond Bar, Downey, Irwindale, Lawndale, Monrovia, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, Sierra Madre, Signal Hill, South Pasadena, Vernon, West Covina, and Whittier. They are members of a group that refers to itself as "The Coalition for Practical Regulation."

conducted by the Los Angeles County Department of Public Works (LACDPW). In addition, the CEQA checklist has been revised as directed by the writ of mandate.

The Los Angeles River Trash TMDL is a Basin Plan Amendment and is therefore subject to the 2001 provision of the Public Resources Code Section 21083.9 that requires a CEQA Scoping to be conducted for Regional Projects. CEQA Scoping involves identifying a range of project/program related actions, alternatives, mitigation measures, and significant effects to be analyzed in an EIR or its functionally equivalent document. On June 28, 2006 a CEQA Scoping hearing was held to present and discuss the foreseeable potential environmental impacts of compliance with the Los Angeles River Trash TMDL. A notice of the CEQA Scoping hearing was sent to interested parties including cities and/or counties with jurisdiction in or bordering the Los Angeles River watershed. Input from all stakeholders and interested parties was solicited for consideration in the development of the CEQA document

This Trash TMDL is based on existing, readily available information concerning the conditions in the Los Angeles River watershed and other watersheds in Southern California, as well as TMDLs previously developed by the State and USEPA.

II. Definitions

The definitions of terms as used in this TMDL are provided as follows:

Baseline Waste Load Allocation. The Baseline Waste Load Allocation is the Waste Load Allocation assigned to a permittee before reductions are required. The progressive reductions in the Waste Load Allocations will be based on a percentage of the Baseline Waste Load Allocation. The Baseline Waste Load Allocation was calculated based on the annual average amount of trash discharged to the storm drain system from a representative sampling of land use areas, as determined during the Baseline Monitoring Program.

Daily Generation Rate (DGR). The DGR is the average amount of litter deposited to land or surface water during a 24-hour period, as measured in a specified drainage area.

Full Capture System. A full capture system is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate Q resulting from a one-year, one-hour, storm in the subdrainage area. Rational equation is used to compute the peak flow rate: $Q = C \times I \times A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map in Figure A),[2] and A= subdrainage area (acres).

[2] The isohyetal map may be updated annually by the Los Angeles County hydrologist to reflect additional rain data gathered during the previous year. Annual updates published by the Los Angeles County Department of Public Works are prospectively incorporated by reference into this TMDL and accompanying Basin Plan amendment.

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Monitoring Entity. The Monitoring Entity is the permittee or one of multiple permittees and/or co-permittees that has been authorized by all the other affected permittees or co-permittees to conduct baseline monitoring on their behalf.

Permittee. The term "permittee" refers to any permittee or co-permittee of a stormwater permit.

Trash. In this document, we are defining "trash" as man-made litter, as defined in California Government Code Section 68055.1(g):

> "Litter means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling or manufacturing."

For purposes of this TMDL, we will consider trash to consist of litter and particles of litter, including cigarette butts. These particles of litter are referred to as "gross pollutants" in European and Australian scientific literature. This definition excludes sediments, and it also excludes oil and grease, and vegetation, except for yard waste that is illegally disposed of in the storm drain system. Additional TMDLs for sediments[3] and oil and grease may be required at a later date.

Urbanized Portion of the Watershed. For the purposes of this TMDL, the urban portion of the watershed includes the sum total area of the incorporated cities and the unincorporated portion of Los Angeles County which are located on the Los Angeles River watershed.[4] The estimated area of the "urbanized" portion of the watershed is 609 square miles[5]. The remainder of the watershed is made up of the Los Angeles National Forest and other open space.

[3] Sediments which may be addressed in a separate TMDL are natural particulate matters such as silt and sand. Sediments result from erosion and are deposited at the bottom of a stream. Sediments do not refer to the decomposition of settleable litter into small particulate matters, which this TMDL is trying to prevent.

[4] The Regional Board recognizes that some areas within the unincorporated sections of Los Angeles County are actually suburban or rural.

[5] As determined by the Regional Board from GIS mapping. (Other minor differences in figures are due to rounding.)

14-318

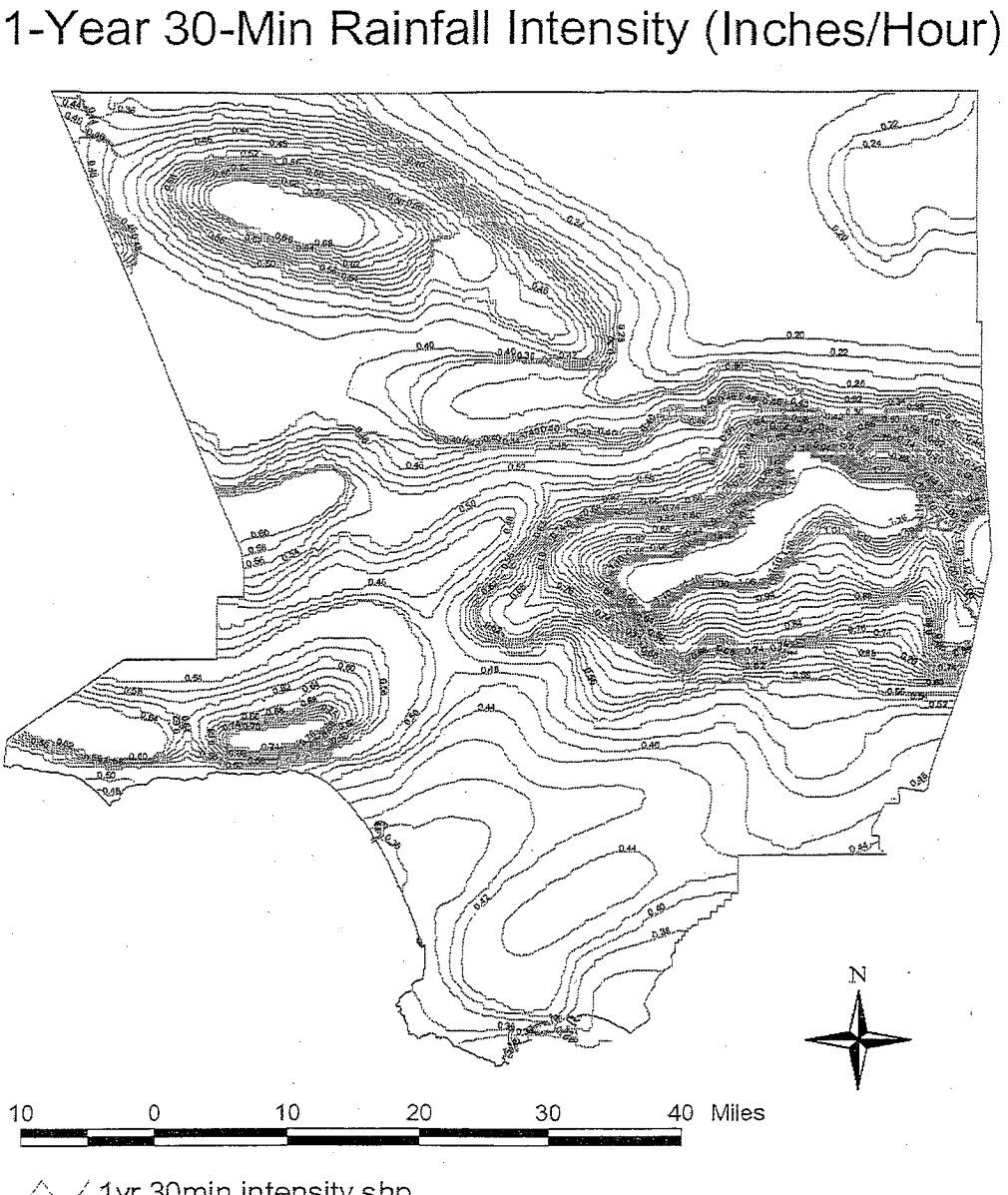

Figure A: Isohyethal Map of Rainfall Intensities in Portions of Los Angeles County (LADPW, 2003).

14-819

III. Problem Statement

The problem statement consists of a description of the watershed, beneficial uses, water quality objectives, and a description of the impairment to the watershed caused by trash.

A. Description of the Watershed

The Los Angeles River flows 51 miles from the western end of the San Fernando Valley to the Queensway Bay and Pacific Ocean at Long Beach (see Figure B). The headwaters are at the confluence of Arroyo Calabasas and Bell Creek. Arroyo Calabasas drains Woodland Hills, Calabasas, and Hidden Hills in the Santa Monica Mountains. Bell Creek drains the Simi Hills and receives flows from Chatsworth Creek. From the confluence of Arroyo Calabasas and Bell Creek, the Los Angeles River flows east through the southern portion of the San Fernando Valley, bends around the Hollywood Hills before it turns south onto the broad coastal plain of the Los Angeles Basin, eventually discharging into Queensway Bay and thence into San Pedro Bay West of Long Beach Harbor. Together with its several major tributaries, notably the Tujunga Wash, Burbank Western Channel, Arroyo Seco, Rio Hondo, and Compton Creek, the Los Angeles River drains an area of about 834[6] square miles. Of this area, the incorporated cities and unincorporated portion of Los Angeles County comprise 599 square miles. The remaining acreage consists of the Los Angeles National Forest and other uses.

In the San Fernando Valley, the river flows east for approximately 16 miles along the base of the Santa Monica Mountains. Most of the Los Angeles River channel was lined with concrete between 1935 and 1959 for flood control purposes[7]. This reach is lined in concrete except for a section of the river with a soft bottom at the Sepulveda Flood Control Basin. The Sepulveda Basin is a 2,150-acre open space, located upstream of the Sepulveda Dam. It is designed to collect flood waters during major storms. Because the area is periodically inundated, it remains in natural or semi-natural conditions and supports a variety of low-intensity uses. The US Army Corps of Engineers owns the entire basin and leases most of the area to the City of Los Angeles Department of Recreation and Parks, which has developed a multi-use recreational area that includes a golf course, playing fields, hiking trails, and bicycle paths.

The river is again lined in concrete for most of its course except for a seven-mile soft-bottomed segment between the confluence of the Burbank/Western Channel near Riverside Drive and north of the Arroyo Seco confluence. Three miles of this segment border Griffith Park (encompassing 4,217 acres). Four miles downstream, the river flows parallel to Elysian Park (585 acres in size). The original Pueblo de Los Angeles was founded just east of the river "to take advantage of the river's dependable supply of water."[8] Early this century, the progressive pumping of ground water, together with major diversions of water for irrigation and other uses throughout the watershed, contributed to a decreased flow in the River. From

[6] As determined by the Regional Board from GIS mapping.
[7] Gumprecht, Blake (1999) *The Los Angeles River: Its Life, Death, And Possible Rebirth*, p. 206.
[8] Los Angeles River Master Plan, June 1996, p. 211.

Willow Street all the way through the estuary, the river is soft bottomed with areas of riparian vegetation. This unlined section is about three miles long. Also part of the watershed are a number of lakes including Peck Road Park Lake, Echo Park Lake, and Lincoln Park Lake.

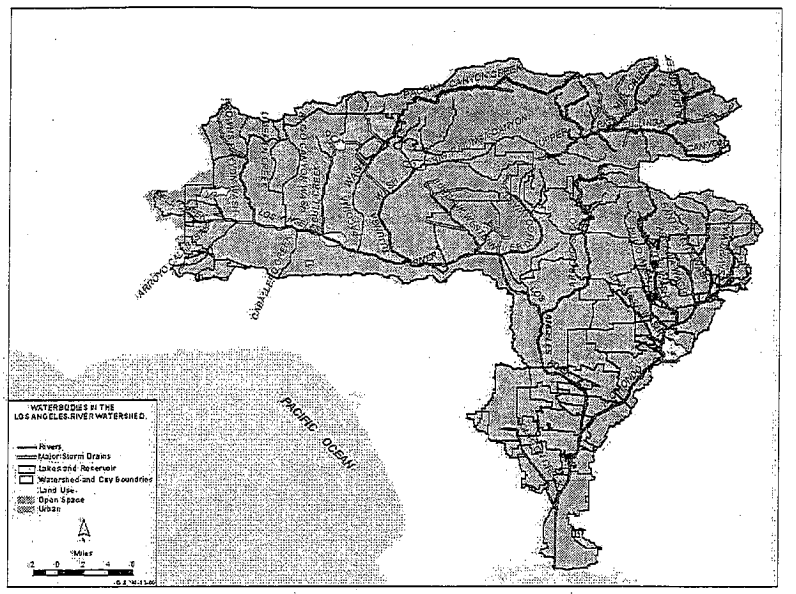

Figure B. Waterbodies in the Los Angeles River Watershed.

B. Beneficial Uses of the Watershed

A brief description of the beneficial uses most likely to be impaired due to trash in the Los Angeles River is provided in this section.

The upper reaches of the Los Angeles River include Sepulveda Basin, a soft-bottomed area that is designed as a flood control basin. Designated beneficial uses for the upper reaches are Municipal and Domestic Supply (MUN) (although most reaches only have conditional MUN designations), Ground Water Recharge (GWR), Water Contact Recreation (REC1), Non-Contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), and Wetland Habitat (WET). The arroyo chub is also found in the Sepulveda Basin area, and cannot survive on the flat surfaces on the concrete-lined portions of the Los Angeles River. The thick growth of riparian plants in this area provides habitat for a variety of wildlife. Native oaks grow along stretches of Valleyheart Drive in Studio City and Sherman Oaks. The river levees along this reach are accessible and neighborhood residents use them for walking and jogging.

Three native species of fish (the south coast minnow-sucker community) are found in Big Tujunga Creek from Big Tujunga Dam downstream to upper Hansen Dam. These are the Santa Ana sucker (Catastomus santaanae), which is listed as a federally endangered species, the Santa Ana speckled dace (Rhinichthys osculus) and the arroyo chub (Gila orcutti), both of

which are State Species of Special Concern. They thrive in the moderate to fast cool or cold flows in gravelly and rocky riffles (suckers and dace), alternating with slower pools (chubs)[9].

Glendale Narrows, from Riverside Drive to Arroyo Seco (Figueroa Street), with the longest soft-bottomed segment (seven miles), supports many beneficial uses and is designated accordingly in the Basin Plan. This portion of the Los Angeles River is designated as open space in the various community general plans. Dense riparian vegetation provides habitat for wildlife including birds, ducks, frogs and turtles. Several small pocket parks are found along this section of the River, many of which were designed by North East Trees (NET), sometimes in partnership with the Mountains Recreation and Conservation Authority (MRCA), such as a small park South and North of Los Feliz Boulevard sometimes referred to as the "Los Angeles RiverWalk"[10] and Sunnynook park on the Atwater side, and Rattlesnake Park and Zanja Madre Park on the Silver Lake side. Another example of a pocket park, designed by MRCA, is Knox Park[11], at the end of Knox Avenue. The riparian vegetation closely mimics the historical "willow sloughs" that once dotted the basin[12]. The relatively lush environment in this reach attracts people who enjoy many forms of recreation including walking, jogging, horseback riding, bicycling, bird watching, photography and crayfishing. There are several access points in this reach, including the pedestrian bridge over the Golden State Freeway from Griffith Park near Los Feliz Boulevard (Sunnynook Bridge). This whole section is lined with a maintained bike path, and many bicyclists use the path, which is cooled in places by the riparian trees. In addition, cut fences provide easy access for the many people who use this section of the river, including the homeless who have set up camp under some of the bridges within this reach or on the vacant land between Highway 5 and the fence to the river.

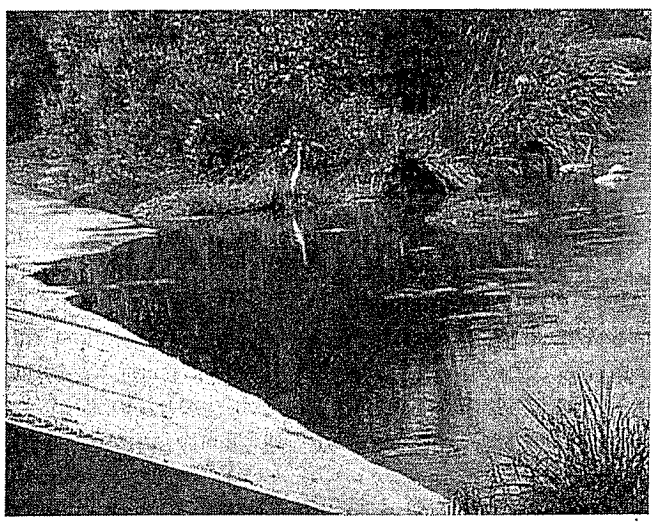

Figure C. Fletcher Drive: Great Egret, October 26, 1999.

[9] Camm Swift, Emeritus Natural History Museum of Los Angeles County, California Academy of Sciences, May 20, 2000.
[10] Nishith Dhandha, North East Trees, August 24, 2000.
[11] Ibid.
[12] Dan Cooper, Audubon Society, California Academy of Sciences, May 20, 2000.

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From Figueroa Street to Washington Boulevard, the river supports several beneficial uses, including the Downtown Channel, which is used by many for recreation and bathing, in particular by homeless people who seek shelter there.

The mid-cities reach (11½ miles from Washington Boulevard to Atlantic Avenue), has several beneficial uses. The western levee is available for trail use from Atlantic Boulevard in Vernon to Firestone Boulevard in South Gate. There is a county bike path on the eastern levee (the Lario Trail) and a county equestrian and hiking trail adjacent to the levee. Continuous access to the Lario Trail is provided below each street bridge crossing. Several parks have been developed adjacent to the river on the east side, some of which provide access to the river trail (Cudahy Park). In Vernon, the channel invert is used for lunchtime soccer games, and people walk or jog on the river maintenance roads mostly during the week at lunchtime. The utility easement in Bell is used partly for small, informal vegetable gardening.[13] South of the confluence of the Los Angeles River and the Rio Hondo Channel in South Gate, increasing numbers of birds can be seen using the channel and adjacent lands.[14]

The nine-mile reach from Atlantic Avenue to the ocean supports some of the most abundant bird life found on the Los Angeles River. The parks, spreading grounds, utility easements and vacant land adjacent to the river provide roosting and feeding habitat. Many species of birds also feed in the concrete channel, where algae grow in the warm, shallow water, and in the estuary South of Willow Street, including fish-eaters like waders (herons, egrets, occidental bitterns and rails), terns, osprey (a fish-eating hawk), pelicans and cormorants. California Brown Pelican and California Least Tern are Federally Endangered Species.[15]

The water in the estuary pools is deep and slow enough to support an abundant fish community as well. In addition to gobies and tilapia (mostly *Tilapia mozambica*)[16], which are very abundant in the Los Angeles River, especially South of Willow Street, many species of fish are found in the estuary of the Los Angeles River. As an example, the following species have been found between the Ocean boulevard bridge and Queensway Bay bridge: California tonguefish, California halibut, specklefin midshipman, California lizardfish, diamond turbot, barcheek pipefish, and Pacific staghorn sculpin (bottom feeders), as well as white croaker, queenfish, deepbody anchovy, white seaperch, slough anchovy, barred sand bass, shiner perch, California grunion, and striped mullet (midwater feeders, often associated with bottom environment). This area also has harbored some pelagic fish, some of which will venture up an undetermined portion of the estuary: northern anchovy, Pacific sardine, Pacific pompano, Pacific barracuda, topsmelt, jacksmelt, white seabass, barred pipefish, giant kelpfish, and bay pipefish.[17]

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[13] Los Angeles River Master Plan, p. 99.

[14] At the confluence there is a ten-acre site (approx.) owned by the City of South Gate that contains an abandoned landfill which is vegetated with grasses, shrubs and trees (Los Angeles River Master Plan).

[15] Dan Cooper, California Audubon Society, December 17, 1999.

[16] Charles Mitchell, MBC Applied Environmental Sciences, December 19, 1999.

[17] Marine Biological Baseline Study of Queensway Bay, Long Beach Harbor, MBC Applied Environmental Sciences, 1994.

Beneficial uses of the Los Angeles River watershed are summarized in Table 1, excerpted from the 1994 Basin Plan. These are the designated beneficial uses that must be protected.[18]

Table 1. Beneficial Uses of Surface Waters of the Los Angeles River.

Surface Waters	Hydro Unit	MUN	IND	PROC	GWR	NAV	REC1	REC2	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET
Los Angeles River Estuary	405.12		E			E	E	E	E			E	E	E	E	E	E	P	E
Los Angeles River to Estuary	405.12	P*	P	P	E		E	E		E			E	E	E	P	P	P	
Los Angeles River	405.15	P*	P		E		E	E		E				P					
Los Angeles River	405.21	P*	P		E		E	E		E				E					E
Compton Creek	405.15	P*			E		E	E		E				E					E
Rio Hondo downstream Spreading Grounds	405.15	P*			I		P	E		P				I					
Rio Hondo	405.41	P*			I		I	E		P				I	E				E
Alhambra Wash	405.41	P*			I		P	I		P				P	E				
Rubio Wash	405.41	P*			I		I	I		I				E	P				
Rubio Canyon	405.31	P*			E		I	I		I				E	E				E
Eaton Wash	405.41	P*			I		I	I		I				E					
Eaton Wash (downstream dam)	405.31	P*			I		I	I		I				E					
Eaton Wash (upstream dam)	405.31	P*			I		I	I		I				E					
Eaton Dam and Reservoir	405.31	P*			I		P	I		I				E					
Eaton Canyon Creek	405.31	P*			E		E	E		E				E	E		E		E
Arcadia Wash (lower)	405.41	P*			I		P	I		P				P					
Arcadia Wash (upper)	405.33	P*			I		P	I		P				P					
Santa Anita Wash (lower)	405.41	P*			I		P	E		P				P	E				
Santa Anita Wash (upper)	405.33	P*			E		E	E		E				E	E				
Little Santa Anita Canyon Creek	405.33	P*			I		I	I		I				E					
Big Santa Anita Reservoir	405.33	P*			E		P	E		E	E			E					

[18] Water Quality Control Plan, Los Angeles Region, California Regional Water Quality Control Board, Los Angeles Region, 1994, p. 2-10.

Table 1. Beneficial Uses of Surface Waters of the Los Angeles River, continued.

Surface Waters	Hydro Unit	MUN	IND	PROC	GWR	NAV	RECI	REC2	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET
Santa Anita Canyon Creek	405.33	E*			E		E	E		E	E			E	E		E		E
Winter Creek	405.33	P*			I		I	E		I				E					E
East Fork Santa Anita Canyon	405.33	P*			E		E	E		E	E			E			E		E
Sawpit Wash	405.41	I			I		I	I		I				E					
Sawpit Canyon Creek	405.41	P*			I		I	I		I				E	E				
Sawpit Dam and Reservoir	405.41	P*			I		P	I		I				E					
Monrovia Canyon Creek	405.41	I			I		I	I		I				E					E
Arroyo Seco downstream Devil's Gate R. (L)	405.15	P*					I	I		P				P					
Arroyo Seco downstream Devil's Gate R. (U)	405.31	P*					I	I		P				P	E				
Devil's Gate Reservoir (L)	405.31	P*			I		I	I		I				E					
Devil's Gate Reservoir (U)	405.32	I*			I		I	I		I				E					
Arroyo Seco upstream Devil's Gate R.	405.32	E	E	E	E		E	E		E	E			E					E
Millard Canyon Creek	405.32	E*	E	E	E		E	E		E				E	E				E
El Prieto Canyon Creek	405.32	I	I	I	I		I	I		I				E					
Little Bear Canyon Creek	405.32	P*			I		I	I		I	I			E					E
Verdugo Wash	405.24	P*			I		P	I		P				P					
Halls Canyon Channel	405.24	P*	I	I	I		I	I		I				E					
Shover Canyon	405.32	I	I	I	I		I	I		I				E					
Pickens Canyon	405.24	I*			I		I	I		I				E					
Shields Canyon	405.24	I	I	I	I		I	I		I				E					
Dunsmore Canyon Creek	405.24	I	I	I	I		I	I		I				E					

Table 1. Beneficial Uses of Surface Waters of the Los Angeles River, continued.

Surface Waters	Hydro Unit	MUN	IND	PROC	GWR	NAV	REC1	REC2	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET
Burbank Western Channel	405.21	P*					P	I		P				P					
La Tuna Canyon Creek	405.21	P*			I		I	I		I				E					
Tujunga Wash	405.21	P*			I		P	I		P	P			P					
Hansen Flood Control Basin & Lakes	405.23	P*			E		E	E		E	E			E	E				
Lopez Canyon Creek	405.21	P*			I		I	I		I				E					
Little Tujunga Canyon Creek	405.23	P*			I		I	E		I	I			E	E				
Kagel Canyon Creek	405.23	P*			I		I	I		I				E					
Big Tujunga Canyon Creek	405.23	P*			E		E	E		E	E			E	E		E		E
Upper Big Tujunga Canyon Creek	405.23	P*			E		E	E		I	P			E					E
Haines Canyon Creek	405.23	P*			I		I	I		I				E	E				
Vasquez Creek	405.23	P*			E		E	E		P	P			E					E
Clear Creek	405.23	P*			E		E	E		E	E			E					E
Big Tujunga Reservoir	405.23	P*			E		P	E		E	P			E			E		
Mill Creek	405.23	P*			E		E	E		E	E			E					E
Pacoima Wash	405.21	P*			E		P	E		E				E	E				
Pacoima Reservoir	405.22	P*			E		E	E		E				E					
Pacoima Canyon Creek	405.22	P*			E		E	E		E	E			E	E		E		E
Stetson Canyon Creek	405.22	P*			I		P	E		P				P					
Wilson Canyon Creek	405.22	P*			I		E	E		I				E					
May Canyon Creek	405.22	P*			I		I	E		I				E					
Sepulveda Flood Control Basin	405.21	P*			E		E	E		E				E					E
Bull Creek	405.21	P*			I		I	I		I				E					
Los Angeles Reservoir	405.21	E	E	E	P		P	E		E				E	E				
Lower Van Norman Reservoir	405.21	E*	E	E	E		E	E		E				E	E				
Solano Reservoir	405.21	E*					P			P				E					
Caballero Creek	405.21	P*			I		I	I		I				E					
Aliso Canyon Wash and Creek	405.21	P*			I		I	I		I				E					
Limeklin Canyon Wash	405.21	P*			I		I	I		I				E					

Table 1. Beneficial Uses of Surface Waters of the Los Angeles River, concluded.

Surface Waters	Hydro Unit	MUN	IND	PROC	GWR	NAV	REC1	REC2	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET
Browns Canyon Wash and Creek	405.21	P*			I		I	I		I				E					
Arroyo Calabasas	405.21	P*					P	I		P				P					
McCoy Canyon Creek	405.21	P*			I		I	I		I				E					
Dry Canyon Creek	405.21	P*			I		I	I		I				E					
Bell Creek	405.21	P*			I		I	I		I				E					
Chatsworth Reservoir	405.21	E	E	E			P	E		E				E					
Dayton Canyon Creek	405.21	P*			I		I	I		I				E					
Echo Lake	405.15	P*					P	E		P				E					
Lincoln Park Lake	405.15	P*					P	E		P				E					

E1-527

E: Existing beneficial use
P: Potential beneficial use
I: Intermittent beneficial use

BENEFICIAL USE CODES (see Basin Plan for more details):
MUN - Municipal and Domestic Water Supply
IND - Industrial Service Supply
PROC - Industrial Process Supply
GWR - Ground Water Recharge
REC1 - Water Contact Recreation
REC2 - Non-Contact Water Recreation
COMM - Commercial and Sport Fishing

RARE - Rare, Threatened or Endangered Species
SPWN - Spawning, Reproduction, and/or Early Development
SHELL - Shellfish Harvesting
WET - Wetland Habitat

: Conditional designation: the waters designated with an "" in the table do not have MUN as a designated use until such time as the Basin Plan is modified based on additional study. In the interim, no new effluent limitations will be placed in Waste Discharge Requirements as a result of these designations until the Regional Board adopts an amendment that identifies those waters in the Region that should be excepted from the MUN designation.

WARM - Warm Freshwater Habitat
COLD - Cold Freshwater Habitat
EST - Estuarine Habitat
MAR - Marine Habitat
WILD - Wildlife Habitat

C. Water Quality Objectives

Water quality standards consist of a combination of beneficial uses, water quality objectives and the State's Antidegradation Policy. The Regional Board has determined that the narrative water quality objectives applicable to this TMDL are **floating materials**: *"Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses"*[19] and **solid, suspended, or settleable materials:** *"Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses."*[20] The States' Antidegradation Policy is formally referred to as the *Statement of Policy with Respect to Maintaining High Quality Waters in California* (State Board Resolution No. 68-16).

D. Impairment of Beneficial Uses

Existing beneficial uses impaired by trash in the Los Angeles River are contact recreation (REC 1) (contact sports: swimmers are spotted regularly in the Los Angeles River at Glendale Narrows and also at Willow Street in Long Beach) and non-contact recreation such as fishing (REC 2) (trash is aesthetically displeasing and deters recreational use and tourism); warm fresh water habitat (WARM); wildlife habitat (WILD); estuarine habitat (EST) and marine habitat (MAR); rare, threatened or endangered species (RARE); migration of aquatic organisms (MIGR) and spawning, reproduction and early development of fish (SPWN); Commercial and sport fishing (COMM); Wetland Habitat (WET), and Cold freshwater habitat (COLD). These beneficial uses in the Los Angeles River are impaired by large accumulations of suspended and settled debris throughout the river system. The problem is even more acute in Long Beach where debris flushed down from the upper reaches of the river collects. Common items that have been observed by Regional Board staff include Styrofoam cups, Styrofoam food containers, glass and plastic bottles, toys, balls, motor oil containers, antifreeze containers, construction materials, plastic bags, and cans. Heavier debris can be transported during storms as well.

Reaches of the Los Angeles River that are impaired by trash, and listed on the 303(d) list for such, are Tujunga Wash (downstream Hansen Dam to Los Angeles River), Los Angeles River Reach 5 (within Sepulveda Basin), Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.), Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.), Los Angeles River Reach 2 (Figueroa St. to upstream Carson St.), Los Angeles River Reach 1 (upstream Carson St. to estuary), Burbank Western Channel, Verdugo Wash (Reaches 1 & 2), Arroyo Seco Reach 1 (downstream Devil's Gate Dam) & Reach 2 (W. Holly Ave. to Devil's Gate), and Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River). In addition, Peck Road Lake, Echo Park Lake and Lincoln Park Lake are listed as impaired for trash.

Trash in waterways causes significant water quality problems. Small and large floatables can inhibit the growth of aquatic vegetation, decreasing spawning areas and habitats for fish and other living organisms. Wildlife living in rivers and in riparian areas can be harmed by ingesting or becoming entangled in floating trash. Except for large items such as shopping carts, settleables are not always obvious to the eye. They include glass, cigarette butts, rubber,

[19] Water Quality Control Plan ("Basin Plan"), p. 3-9.
[20] Ibid., pp. 3-16.

construction debris and more. Settleables can be a problem for bottom feeders and can contribute to sediment contamination. Some debris (e.g. diapers, medical and household waste, and chemicals) are a source of bacteria and toxic substances. Floating debris that is not trapped and removed will eventually end up on the beaches or in the open ocean, repelling visitors away from our beaches and degrading coastal waters.

A major trash problem experienced in the Los Angeles River Watershed contributes to a broader phenomena that affects ocean waters, as small pieces of plastic called "nurdles" (defined as pre-production virgin material from plastic parts manufacturers, as well as post-production discards that are occasionally recycled) float at various depths in the ocean and affect organisms at all levels of the food chain. As sunlight and UV radiation render plastic brittle, wave energy pulverizes the brittle material, with a subsequent chain of nefarious effects on the various filter feeding organisms found near the ocean's surface. Studies in the North Pacific indicate that both large floating plastic and smaller fragments are increasing. As a result of increased reports of resin pellet ingestion by aquatic wildlife and evidence that the ingested pellets are harming wildlife, the Interagency Task Force on Persistent Marine Debris (ITF) identified resin pellets, also know as plastic pellets, as a debris of special concern.[21] When released into the environment, these pellets either may float on or near the water surface, may become suspended at mid-depths, or may sink to the bottom of a water body. Whether a specific pellet floats or sinks depends on the type of polymer used to create the pellet, on additives used to modify the characteristics of the resin, and on the density of the receiving water.

A 1999 study of Marine Debris in the Mid-Pacific Gyre in an attempt to assess the potential effects of ocean particles on filter feeding marine organisms, collected plankton samples at various locations throughout the gyre. The results were stunning: the mass of plastic particles collected was six times higher than the mass of plankton (841 g/km^2), although the number of planktonic organisms (1,837,342/km^2) was five times the number of plastic pieces. The distribution of the sampling points allows one to assume that this number can be safely extrapolated to the breadth of the Mid-Pacific Gyre. A remarkable finding was that the number of particles did not increase in successively smaller size classes as expected, indicating there may be non-selective removal by mucus web-feeding jellies and salp. In this study, the most common type of identifiable particle, thin plastic film, accounted for 29% of the total. Many birds will die from ingesting this non-nutritive plastic.[22]

The prevention and removal of trash in the Los Angeles River ultimately will lead to improved water quality and protection of aquatic life and habitat, expansion of opportunities for public recreational access, enhancement of public interest in the rivers and public participation in restoration activities, and propagation of the vision of the river as a whole and enhancement of the quality of life of riparian residents.

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[21] US Environmental Protection Agency (US EPA) (1992) **Plastic Pellets in the Aquatic Environment: Sources and Recommendations.**

[22] Moore, C.J. et al. **Marine Debris in the North Pacific Gyre, 1999, with a Biomass Comparison of Neustonic Plastic and Plankton.** (in preparation)

E. Extent of the Trash Problem in the Los Angeles River

Trash is a water quality problem throughout the Los Angeles River. The Regional Board has determined that current levels of trash exceed the existing Water Quality Objectives necessary to protect the beneficial uses of the river.

For many years, Los Angeles County and other cities have recognized that trash is a problem.[23] The Los Angeles County Department of Public Works is reporting a "30% decrease in roadway trash on unincorporated County roads and a 50% decrease in trash entering catchbasins since adoption of the current National Pollutant Discharge Elimination System (NPDES) Permit".[24] However, trash in the Los Angeles River continues to be a serious problem.

Every city in the watershed agrees that the amount of trash found in the waterways is excessive, and that trash is found in all reaches of the river from Calabasas to Long Beach, and in all tributaries. Although the Regional Board has not yet received the data that the Los Angeles County Department of Public Works used for its findings, Regional Board staff regularly observe trash in the waterways of this watershed. Non-profit organizations such as Heal the Bay, Friends of the Los Angeles River (FoLAR) and others, organize volunteer clean-ups periodically, and document the amount of trash that was removed on such days, but these data do not indicate how long the trash had been accumulating at that particular site, only the amount that was picked up by the volunteers on a given day.

For example, at Coastal Clean-up Day in 1996, 26,300 lbs of trash were collected in Los Angeles County. During the September 18, 1999, California Coastal Clean up organized by Heal the Bay, a total of 60,711 lbs of trash were collected.[25]

At a clean-up organized during the Sacred Music Festival on Saturday, October 16, 1999, between Los Feliz Boulevard and Fletcher Drive over a distance of slightly under 1.5 miles, eleven shopping carts and six 40-gallon bags of trash were removed (see Figure D). However, this was not the total amount of trash on site, as Regional Board staff noticed more shopping carts and more trash on the same site the very next afternoon.[26] Meanwhile, the purpose of volunteer clean-ups is to visibly clean the river and its banks, not to quantify debris. As a result, it is likely that some of the debris collected during those events are not recorded. In

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[23]See comments from Los Angeles County, Agoura Hills, Artesia, Beverly Hills, Hermosa Beach, Hidden Hills, Carson, Diamond Bar, La Habra Heights, La Mirada, La Puente, Monrovia, Norwalk, Rancho Palos Verdes, Rolling Hills, San Fernando, San Marino, West Hollywood, Westlake Village, and the Executive Advisory Committee (Stormwater Program - Los Angeles County) on behalf of all the Los Angeles County cities, submitted in response to the first draft of this Trash TMDL for the Los Angeles River Watershed.

[24]Comment letter from County of Los Angeles, Department of Public Works, May 15, 2000, p. 1.

[25] Alix Gerosa, Heal the Bay, November 22, 1999.

[26] Trash observed by Regional Board staff on October 17, 1999, included mixed polystyrene waste (cups, plates and others), plastic bags, cement, sound boards, large clusters of cigarette butts, disposable plastic glass lids, aluminum wrappers, balloons, medications, plastic bottles, clothing, books, and aerosol paint cans.

addition, volunteers traditionally focus on larger, more visible debris to the exclusion of smaller debris which are commonly encountered, such as cigarette butts.

Figure D. Trash waiting for pick-up at Los Feliz Boulevard after the Sunday, October 16, 1999 river clean-up.

Several studies which attempted to quantify trash generated from discreet areas have been completed, but they concern relatively small areas, or relatively short periods, or both. The findings of some of these studies are discussed below.

The City of Calabasas cleaned out the Continuous Deflective Separation (CDS) Unit they had installed in December of 1998, on September 28, 1999. This CDS unit, located in Calabasas at the intersection of Las Virgenes Road and Agoura Road, collects trash from the runoff of a small storm drain, as well as part of the runoff from Calabasas Park Hills (Santa Monica Mountains), and eventually empties to Las Virgenes Creek. It is assumed that this CDS unit prevented all trash from passing through. The calculated area drained by this CDS Unit, as provided to the Regional Board by Los Angeles County Department of Public Works staff, amounts to 12.8 square miles. The urbanized area was estimated by Regional Board staff to amount to 0.10 square miles of the total area. The result of this clean-out, which represents approximately half of the 1998-1999 rainy season, was 2,000 gallons of sludgy water and a 64-gallon bag about two-third full of plastic food wrappers. It is assumed that part of the trash that accumulated in the CDS unit over roughly half of the rainy season had decomposed in the unit, hence the absence of paper products. Given the CDS unit was cleaned out after slightly more than nine months of use, it was assumed that this 0.10 square mile urbanized area produced a volume of 64 gallons of trash over one year. This datum will be used as the default value for the implementation plan. Although other studies are informative, studies currently available to the Regional Board provide insufficient data and could not be applied directly to establishing trash generation rates.

The City of Los Angeles conducted an Enhanced Catch Basin Cleaning Pilot Project in compliance with a consent decree between the United States Environmental Protection Agency, the State of California, and the City of Los Angeles. The project goals were to

determine debris loading rates, characterize the debris, and find an optimal cleaning schedule through enhancing catch basin cleaning. The project evaluated trash loading at two drainage basins:

-The Hollywood Basin (1,366 acres and 793 catch basins) includes much of Hancock Park and is mostly residential with some commercial and open space, and no industrial land;

-The Sawtelle Basin (2,267 acres and 502 catch basins) includes residential areas with some commercial, industrial and transportation-related uses, and some open space.

The catch basins are inlet structures without a sump below the level of the outlet pipe to capture solids and trash washed down by the stormwater.[27] These inlets also collect trash, grass clippings and animal wastes during dry weather. Catch basins were cleaned 3-4 times from March 1992 to December 1994 and yielded approximately 0.79 yd^3 (160 Gal) of debris per cleaning (Sawtelle – 1.04 yd^3 (210 Gal) and Hollywood – 0.61 yd^3 (123 Gal)), characterized as paper (26%), plastic wastes (10%), soil (33%), and yard trimmings (31%).

The study also observed that the amount of plastic waste was less in residential areas and greater in non-residential areas, that paper waste was greater in commercial areas, and that soil and yard waste was greater in residential areas and open spaces.[28]

Long Beach collects large amounts of trash at the mouth of the Los Angeles River, as much of the trash carried down the Los Angeles River ends up at the river's mouth in Long Beach. Debris tonnage at the mouth of the Los Angeles River is listed in Table 2.

Table 2. Storm Debris Collection Summary for Long Beach: Debris is measured in Tonnage.[29]

Storm Year	First Quarter (July-Sept.)	Second Quarter (Oct.-Dec.)	Third Quarter (Jan.-March)	Fourth Quarter (April-June)	Total
1994-95	436	509	3,576	702	5,224
1995-96	504	344	3,100	645	4,593
1996-97	350	2,361	601	681	3,993
1997-98	647	3,650	4,016	977	9,290
1998-99	565	720	532	1,274	3,091
1999-00	781	176	1,664	1,223	3,844
2000-01	757	581	2,625	474	4,437
2001-02	424	739	288	407	1,858
2002-03	430	752	2,564	884	4,630
2003-04	299	779	607	951	2,636

[27] Such structures are usually termed *catchments*, but the term *catch basin* is used throughout Southern California. The absence of flow during dry weather allows trash to collect at the inlet. (Phone conversation with Wing Tam, City of Los Angeles, November 10, 1999.)

[28] This information and all of the above concerning the City of Los Angeles Enhanced Catch Basin Cleaning was found in: City of Los Angeles Department of Public Works, Bureau of Sanitation: Consent Decree Report, Enhanced Catch Basin Cleaning, April 1999. (Unpublished report.)

[29] City of Long Beach *L.A. River Debris Summary* (as of June 2006).

Storm Year	First Quarter (July-Sept.)	Second Quarter (Oct.-Dec.)	Third Quarter (Jan.-March)	Fourth Quarter (April-June)	Total
2004-05	273	4,390	6,176	1,416	12,255
2005-06	561	495	862	670	2,591

IV. Numeric Target

The numeric target for this TMDL is 0 (zero) trash in the water. The numeric target is derived from the narrative water quality objectives, including an implicit margin of safety. Although a substantial number of comments were received in response to the March 17, 2000 Draft TMDL, no information was provided to justify any other number for the final TMDL target that would fully support the designated beneficial uses. The numeric target was used to calculate the Waste Load Allocations as described in the Implementation Plan (see Section VIII.)

V. Source Analysis

The major source of trash in the river results from litter, which is intentionally or accidentally discarded in watershed drainage areas. Transport mechanisms include the following:

1. Storm drains: trash is deposited throughout the watershed and is carried to the various reaches of the river and its tributaries during and after significant rainstorms through storm drains.

2. Wind action: trash can also blow into the waterways directly.

3. Direct disposal: direct dumping also occurs.

Extensive research has not been done on trash generation or the precise relationship between rainfall and its deposition in waterways. However, it has been found that the amount of gross pollutants entering the stormwater system is rainfall dependent but does not necessarily depend on the source (Walker and Wong, December 1999). The amount of trash which enters the stormwater system depends on the energy available to re-mobilize and transport deposited gross pollutants on street surfaces rather than on the amount of available gross pollutants deposited on street surfaces. The exception to this finding of course would be in the event that there is zero gross pollutants deposited on the street surfaces or other drainages tributary to the storm drain. Where gross pollutants exist, a clear relationship between the gross pollutant load in the stormwater system and the magnitude of the storm event has been established. The limiting mechanism affecting the transport of gross pollutants, in the majority of cases, appears to be re-mobilization and transport processes (i.e., stormwater rates and velocities).

Several studies conclude that urban runoff is the dominant source of trash. The large amounts of trash conveyed by urban storm water to the Los Angeles River is evidenced by the amount of as trash that accumulates at the base of storm drains. The amount and type of trash that is washed into the storm drain system appears to be a function of the surrounding land use.

A number of studies (Walker and Wong, 1999, Allison, 1995), have shown that commercial land-use catchments generate more pollutants than residential land use catchments, and as much as three times the amount generated from light industrial land use catchment. It is generally accepted that commercial land uses tend to contribute larger loads of gross pollutants per area compared to residential and mixed land-use areas. This is in spite of daily street sweeping in the commercial sub-catchment compared to once every two weeks in residential and mixed land use areas.

VI. Waste Load Allocations

Storm drains have been identified as a major source of trash in the Los Angeles River. The strategy for meeting the water quality objective will focus on reducing the trash discharged via municipal storm drains.

Waste Load Allocations are assigned to the Permittees and Co-permittees of the Los Angeles County Municipal Stormwater Permit (hereinafter referred to as Permittees) and Caltrans. In addition, Waste Load Allocations may be issued to additional facilities in the future under Phase II of the US EPA Stormwater Permitting Program. Waste Load Allocations assigned under the MS4 permit and the Caltrans permit will be based on a phased reduction from the estimated current discharge (i.e., baseline) over a 9-year period until the final Waste Load Allocation (currently set at zero) is met. Permittees under the Phase II Stormwater Permitting Program will also be assigned a final WLSA of zero trash discharge. The baseline allocation for the MS4 Permittees and Co-permittees (referred to hereinafter as the "Permittees") is derived from data collected during the Baseline Monitoring Program.

A. Reconsideration and Refinement Provision

The baseline Waste Load Allocations for the MS4 Permittees and Co-permittees have been modified from that assigned in the earlier trash TMDL. The Regional Board will review and reconsider the final Waste Load Allocations once a reduction of 50% of the Baseline Waste Load Allocation has been achieved. This means that the final Waste Load Allocation will be reviewed only after substantial reductions are achieved. This reconsideration of the Waste Load Allocation will be based on the findings of future studies regarding the threshold levels needed for protecting beneficial uses.

B. Default Baseline Waste Load Allocation

The Default Baseline Waste Load Allocation for the municipal stormwater permittees, in the earlier version of the trash TMDL was equal to 640 gallons of uncompressed trash per square mile per year. No differentiation was applied for different land uses in the Default Baseline Waste Load Allocation.

C. Refined Baseline Waste Load Allocations

The municipal stormwater permittees opted to seek refinement of the Default Baseline Waste Load Allocation by implementing a "Baseline Monitoring Plan." The goal of the Baseline Monitoring program was to derive a representative trash generation rate for various land uses from across the Los Angeles River watershed. The Baseline Waste Load Allocation for any single city is the sum of the products of each land use area multiplied by the Waste Load Allocation for the land use area, as shown below:

$$LA = \sum for\ each\ city\ (area\ by\ land\ uses \bullet allocations\ for\ this\ land\ use)$$

The urban portion of the Los Angeles River watershed was divided into twelve types of land uses for every city and unincorporated area in the watershed. Similar land use classifications already exist on the land use maps used by L.A. County Department of Public Works to assess the generation of certain pollutants by land use.[30] The land use categories are: (1) high density residential[31], (2) low density residential[32], (3) commercial and services, (4) industrial, (5) public facilities[33], (6) educational institutions[34], (7) military installations, (8) transportation[35], (9) mixed urban[36], (10) open space and recreation[37], (11) agriculture[38], and (12) water[39]. Given that the minimum mapping resolution is 2.5 acres, a non-critical land use unit may not be mapped if it is less than 2.5 acres in size[40].

The appendix contains a table which shows the square mileage for each land use for each city and unincorporated areas in the watershed, and a list of maps showing land uses for each city. Unincorporated areas include areas such as Altadena, East Compton, East Los

[30] The land use classification was developed by Aerial Information Systems as a modified Anderson Land Use Classification and originally included 104 categories. The land use coverages were donated for GIS library use by Southern California Association of Governments (SCAG), and show land use for 1990 and for 1993. The coverages were map-joined into a single coverage by Teale Data Center. The Regional Board layers were aggregated from the TDC coverage into the land uses shown above.

[31] High Density Residential includes High Density Single Family Residential and all Multi Family Residential, Mobile Homes, Trailer Parks and Rural Residential High Density.

[32] Under 2 units per acre.

[33] These include government centers, police and sheriff stations, fire stations, medical health care facilities, religious facilities large enough to be distinguished on an aerial photograph, libraries, museums, community centers, public auditoriums, observatories, live indoor and outdoor theaters, convention centers which were built prior to 1990, communication facilities, and utility facilities (electrical, solid waste, liquid waste, water storage and water transfer, natural gas and petroleum).

[34] Preschools and daycare centers, elementary schools, high schools, colleges and universities, and trade schools, including police academies and fire fighting training schools.

[35] Airports, railroads, freeways and major roads (that meet the minimum mapping resolution of 2.5 acres), park and ride lots, bus terminals and yards, truck terminals, harbor facilities, mixed transportation and mixed transportation and utility.

[36] Mixed commercial, industrial and/or residential, and areas under construction or vacant in 1990.

[37] Golf courses, local and regional parks and recreation, cemeteries, wildlife preserves and sanctuaries, botanical gardens, beach parks.

[38] Orchards and vineyards, nurseries, animal intensive operations, horse ranches.

[39] Open water bodies, open reservoirs larger than 5 acres, golf course ponds, lakes, estuaries, channels, detention ponds, percolation basins, flood control and debris dams.

[40] Critical land uses were mapped regardless of resolution limits. Critical land use units below 1 acre in size were mapped as 1-acre units.

Angeles, East Pasadena, East San Gabriel, Florence, La Crescenta, Mayflower Village, North El Monte, South San Gabriel, Walnut Park, Westmount and Willowbrook. For cities that are only partially located in the watershed, the square mileage indicated is for the part of this city that is in the watershed only.

Land uses that are not under municipal jurisdiction, such as military installations, will be dealt with through separate permits, and were thus not included in the calculation of the baseline Waste Load Allocations.

Each permittee will be allowed 60% of their baseline Waste Load Allocation during the first year of implementation, and subsequent annual reductions of 10% of from the baseline will be required through every year of implementation.

D. Baseline Waste Load Allocations for Caltrans

A Litter Management Pilot Study (LMPS)[41] was conducted to evaluate the effectiveness of several litter management practices in reducing litter that is discharged from Caltrans storm water conveyance systems. The LMPS employed four field study sites, each of which was used to test a separate BMP. Each site included three replicate testing pairs, consisting of one site designed to measure the amount of trash produced when treatment was applied, and one control with no treatment site. The LMPS averages the data collected at the control outfalls in order to obtain the annual litter loads. The average combined total loads for the three control outfalls at each site normalized by the total area of control catchments is presented in the following table, adapted from the LMPS report[42]:

Table 3. Average Combined Total Loads for Control Outfalls at 3 Litter Management Pilot Study (LMPS) Sites.

Site	Weight lbs/sq mi	Volume cu ft/sq mi
1E	10584.00	1312.97
1W	7479.36	971.73
6	7479.36	881.34
8	4374.72	404.51

The baseline Waste Load Allocation for weight and volume load generation for freeways is arrived at by averaging weight and volume columns. (see Table 4.) It is to be noted that control site 1E already had one BMP in place before testing of the other BMPs, as it was cleaned monthly through an "Adopt a Highway" program.

[41] California Department of Transportation District 7 Litter Management Pilot Study, June 2000. This study defined litter in stormwater as "manufactured items that can be retained by ¼-inch mesh made from paper, plastic, cardboard, etc.", and "that are not of natural origin (i.e. does not include sand, soil, gravel, vegetation, etc.)" (p. 1-2).

[42] Ibid., Table 6-8.

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Table 4. A Preliminary Baseline Waste Load Allocation for Weight and Volume for Freeways.

Weight lbs/sq mi	Volume cu ft/sq mi
7479.36	892.64

Average Annual Daily Traffic (AADT) for all control sites in the study ranged from 216,000 to 238,000.[43] Considering AADT on Los Angeles County freeways may be close to 300,000 on some sections[44], the chosen sites, although typical freeway outfalls, are not distributed throughout the whole AADT range. As the purpose of the study was to assess the effectiveness of specific BMPs, not to assess a trash generation factor, sites were chosen with similar characteristics.

E. Baseline Waste Load Allocations for Municipal Permittees

Baseline Monitoring was conducted by the Los Angeles County Department of Public Works, as prescribed in the September 19, 2001 Los Angeles River Trash TMDL. The goal of the Baseline Monitoring Program was to collect representative data from across the watershed to refine the default Waste Load Allocations presented in the 2001 Los Angeles River Trash TMDL. Monitoring data was used to establish specific trash generation rates per land use. The land use categories that were monitored by the LACDPW baseline monitoring group (to determine land use based generation rates) were:

- High density residential,
- Low density residential,
- Commercial and services,
- Industrial, and
- Open space and recreation.

Public facilities-, Educational Institutions-, Mixed urban-, Agricultural-, and Water- land uses were exempt from monitoring.

In the analysis of the monitoring results provided by LACDPW, staff assumed the litter generation rate from public facilities and mixed urban landuse to be equivalent to that from the industrial land use. The transportation land use was equated with industrial land use, and agricultural land use was equated to open space. Water was assigned a litter generation rate of zero since it is not considered a generator of trash. The portion of the transportation land use that is under Caltrans' jurisdiction will be covered under Caltrans' permit. Major boulevards that are currently under Caltrans' jurisdiction, but are affected by trash generated on municipal sites, such as Santa Monica Boulevard, will be addressed by the cities concerned.

Military Installations were not included in the Waste Load Allocations of the cities that had this land use. Under EPA Phase II of the Storm Water Regulations, separate permits will be written for these facilities. While public educational institutions will also be covered under separate permits under Phase II, the analysis did not differentiate between public and private

[43] Ibid., Table 6-8.
[44] Information on AADT on select freeways can be found on Caltrans' website: http://www.caltrans.ca.gov/.

educational facilities under this landuse. Therefore, the cities have the option of providing information on the acreage of such land uses within their jurisdiction in order that contributions from these facilities be removed from their assigned baseline waste load allocations.

The baseline Waste Load Allocations for the municipal permittees is presented on a city by city basis in Table 5. A more detailed breakdown along land uses is provided in Appendix II. The Waste Load allocations for the first year of compliance will be a 40% reduction in the baseline Waste Load Allocation. The subsequent annual Waste Load Allocations will be a progressive 10% reduction in the baseline Waste Load Allocations over a period of 6 years, and apply except in areas serviced by Full Capture Systems. The values shown, in gallons, are in uncompressed volumes.

Table 5. Los Angeles River Trash TMDL Baseline Waste Load Allocations (gallons and lbs of trash) *Military Installations were not included in calculation of Baseline WLA

City	WLA (gals)	WLA (lbs)
Alhambra	39903	68761
Arcadia	50108	93036
Bell*	16026	25337
Bell Gardens	13500	23371
Bradbury	4277	12160
Burbank*	92590	170389
Calabasas	22505	52230
Carson	6832	10208
Commerce	58733	85481
Compton*	53191	86356
Cudahy	5935	10061
Downey	39063	68507
Duarte	12210	23687
El Monte	42208	68267
Glendale*	140314	293498
Hidden Hills	3663	10821
Huntington Park	19159	30929
Irwindale	12352	17911
La Cañada Flintridge	33496	73747
Long Beach*	87135	149759
Los Angeles*	1374845	2572500
Los Angeles County*	310223	651806
Lynwood	28201	46467
Maywood	6129	10549
Monrovia	46687	100988
Montebello	50369	83707
Monterey Park	38899	70456
Paramount	27452	44490
Pasadena*	111998	207514
Pico Rivera	13953	22549
Rosemead	27305	47378
San Fernando	13947	23077
San Gabriel	20343	36437
San Marino	14391	29147
Santa Clarita	901	2326
Sierra Madre	11611	25192
Signal Hill	9434	14220
Simi Valley	137	344
South El Monte	15999	24319
South Gate	43904	72333
South Pasadena	14907	28357
Temple City	17572	31819
Vernon	47203	66814
Caltrans	59421	66566

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VII. Implementation and Compliance

As required by the Clean Water Act, discharges of pollutants to surface waters from storm water are prohibited, unless the discharges are in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. Discharge of trash to the Los Angeles River will be regulated via the Municipal NPDES Storm Water Permits and the Caltrans stormwater permit. In addition, USEPA Phase II stormwater permits, general permits, and industrial permits may also be used to regulate discharges of trash to the river.

In June 1990, the first Municipal NPDES Storm Water Permit was issued jointly to Los Angeles County and 84 cities as co-permittees. A separate NPDES Storm Water Permit was issued to the City of Long Beach on June 30, 1999. Storm water municipal permits will be one of the implementation tools of this Trash TMDL, and will include the allocations as effluent limits or other permit requirements. Thus, future storm water permits will be modified to incorporate the Waste Load Allocations and to address monitoring and implementation of this TMDL.

The implementation and compliance schedule is designed to accommodate trash reduction efforts that have been conducted by several cities and the county throughout the Los Angeles River Watershed, in response to the previously adopted trash TMDL. The calculated baseline waste load allocations are derived from data collected during the 2002/03 and 2003/04 storm years. The initial compliance requirement of a 40% reduction from baseline trash levels assumes a 10% reduction per year in trash discharges from the end of the baseline monitoring period. Flexibility is provided by determining compliance based on a 2-year average in the second year and 3-year rolling averages in subsequent years until the numeric target of a zero discharge is attained. The purpose of the rolling averages is to account for fluctuations in trash discharge rates that may occur as a result of variations in annual rainfall patterns and/or littering and trash removal. This approach ensures that measurable reductions to the trash impairment will be achieved in a timely manner, while flexibility in implementation is provided for the responsible agencies

A. Compliance Determination

For those areas not covered by Full Capture Systems, compliance with the Waste Load Allocations will be calculated as follows:

The first compliance date during the Implementation Phase will be September 30, 2007. Compliance will be evaluated based on the total load discharged to the river during the period October 1, 2007 through September 30, 2008. The second compliance date will be based on the average annual load discharged to the river from October1 2007 through September 30, 2009. Compliance thereafter will be evaluated at the end of each successive storm season and will be based on a rolling three-year average (see Table 6). This method will provide allowances for variability due to rainfall. Exceedance of the allowable discharges will subject the permittee to

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enforcement action. A summary of the schedule for determining compliance with the Waste Load Allocations is presented in Table 6.

The final waste load allocation will be considered complied with when the Executive Officer finds that devices or systems and/or institutional controls have removed effectively 100% of the trash from the storm drain system discharge to Los Angeles River or its listed tributaries.

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Table 6. Los Angeles River Trash TMDL: Implementation Schedule.[45]
(Required percent reductions based on initial baseline wasteload allocation of each city)

Year	Implementation	Waste Load Allocation	Compliance Point
1 Sept 2008	Implementation: Year 1	60% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 60% of the baseline load
2 Sept 2009	Implementation: Year 2	50% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 55% of the baseline load calculated as a 2-year annual average
3 Sept 2010	***Implementation: Year 3***[46]	40% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 50% of the baseline load calculated as a rolling 3-year annual average
4 Sept 2011	***Implementation: Year 4***	30% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 40% of the baseline load calculated as a rolling 3-year annual average
5 Sept 2012	***Implementation: Year 5***	20% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 30% of the baseline load calculated as a rolling 3-year annual average
6 Sept 2013	Implementation: Year 6	10% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 20% of the baseline load calculated as a rolling 3-year annual average
7 Sept 2014	Implementation: Year 7	0% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 10% of the baseline load calculated as a rolling 3-year annual average
8 Sept 2015	Implementation: Year 8	0% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 3.3% of the baseline load calculated as a rolling 3-year annual average
9 Sept 2016	Implementation: Year 9	0% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 0% of the baseline load calculated as a rolling 3-year annual average

[45] "Notwithstanding the zero trash target and the baseline waste load allocations shown in Table 5, a Permittee will be deemed in compliance with the Trash TMDL in areas served by a Full Capture System within the Los Angeles River Watershed."
[46] As specified in Section VI.A., the Regional Board will review and reconsider the final Waste Load Allocations once a reduction of 50% has been achieved and sustained in the watershed.

B. Compliance Strategies

Permittees may employ a variety of strategies to meet the progressive reductions in their Waste Load Allocations. These strategies may be broadly classified as either:

- Full capture systems or
- Partial capture control systems and/or
- Institutional controls.

A permittee could comply with the successive reduction in Waste Load Allocations by installing Full Capture Systems progressively throughout the watershed until all of the outlets to the Los Angeles River system are covered. This approach may be best suited for open space areas, where low levels of trash may accumulate over large vegetated drainage areas. However, in more urban settings, institutional controls including enforcement of litter laws and more frequent street sweeping may be preferred.

It is to be noted that ordinances that prohibit litter are already in place in most cities. For example, the Los Angeles City Code of Regulations recognizes that trash becomes a pollutant in the storm drain system when exposed to storm water or any runoff and prohibits the disposal of trash on public land:

> No person shall throw, deposit, leave, cause or permit to be thrown, deposited, placed, or left, any refuse, rubbish, garbage, or other discarded or abandoned objects, articles, and accumulations, in or upon any street, gutter, alley, sidewalk, storm drain, inlet, catch basin, conduit or other drainage structures, business place, or upon any public or private lot of land in the City so that such materials, when exposed to storm water or any runoff, become a pollutant in the storm drain system. (City Code of Regulations, §64.70.02.C.1(a).)

Institutional controls provide several advantages over structural full capture systems. Foremost, institutional controls offer other societal benefits associated with reducing litter in our city streets, parks and other public areas. The capital investment required to implement institutional controls is generally less than for full capture systems. However, the labor costs associated with institutional controls may be higher, and institutional controls may be more costly in the long-term.

There have been a number of discussions as to how permittees may best implement the gradual reductions required by this Trash TMDL, and as to the types of devices or best management practices they should elect. The permittees will be free to implement trash reduction in any manner that they choose.

A discussion of the means for determining compliance for various implementation strategies is presented in the following subsections.

1. Full Capture Treatment Systems

The amount of trash discharged to the river by an area serviced by a full-capture system will be considered to be in compliance with the final Waste Load Allocation for the drainage area, provided that the Full Capture Systems are adequately sized, maintained and maintenance records are available for inspection by the Regional Board. Compliance with the final Waste Load Allocation will be assumed wherever Full Capture Systems are installed in the Los Angeles River Watershed. The installation of a Full Capture System by a discharger does not establish any presumption that the system is adequately sized, and the Regional Board reserves the right to review sizing and other data in the future to validate that a system satisfies the criteria established in this TMDL for a Full Capture System.

2. Partial Capture Treatment Systems and Institutional Controls

Measuring the effectiveness of partial-capture systems and institutional controls is more complicated. The discharge resulting from an area addressed by partial capture and/or institutional controls will be estimated using a mass balance approach, based on the daily generation rate (DGR) for the specific area. [Note: The DGR should not be confused with the trash generation rates obtained during baseline monitoring. The baseline monitoring program is designed to obtain "typical" trash generation rates for a given land use. Those values are then used to calculate a Permittee's baseline load allocation. The DGR is the average amount of trash deposited within a specified drainage area over a 24-hour period. The DGR will be used in a mass balance equation to estimate the amount of trash discharged during a rain event.] (See Example 1.)

Annual re-calculation of the DGR will serve as a measure of the effectiveness of source reduction measures including public education, enforcement of litter laws, etc. Source reduction measures will be accredited based on an annual recalculation of the DGR to allow for progressive improvement and/or to account for backsliding.

The DGR will be determined from direct measurement of trash deposited in the drainage area during any 30-day period from June 22nd to September 22nd of a given year[47], and re-calculated every year thereafter. This three-month period was assumed to be a time characterized by high outdoor activity when trash is most likely to be deposited on the ground. The recommended method for measuring trash during this time period is to close the catch basins in a manner that prevents trash from being swept into the catch basins and then to collect trash on the ground via street sweeping, manual pickup, or other comparable means. The DGR will be calculated as the total amount of trash collected divided by 30 (the required duration of trash collection).

[47] Provided no special events are schedule that may affect the representative nature of this period.

Accounting of DGR and trash removal via street sweeping, catch basin clean outs, etc. will be tracked in a central spreadsheet or database to facilitate the calculation of discharge for each rain event. The spreadsheet and/or database will be available to the Regional Board for inspection during normal working hours. The database/spreadsheet system will allow for the computation of calculated discharges and can be coordinated with enforcement. This database will be developed by cities or groups of cities.

The Executive Officer may approve alternative compliance monitoring programs other than those described above, upon finding that the program will provide a scientifically-based estimate of the amount of trash discharged from the storm drain system.

3. Examples of Implementation Strategies

Two example control strategies for municipal stormwater discharges are described in this section.

Example 1.

A permittee installs catch basin inserts and "dry weather trash door" devices of the type that maintains the catch basin shut during dry weather, and implements regular street sweeping. After each storm of 0.25 inch or greater, the catch basin inserts are emptied. In this case, the DGR was calculated during the month of July as follows:[48]

DGR = (Volume of trash collected via street sweeping during the month of July / 31 days.)

The stormwater discharge for a given rain event then would be calculated by multiplying the number of days since the last street sweeping by the DGR and subtracting the volume of trash recovered in the catch basin inserts.

Stormwater Discharge = [(Days since last street sweeping) (DGR)] –
[Volume of trash recovered from catch basin inserts]

Example 2.

City X is comprised of three land use areas (Land Uses A, B, and C). The city has adopted an implementation strategy using a combination of full capture structural and institutional controls. As of year five, the city has installed full capture systems in Area A and institutional controls in Area B. City X has not yet taken any action to control trash in Area C. The watershed-wide baseline Waste Load Allocation have been established at 100 lbs per square mile for Land Uses A and B, and at 200 lbs per square mile for landuse C. The full capture system is assumed to meet the final Waste Load Allocation. The city's mass balance calculations show that 100 lbs of trash was discharged from Land Use Area B. The discharge from Land Use Area C is assumed to be the base load allocation since no controls were

[48] In the event that trash generation rates differ between weekday and weekends, a distinction in the DGRs may be warranted.

implemented and the daily generation rate has not been established. As shown in Figure E City X's discharge for the year was 1,100 lbs, and the 3-year rolling average discharge was less than the 5-Year Waste Load Allocation. Therefore the city was found to be in compliance with its discharge loading unit.

4. Potential Environmental Impact of Implementation Strategies

An accompanying CEQA Checklist document analyses the potential negative environmental impacts of compliance with the trash TMDL based on the implementation strategies discussed above. The previous Los Angeles River Trash TMDL became effective in 2002 and several municipalities have completed projects in which storm sewer catchment basins were retrofitted with inserts and vortex separation devices were installed within storm drain systems. The most significant environmental impacts have proved to be construction activities associated with the installation of these devices, and maintenance activities. Construction impacts from structural measures are similar to those of small scale public works projects that are sited in previously developed areas. The major construction activities appear to be concrete and electrical work, and in some areas, earth work associated with structural improvements. The environmental impacts and mitigation methods for these types of activities are well known. The environmental impacts from maintenance of the structural measures are associated with removing and disposing trash collected from the structural devices.

Regarding cumulative impacts, it is noted that both the construction and maintenance activities are in small, discrete, discontinuous areas over a short duration. Consequently, cumulative impacts are not significantly exacerbated from the sum of individual project impacts. Project level environmental analysis, by municipalities and responsible agencies for implementation of structural methods, were conducted under notices of exemption. Categorical exemptions were based on the nature of the projects including:

-Minor alteration of existing public structures involving negligible expansion of an existing facility.
-Modifications of existing storm drain system and addition of environmental protection devices in existing structures with negligible or no expansion of use.
-Modifications to sewers constructed to alleviate a high potential or existing public health hazard.

The analysis concludes that the implementation of this TMDL will result in improved water quality in the Los Angeles River Watershed, but may result in temporary or permanent localized significant adverse impacts to the environment. While specific projects employed to implement the TMDL may have significant impacts, these impacts are expected to be limited, short-term or may be mitigated through careful design and scheduling. Furthermore, to the extent the alternatives, mitigation measures, or both, are not deemed feasible by those agencies, the necessity of implementing the federally required TMDL and removing the trash impairment from the Los Angeles River the Watershed (an action required to achieve the express, national policy of the Clean Water Act) outweigh the unavoidable adverse environmental effects, as they will be minimal because project level planning, construction, and operation methods are available to

mitigate foreseeable environmental impacts from implementing the TMDL as described in the CEQA checklist.

Figure E. Example 2, City X After Year 5.

<table>
<tr><td rowspan="2">Land Use A:
10 sq miles treated by a full capture system

Baseline Waste Load Allocation:

100 lbs/sq mi/year</td><td>Land Use B:
5 sq miles treated via institutional controls and partial capture

Baseline Waste Load Allocation:
100 lbs/sq mi/year</td></tr>
<tr><td>Land Use C:
5 sq miles - No treatment applied

Baseline Waste Load Allocation:
200 lbs/sq mi/year</td></tr>
</table>

Baseline Waste Load Allocation for each land use in City X:
A=(100 lbs/sq mi/yr) (10 sq mi)=1000 lbs
B=(100 lbs/sq mi/yr) (5 sq mi)=500 lbs
C=(200 lbs/sq mi/yr) (5 sq mi)=1000 lbs
Total baseline Waste Load Allocation = 2,500 lbs
Year 5 Waste Load Allocation = 2,000 lbs*
*An 80% reduction based on a 3-year rolling average.

Previous Years' Discharge:
Year 3 = 2,400 lbs
Year 4 = 2,000 lbs

Trash Discharge for Year 5:
A=0
B=100 lbs (Determined by mass balance)
C=1,000 lbs (No reduction)
Total Discharge (Year 5) = 1,100 lbs

Three-Year Rolling Average Discharge
Year 3 = 2,400 lbs
Year 4 = 2,000 lbs
Year 5 = 1,100 lbs
3-year rolling average discharge = 1,833 lbs

Compliance is achieved: Discharge (1,833 lbs) < Waste Load Allocation (2,000 lbs).

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A summary of implementation strategies and compliance assurance methods is provided in Table 7.

Table7. Summary of Possible Trash Reduction Implementation Measures.

Treatment Applied	Measure of Effectiveness	Compliance Determination
Source Control: Public education, enforcement of litter laws, container redemption programs, etc.	Daily Generation Rate: Amount of trash collected via street sweeping and or from catch basin inserts divided by the number of days provides a measure of source control measure effectiveness	DGR used in mass balance calculation of discharge: Discharge = [DGR (x) Days since last street sweeping] (-) [Catch basin cleanouts]
Partial Capture: (Catch basin inserts, trash excluder doors, etc.)	Mass Balance: Discharge = [DGR (x) Days since last street sweeping] (-) [Catch basin cleanouts] OR Downstream Monitoring w/ Full Capture System	Discharge based on mass balance calculation: Discharge = [DGR (x) Days since last street sweeping] (-) [Catch basin cleanouts] OR Monitoring Results
Full Capture System: Any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate Q resulting from a one-year, one-hour storm in a sub drainage area. Rational equation is used to compute the peak flow rate: $Q = C \times I \times A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map in Figure A),* and A= subdrainage area (acres).	Effectiveness verified by literature	Final Waste Load Allocation Achieved: Provided system is adequately sized, maintained and maintenance records are available for Regional Board inspection

* The isohyethal map may be updated annually by the Los Angeles County hydrologist to reflect additional rain data gathered during the previous year. Annual updates published by the Los Angeles County Department of Public Works are prospectively incorporated by reference into this TMDL and accompanying Basin Plan amendment.

VIII. Cost Considerations

The Porter-Cologne Section 13241(d), requires staff to "consider costs" associated with the establishment of water quality objectives. The TMDL does not establish water quality objectives, but is merely a plan for achieving existing water quality objectives. Therefore cost considerations required in Section 13241 are not required for this TMDL.

The purpose of this cost analysis is to provide the Regional Board with information concerning the potential cost of implementing this TMDL and to addresses concerns about costs that have been raised by stakeholders. This section takes into account a reasonable range of economic factors in fulfillment of the applicable provisions of the California Environmental Quality Act (Public Resources Code Section 21159.)

An evaluation of the costs of implementing this Trash TMDL amounts to evaluating the costs of preventing trash from getting from the storm drains to the river. This brief report gives a summary overview of the costs associated with the most likely ways the permittees will achieve the required reduction in discharges to the storm drain system. Such an analysis would be incomplete if it failed to consider the existing cost that presently is transferred to "innocent" downstream communities. Approximately 1,620 tons of litter are estimated to be discharged to the Los Angeles River annually, requiring costly removal measures. In addition there is an unquantified cost to aquatic life within the River and the Ocean.

The Regional Board has some information about various facets of the costs of preventing trash from getting into the storm drains. However, exact information on infrastructure currently in place and current structural projects being undertaken is currently not available to the Board. Furthermore, lack of complete information on existing costs precludes a comparison between costs of compliance with existing costs.

A. Cost of Trash Clean-Ups

Cleaning up the river, its tributaries and the beaches is a costly endeavor. The Los Angeles County Department of Public Works contracts out the cleaning of over 75,000 catchments (catch basins) for a total cost of slightly over $1 million per year, billed to 42 municipalities. Each catch basin is cleaned once a year before the rainy season, except for 1,700 priority catch basins that fill faster and have to be cleaned out more frequently.

Over 4,000 tons of trash is collected from Los Angeles County beaches annually, at a cost of $3.6 million to Santa Monica Bay communities in fiscal year 1988-89 alone. In 1994 the annual cost to clean the 31 miles of beaches (19 beaches) along Los Angeles County was $4,157,388.

Long Beach bears a large part of the financial burden for cleaning up trash from the Los Angeles River watershed, which is disproportionate to the amount actually produced by this

city.[49] The costs of gathering and disposing of trash at the mouth of the Los Angeles River during the rainy season are listed on Table 8.

Table 8. Storm Debris Summary for Long Beach: Billings.[50]

	First Quarter (July-Sept.)	Second Quarter (Oct.-Dec.)	Third Quarter (Jan.-March)	Fourth Quarter (April-June)	Total
1995-96	$44,152[51]	$130,986	$224,023	$126,416	$525,577
1996-97	$102,055	$187,344	$88,180	$122,416	$499,995
1997-98	$158,612	$268,594	$282,988	$169,340	$879,534
1998-99	$247,986	$198,147	$185,179	$246,950	$878,262

B. Cost of Implementing Trash TMDL

The cost of implementing this TMDL will range widely, depending on the method that the Permittees select to meet the Waste Load Allocations. Arguably, enforcement of existing litter ordinances could be used to achieve the final Waste Load Allocations at minimal or no additional cost. The most costly approach in the short-term is the installation of full capture systems on all discharges to the river. However, in the long term this approach would result in lower labor costs and may be less expensive than some other approaches.

Most of the information presented herein consists of catch basin inserts, structural vortex separation devices and end of pipe nets. We are considering the costs associated with preventing the disposal of trash into the storm drain system over the whole watershed. For all calculations, the urbanized portion of the Los Angeles River watershed is estimated to span an area of 599 square miles[52].

Regardless of the method(s) used, costs associated with the gradual decrease of the amount of trash in the waterways, and the maintenance of the Los Angeles River and its tributaries free of trash include monitoring and implementation costs. Any device chosen for monitoring trash or removing trash from storm drain, regardless of its installation costs, will also be associated with labor costs.

We are looking at several methods separately, from retrofitting all the catch basins in the urbanized portion of the watershed, to using solely structural full capture methods.

[49] However, the cost to the City of Long Beach is offset somewhat by an annual reimbursement from Los Angeles County in the amount of $500,000. (Written comment from The City of Los Angeles, June 23, 2000.)
[50] Memorandum from Geoffrey Hall; City of Long Beach; Parks and Recreation.
[51] 9/95 only.
[52] Although the urbanized portion of the watershed is 609 square miles, about 10 square miles are covered with water.

1. Catch Basin Inserts

At a cost of around $800 per insert, catch basin inserts are the least expensive structural treatment device in the short term. However, if they are not a full capture method, they must be monitored frequently and must be used in conjunction with frequent street sweeping. We assumed that approximately 150,000 catch basins would have to be retrofitted with inserts to cover 574 square miles of the watershed. A summary of estimated costs for using catch basin inserts across the entire watershed is provided in Table 9.

The analysis includes capital costs for catch basin improvements and increases to the annual operating costs for additional street sweeping that may be incurred to ensure that catch basins are kept free from debris. It is assumed that the current annual street sweeping in the Los Angeles River watershed is on a monthly basis and will be increased to twice per month to implement the trash TMDL. Costs for street sweeping are estimated from a range of costs derived from a nationwide study of seven municipalities that are normalized to a "curb-mile" basis. The low and high costs range from $12 to $60 per curb-mile with a median cost of $20 per curb-mile (SWRCB NPDES Stormwater Cost Survey (Cal State Sacramento), www.owp.csus.edu/research/npdes/costsurvey.pdf)

The curb-miles of the Los Angeles River watershed are estimated from the area of the developed portion of the Los Angeles River watershed. Based on an estimated area of 589 square miles, and an assumption that streets are spaced an average of 300-feet apart, and there are two curbs per street, the estimated number of curb-miles is approximately 440,000. On an annual basis, it is assumed that the streets are swept on a monthly basis to yield a total of 5,280,000 curb miles annually. For TMDL implementation, it is assumed that street sweeping will be increased to semi-monthly. It is assumed that the number of curb miles subject to increased street sweeping will increase on an annual basis of 10% as more catch basin improvements are installed. Finally, the annual costs are normalized to an estimated 2 million households in the Los Angeles River watershed.

Table 9. Costs of retrofitting the urban portion of the watershed with catch basin inserts. (amounts in millions)

Number of years into the program	1	2	3	4	5	6	7	8	9	10	11	12
Capital costs (yearly)	$12	$12	$12	$12	$12	$12	$12	$12	$12	$12	$00	$00
Operation & Maintenance costs (yearly, cumulative)	$5.1	$10.2	$15.4	$20.5	$25.6	$30.1	$35.9	$41.0	$46.2	$51.3	$51.3	$51.3
Costs per year (servicing + capital costs)	$17.1	$22.2	$27.4	$32.5	$37.6	$42.1	$47.9	$53	$58.2	$51.3	$51.3	$51.3

The total capital costs required for retrofitting the whole watershed would be $120 million, while the yearly maintenance costs after full implementation would be $51.3 million.

2. Full Capture Vortex Separation Systems (VSS)

Permanent structural devices can be used to trap gross pollutants for monitoring purposes as well as implementation. Among those "litter control devices" are structural vortex separation systems (VSS), floating debris traps, end-of-pipe nets and trash racks. VSS units appear to be among the best alternatives to evaluate or remove the amount of trash generated throughout a particular drainage area.

An ideal way to capture trash deposited into a storm drain system would be to install a VSS unit. This device diverts the incoming flow of storm water and pollutants into a pollutant separation and containment chamber. Solids within the separation chamber are kept in continuous motion, and are prevented from blocking the screen so that water can pass through the screen and flow downstream. This is a permanent device that can be retrofitted for oil separation as well. Studies have shown that VSS systems remove virtually all of the trash contained in the treated water. The cost of installing a VSS is assumed to be high, so limited funds will place a cap on the number of units which can be installed during any single fiscal year.

Table 10 shows estimated costs associated with retrofitting the watershed with low capacity vortex separation systems progressively over ten years.

Table 10. Costs Associated with Low Capacity Vortex Gross Pollutant Separation Systems.
(amounts in millions)

Number of years into the program	1	2	3	4	5	6	7	8	9	10	11	12
Operations and Maintenance (yearly, cumulative)	$14.8	$29.5	$44.3	59.1	$73.9	$88.6	$103.4	118.2	$132.9	$147.7	$147.7	$147.7
Capital costs (yearly)	$94.5	$94.5	$94.5	$94.5	$94.5	$94.5	$94.5	$94.5	$94.5	$94.5	$0.0	$0.0
Annual costs per year (capital costs + Operation and Maintenance)	$109.3	$124.1	$138.8	$153.6	$168.4	$183.2	$197.9	$212.7	$227.5	$242.2	$147.7	$147.7

Similarly, Table 11 provides estimates of costs associated with the installation of large capacity VSS systems.

Table 11. Costs Associated with Large Capacity Vortex Gross Pollutant Separation Systems.
(amounts in millions)

Number of years into the program	1	2	3	4	5	6	7	8	9	10	11	12
Operations and Maintenance (yearly, cumulative)	$0.7	$1.5	$2.2	$3.0	$3.7	$4.4	$5.2	$5.9	$6.6	$7.4	$7.4	$7.4
Capital costs (yearly)	$33.2	$33.2	$33.2	$33.2	$33.2	$33.2	$33.2	$33.2	$33.2	$33.2	$0.0	$0.0
Annual costs per year (capital costs + Operation and Maintenance)	$34.0	$34.7	$35.5	$36.2	$36.9	$37.7	$38.4	$39.1	$39.9	$40.6	$7.4	$7.4

As shown in Table 12, outfitting a large drainage with a number of large VSS systems may be less costly than using a larger number of small VSS systems. Maintenance costs decrease dramatically as the size of the system increases. Topographical and geotechnical considerations also should come into play when choosing VSS systems or other structural systems or devices.

Table 12. Costs Associated with VSS.

Capacity	Acres (average)	Number of devices needed on urban portion of watershed	Capital costs	Yearly costs for servicing all devices
1 to 2 cfs	5	73,856	$945,356,800	$147,712,000
6 to 8 cfs	30	12,309	$553,920,000	$24,618,000
19 to 24 cfs	100	3,693	$332,352,000	$7,386,000

For this table, we have assumed the cost of yearly servicing of a VSS unit to be $2000 per year.

3. End of Pipe Nets

"Release nets" are a relatively economical way to monitor trash loads from municipal drainage systems. However, in general, they can only be used to monitor or intercept trash at the end of a pipe and are considered to be partial capture systems, as the nets are usually sized at a 1/2" to 1" mesh. These nets are attached to the end of pipe systems. The nets remain in place on the end of the drains until water levels upstream of the net rise sufficiently to release a catch that holds the net in place. The water level may rise from either the bag being too full to allow sufficient water to pass, or from a disturbance during very high flows. When the nets release they are attached to the side of the pipe by a steel cable and as they are washed downstream (a yard or so) are tethered off so that no pollutants from within the bags are washed out.

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Preliminary observations suggest that the nets rarely fill sufficiently to cause the bags to release. And therefore, if they are cleaned after a storm event, the entire quantity of material is captured and can be measured for monitoring purposes using two bags per trap. This makes it easy to replace the full or partially full bag with an empty one, so that the first bag can be taken to a laboratory for analysis without manual handling of the material it contains.

The nets are valid devices because of the ease of maintenance and also because the devices can be relocated after a set period at one location (provided the pipe diameters are the same). With limited funding, installation could be spread over several land uses and lead to valuable monitoring results.

Because the devices require attachment to the end of a pipe, this can severely reduce the number of locations within a drainage system that can be monitored. In addition, these nets cannot be installed on very large channels (7 feet in diameter is the maximum), while the largest outlets into the Los Angeles River are 10 feet in diameter. Thus costs shown in Table 13 are given per pipe, and no drainage coverage is given.

Table 13. Sample Costs for End of Pipe Nets.

Pipe Size	Release nets (cost estimates)
End of 3 ft pipe	$10,000
End of 4 ft pipe	$15,000
End of 5 ft pipe	$20,000
In 3 ft pipe network	$40,000
In 4 ft pipe network	$60,000
In 5 ft pipe network	$80,000

4. Cost Comparison

A comparison of costs between strategies based on catch basin inserts (CBIs), low capacity VSS, high capacity VSS systems, and enforcement of litter laws is presented in Table 14.

Table 14. Cost Comparison (amounts in millions)

	CBI only	Low capacity VSS Units	Large capacity VSS Units	Enforcement of Litter Laws[53]
Cumulative capital costs over 10 years	$120	$945	$332	<$1
Cumulative maintenance and capital costs after 10 years	$450	$1,758	$373	<$1
Annual servicing costs after full implementation	$51.3	$148	$7.4	<$1

Costs to implement the Los Angeles River trash TMDL will depend on the BMPs selected by the permittees.

5. Implementation Costs per Household

In order to estimate the magnitude of fiscal impact that may be incurred to households in the Los Angeles River watershed, the estimated capital, operation and maintenance costs for implementation of the trash TMDL are normalized on an annual per household basis. This analysis of household costs is based on the capital costs for catch basin improvements, and annual operation and maintenance costs, estimated above. The analysis assumes that 50% of the costs of installing, operating and maintaining catch basins improvements will be incurred by households in the Los Angeles River watershed. The remaining costs are estimated to be incurred by commercial, industrial, municipal and public agencies. The methodology for the household cost analysis is to normalize the estimated annual costs of TMDL compliance to the number of households in the Los Angeles River watershed.

It is assumed that there are approximately 3.3 million households in Los Angeles County (SCAG -2000 Census Data) and 2 million households in the Los Angeles River watershed. It is also assumed that household fees will fund approximately 50% of the trash TMDL costs. Based on these assumptions, the costs for implementing the trash TMDL initially are on the order of $3.00 per year per household and increases to approximately $14.55 per year per household.

[53] Revenues from fines assessed to offset increased law enforcement cost. The cost of a database system used to calculate trash discharges estimated to be less than $250,000.

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Appendix I

This table shows the square mileage for "high density residential", "low density residential", "commercial and services", "industrial", "public facilities", "educational institutions", "military institutions", "transportation and utilities", "mixed urban", "open space", "agriculture", "water" and "recreation" land uses for every city and incorporated areas in the watershed. The "water" land use of water is not in itself a source of trash, and will therefore not receive an allocation. For cities that are only partially located on the watershed, the square mileage indicated is for the portion located in the watershed.

SQUARE MILEAGE ESTIMATED FOR EACH LAND USE FOR CITIES IN THE WATERSHED, AND FOR UNINCORPORATED AREAS.

Jurisdiction	High Density Residential	Low Density Residential	Commercial	Industrial	Public Facilities	Educational Institutions	Military	Transportation	Mixed Urban	Open Space	Agriculture	Water	Recreation	Total
Alhambra	5.12	0.01	0.89	0.29	0.23	0.32	0.00	0.39	0.01	0.04	0.00	0.02	0.29	**7.61**
Arcadia	6.55	0.97	1.28	0.23	0.23	0.22	0.00	0.23	0.01	0.34	0.00	0.19	0.68	**10.94**
Bell	1.21	0.00	0.27	0.45	0.20	0.08	0.04	0.20	0.00	0.02	0.00	0.27	0.01	**2.74**
Bell Gardens	1.41	0.00	0.32	0.26	0.03	0.16	0.00	0.02	0.00	0.03	0.09	0.05	0.12	**2.49**
Bradbury	0.03	0.57	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.59	0.18	0.02	0.01	**1.41**
Burbank	8.03	0.01	1.56	1.27	0.43	0.35	0.01	1.28	0.07	3.72	0.01	0.06	0.56	**17.36**
Calabasas	2.05	0.12	0.21	0.00	0.02	0.12	0.00	0.04	0.02	2.59	0.03	0.03	0.35	**5.58**
Carson	0.26	0.00	0.01	0.51	0.00	0.02	0.00	0.06	0.00	0.00	0.00	0.01	0.01	**0.88**
Commerce	0.65	0.00	0.55	3.73	0.26	0.04	0.00	1.09	0.03	0.07	0.01	0.02	0.11	**6.57**
Compton	4.43	0.01	0.73	1.58	0.16	0.71	0.01	0.53	0.03	0.14	0.06	0.09	0.12	**8.60**
Cudahy	0.76	0.00	0.09	0.16	0.01	0.06	0.00	0.00	0.00	0.00	0.00	0.01	0.02	**1.12**
Downey	5.29	0.02	0.76	0.16	0.47	0.39	0.00	0.15	0.00	0.02	0.00	0.11	0.43	**7.80**
Duarte	0.74	0.01	0.21	0.11	0.18	0.06	0.00	0.09	0.01	0.85	0.00	0.01	0.05	**2.30**
El Monte	3.74	0.00	1.06	0.98	0.15	0.31	0.00	0.43	0.03	0.03	0.00	0.18	0.07	**6.97**
Glendale	12.54	0.13	1.87	0.72	1.08	0.44	0.00	0.67	0.12	11.99	0.01	0.10	0.95	**30.63**
Hidden Hills	0.01	1.29	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.23	0.01	0.00	0.00	**1.57**
Huntington Park	1.60	0.00	0.53	0.50	0.05	0.16	0.00	0.11	0.03	0.00	0.00	0.00	0.06	**3.03**
Irwindale	0.02	0.00	0.06	1.00	0.07	0.00	0.00	0.09	0.01	0.08	0.00	0.57	0.00	**1.89**

SQUARE MILEAGE ESTIMATED FOR EACH LAND USE FOR CITIES IN THE WATERSHED, AND FOR UNINCORPORATED AREAS, CONTINUED.

Jurisdiction	High Density Residential	Low Density Residential	Commercial	Industrial	Public Facilities	Educational Institutions	Military	Transportation	Mixed Urban	Open Space	Agriculture	Water	Recreation	Total
La Cañada Flintridge	2.94	2.03	0.18	0.15	0.23	0.17	0.00	0.25	0.00	2.16	0.06	0.04	0.37	**8.58**
Long Beach	9.56	0.02	1.76	1.08	0.41	0.53	0.00	1.16	0.08	0.32	0.26	0.81	0.69	**16.67**
Los Angeles	146.95	6.86	17.04	16.81	8.83	7.72	0.13	11.66	2.16	45.85	2.61	5.11	9.77	**281.49**
Los Angeles County	24.75	2.20	2.35	4.39	1.39	1.01	0.02	1.88	0.18	25.59	0.76	0.66	2.99	**68.16**
Lynwood	2.99	0.00	0.49	0.44	0.09	0.24	0.00	0.47	0.05	0.03	0.00	0.00	0.05	**4.86**
Maywood	0.85	0.00	0.15	0.08	0.01	0.04	0.00	0.02	0.01	0.01	0.00	0.00	0.01	**1.19**
Monrovia	3.26	0.30	0.57	0.56	0.11	0.16	0.00	0.16	0.03	4.94	0.00	0.08	0.16	**10.34**
Montebello	3.86	0.00	0.71	1.68	0.40	0.33	0.00	0.31	0.01	0.22	0.12	0.21	0.51	**8.37**
Monterey Park	4.63	0.00	0.64	0.22	0.52	0.28	0.00	0.20	0.03	0.81	0.14	0.01	0.18	**7.67**
Paramount	1.89	0.00	0.44	0.99	0.08	0.22	0.00	0.24	0.04	0.06	0.17	0.14	0.08	**4.35**
Pasadena	11.93	1.19	2.28	0.30	1.02	0.98	0.02	0.89	0.06	2.63	0.09	0.25	1.06	**22.71**
Pico Rivera	1.17	0.02	0.21	0.54	0.02	0.06	0.00	0.12	0.02	0.01	0.02	0.89	0.04	**3.13**
Rosemead	3.31	0.00	0.73	0.15	0.13	0.28	0.00	0.19	0.02	0.07	0.11	0.01	0.15	**5.14**
San Fernando	1.43	0.00	0.42	0.30	0.06	0.08	0.00	0.03	0.01	0.01	0.00	0.03	0.04	**2.42**
San Gabriel	2.86	0.01	0.54	0.09	0.09	0.14	0.00	0.05	0.02	0.02	0.07	0.00	0.23	**4.12**
San Marino	2.21	0.87	0.07	0.00	0.12	0.11	0.00	0.08	0.00	0.01	0.00	0.00	0.30	**3.77**
Santa Clarita	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.00	0.20	0.00	0.00	0.00	**0.21**
Sierra Madre	1.71	0.06	0.05	0.01	0.05	0.06	0.00	0.00	0.00	0.93	0.01	0.06	0.04	**3.00**
Signal Hill	0.19	0.00	0.18	0.55	0.02	0.03	0.00	0.05	0.04	0.04	0.00	0.00	0.04	**1.14**
Simi Valley	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	**0.03**
South El Monte	0.58	0.00	0.15	1.14	0.03	0.04	0.00	0.01	0.02	0.05	0.03	0.02	0.02	**2.10**
South Gate	3.92	0.00	0.78	1.25	0.18	0.26	0.00	0.40	0.07	0.04	0.10	0.22	0.27	**7.48**
South Pasadena	2.43	0.13	0.20	0.00	0.06	0.10	0.00	0.09	0.02	0.24	0.01	0.01	0.13	**3.43**
Temple City	3.44	0.00	0.27	0.08	0.07	0.12	0.00	0.01	0.00	0.00	0.00	0.00	0.03	**4.02**
Vernon	0.00	0.00	0.02	3.85	0.09	0.00	0.00	0.82	0.01	0.06	0.00	0.23	0.00	**5.09**
Totals	**291.54**	**18.09**	**40.62**	**46.86**	**17.58**	**16.39**	**0.22**	**24.52**	**3.28**	**113.46**	**5.01**	**10.52**	**21.02**	**598.95**

Appendix II

This table shows the Waste Load Allocations for trash per land use in each city base on square mileage. The "water" land use of water is not in itself a source of trash, and therefore did not receive an allocation. Contributions from Military Installations were not included in the Waste Load Allocations of the cities that had this land use. For cities that are only partially located on the watershed, the square mileage indicated is for the portion located in the watershed.

WASTE LOAD ALLOCATIONS FOR TRASH PER LAND USE IN EACH CITY (GALLONS OF UNCOMPRESSED VOLUME)

City	High Density Residential	Low Density Residential	Commercial Services	Industrial	Public Facilities	Educational Institutions	Military Institutions	Transportation	Mixed Urban	Open Space	Agriculture	Water	Recreation	Total for all classes
Alhambra	18264	23	8380	2816	2262	2983	0	3865	92.2	135	15	0	1067	39903
Arcadia	23362	1879	12106	2265	2243	2113	0	2274	64.8	1266	0	0	2535	50108
Bell	4305	0	2508	4396	1993	740	0	1953	3.9	71	0	0	55	16026
Bell Gardens	5024	0	3033	2503	323	1502	0	235	0.0	108	343	0	429	13500
Bradbury	99	1102	0	0	39	0	0	0	137	2198	659	0	42	4277
Burbank	28637	12	14703	12477	4187	3305	0	12592	707	13850	44	0	2077	92590
Calabasas	7323	232	1964	0	211	1169	0	411	163	9643	105	0	1284	22505
Carson	940	0	108	5019	0	157	0	563	0	0	0	0	44	6832
Commerce	2320	0	5178	36590	2505	371	0	10717	319	268	52	0	415	58733
Compton	15810	25	6919	15462	1545	6727	0	5218	273	527	239	0	447	53191
Cudahy	2718	0	831	1531	85	613	0	47	25	0	0	0	85	5935
Downey	18865	46	7187	1548	4599	3657	0	1519	0	57	0	0	1586	39063
Duarte	2625	25	1944	1059	1745	523	0	864	83	3158	0	0	183	12210
El Monte	13332	2	10050	9568	1501	2904	0	4199	270	121	0	0	261	42208
Glendale	44697	250	17678	7088	10552	4131	0	6560	1171	44593	52	0	3544	140314
Hidden Hills	40	2511	9	0	0	122	0	70	0	857	55	0	0	3663
Huntington Park	5692	0	5004	4880	504	1481	0	1060	309	0	0	0	229	19159
Irwindale	58	0	550	9771	676	0	0	900	90	307	0	0	0	12352

WASTE LOAD ALLOCATIONS FOR TRASH PER LAND USE IN EACH CITY (GALLONS OF UNCOMPRESSED VOLUME) - CONTINUED

City	High Density Residential	Low Density Residential	Commercial Services	Industrial	Public Facilities	Educational Institutions	Military Institutions	Transportation	Mixed Urban	Open Space	Agriculture	Water	Recreation	Total for all classes
La Canada Flintridge	10494	3943	1685	1502	2273	1565	0	2409	0	8027	210	0	1387	33496
Long Beach	34085	36	16609	10563	4009	4973	0	11355	757	1207	964	0	2577	87135
Los Angeles	523851	13302	161072	164951	86603	72974	0	114426	21170	170494	9692	0	36310	1374845
Los Angeles County	88236	4265	22185	43081	13654	9511	0	18407	1799	95145	2840	0	11100	310223
Lynwood	10671	0	4612	4347	859	2290	0	4587	529	118	0	0	187	28201
Maywood	3023	0	1401	771	96	367	0	225	146	55	0	0	45	6129
Monrovia	11624	577	5432	5526	1097	1522	0	1616	323	18375	13	0	584	46687
Montebello	13743	0	6751	16486	3935	3121	0	3071	105	811	441	0	1905	50369
Monterey Park	16521	4	6067	2157	5071	2609	0	1957	310	3011	511	0	680	38899
Paramount	6729	0	4157	9705	832	2072	0	2397	392	239	631	0	297	27452
Pasadena	42519	2315	21595	2929	9970	9281	0	8694	616	9783	339	0	3957	111998
Pico Rivera	4154	48	1998	5317	224	596	0	1146	214	22	75	0	159	13953
Rosemead	11814	0	6859	1442	1279	2673	0	1842	175	249	419	0	552	27305
San Fernando	5093	9	3933	2979	598	796	0	289	57	54	0	0	140	13947
San Gabriel	10178	14	5139	893	868	1327	0	530	183	79	262	0	870	20343
San Marino	7863	1690	621	0	1205	1054	0	830	0	26	0	0	1101	14391
Santa Clarita	0	0	0	0	12	0	0	158	0	731	0	0	0	901
Sierra Madre	6112	121	500	132	523	529	0	5	39	3471	27	0	151	11611
Signal Hill	679	0	1659	5379	207	313	0	513	407	136	0	0	140	9434
Simi Valley	0	0	0	0	0	0	0	32	0	105	0	0	0	137
South El Monte	2084	0	1410	11161	332	340	0	130	178	177	105	0	82	15999
South Gate	13965	0	7367	12284	1724	2424	0	3941	693	147	363	0	997	43904
South Pasadena	8670	254	1897	39	616	939	0	847	232	897	38	0	479	14907
Temple City	12256	5	2595	770	639	1104	0	74	0	0	15	0	114	17572
Vernon	12	0	145	37816	881	45	0	8004	63	234	3	0	0	47203

Appendix III

CALCULATION OF LITTER GENERATION RATE PER LAND USE

Land Use	Drainage Area* (acres)	Litter (gallons)			LGR (gals/acre)	LGR (gals/sq mi)
		2002-03*	2003-04*	Average (gallons)		
Commenrcial	104.46	1591.92	1494.09	1543	14.77	9453
High Density Single Family Residential	113.98	423.07	846.85	635	5.57	3565
Industrial	119.88	2159.82	1517.7	1839	15.33	9811
Low Density Single Family Residential	164.36	173	822.75	498	3.03	1939
Open Space & Parks	128.89	509.55	988.15	749	5.81	3718
Total	631.56	4857.36	5669.54	5263	8.33	5334

Land Use	Drainage Area* (acres)	Litter (lbs)			LGR (lbs/acre)	LGR (lbs/sq mi)
		2002-03*	2003-04*	Average (lbs)		
Commenrcial	104.46	1924.96	2697.04	2311	22.12	14157
High Density Single Family Residential	113.98	480.20	1986.3	1233	10.82	6925
Industrial	119.88	2586.60	2586.96	2587	21.58	13811
Low Density Single Family Residential	164.36	124.08	2989.71	1557	9.47	6061
Open Space & Parks	128.89	549.79	3723.72	2137	16.58	10611
Total	631.56	5665.63	13983.73	9825	15.56	9956

*Data provided by the Los Angeles County Department of Public Works - Baseline Monitoring Program

LGR: Litter Generation Rate

Baseline Waste Load Allocation per City = □ Landuse Area X Litter Generation Rate

F-14-952

City of Alhambra
Department of Utilities

Gateway to the San Gabriel Valley

111 South First Street Alhambra California 91801

March 19, 2009

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CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

Ms. Tracy Egoscue
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, California 90013

Re: Implementation Report for the Los Angeles River Trash TMDL

Dear Ms. Egoscue,

The City of Alhambra is providing the following outline of Best Management Practice (BMP) actions that support reducing trash impacts to surface waters.

CURRENT BMP ACTIVITIES

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Institutional Controls

- All residential streets are swept weekly and high traffic" commercial/industrial areas are swept five days a week. "No parking" regulations during street sweeping times are strictly enforced.
- All catch basins are marked with a "No Dumping" message.
- All catch basins are cleaned at least annually. Catch basins with structural controls are cleaned at least quarterly.
- Trash receptacles are located at MTA bus stops, City owned fixed-route bus stops, and high pedestrian traffic areas. The contents in the 323 receptacles are collected 5 days a week.
- Staff performs manual pick up of trash on sidewalks and from the curb 5 days a week for eight city blocks on Main Street in the downtown commercial area.
- A contracted crew manually picks up trash at two City parking structures and at five city parking lots 5 days a week.

printed on recycled paper

- At six community parks the 256 trash receptacles are checked and emptied daily by staff. The parking lots at the parks are also swept weekly by staff.
- Public outreach messages about the trash problem and the need to protect rivers and the ocean are routinely included in *Around Alhambra* - a monthly community newspaper that is delivered to all residents and businesses, in other city publications, and in posters and brochures that are displayed at community events. For example, the city coordinated with LA County Dept. of Public Works to use ads, posters and collateral materials that were developed by Caltrans for the "Don't Trash California" campaign.
- Inspections of critical sources and other businesses include documentation of observed trash problems. Specific guidance is provided to business managers about overflowing trash bins, keeping lids closed, and maintaining the property so that it is free of litter.
- Investigation of illegal dumping; including landscape contractors that blow or sweep yard waste to the curb or storm drain. Our response includes education on proper disposal and corrective action.
- Special events are required to implement controls to prevent trash from entering the storm drain system.
- Annual funding support is provided to the County Department of Public Works for the regional multi-media pollution prevention campaign.

Structural Controls

- At 104 catch basins, in priority areas, full-capture design connector pipe vertical screens are operational.
- At 13 catch basins, along the Main Street downtown commercial area, automatic retractable excluder curb inlet screens are operational.
- At 6 catch basins, basket fabric filters are operational.
- At 3 storm drains in the City Yard, grate inlet skimmer boxes and a fabric filter are operational.
- All structural controls are routinely inspected and cleaned after rain events and during dry-weather.

FUTURE BMP ACTIVITIES for FY 2009-10

- Contribute funds to the County's regional pollution prevention multi-media campaign.
- Use graphic ads and other materials available from the County about the trash problem during local events and for advertising in publications.
- Continue to implement all current institutional controls and maintain all structural controls.

During this extremely difficult budgetary climate we are not able to provide other specific actions for the next fiscal year and beyond. The City's budget process for FY 2009-10 will not be finalized until June 2009, at which time we will know if funding will be available to continue installation of structural controls. The City does anticipate using available resources to continue the current activities.

If you should have any questions, please contact me at (626) 570-5067, or in my absence, Deputy Director Claudine Meeker at (626) 570-5080.

Sincerely,

Mary K. Swink
Director of Utilities
City of Alhambra

cc: Claudine Meeker

CITY OF BELL

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2008 OCT 1 PM 2 04
CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

September 29, 2008

Ms. Tracey Escogue
Executive Officer
Los Angeles Region Water Control Board
320 W. Fourth Street, Suite 200
Los Angeles, California 90013

Re: Los Angeles River Trash Total Maximum Daily Load (TMDL) Compliance

Dear Ms. Escogue:

The City of Bell hereby informs the Los Angeles Regional Water Quality Control Board that it has complied with the scheduled Waste Load Allocation established for September 2008, in accordance with the Los Angeles River Trash Total Maximum Daily Load (TMDL) Basin Plan Amendment adopted by the Los Angeles Regional Water Quality Control Board (Resolution No. 07-012).

In accordance with the phased compliance schedule established in the TMDL, the first compliance milestone is a 40% reduction of the Baseline Waste Load Allocation by September 30, 2008. The City of Bell performed Daily Generation Rate studies and evaluated stormwater discharges after significant rain events, to document the amount of trash generated and to demonstrate compliance with the 40% trash reduction milestone. A final report detailing the current compliance strategies used to meet the 2008 Waste Load Allocation will be submitted by November 17, 2008.

Please feel free to contact our office at 323-588-6211, if you have any questions or require additional information.

Respectfully yours,

Carlos Alvarado
City Engineer
City of Bell

cc: Luis Ramirez, Deputy City Engineer
Dan Florescu, Charles Abbott Associates, Inc.

6330 Pine Avenue Bell, California 90201 • Telephone: (323) 588-6211 • Fax: (323) 771-947

City of Hidden Hills

6165 Spring Valley Road • Hidden Hills, California 91302
(818) 888-9281 • Fax (818) 719-0083

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September 30, 2008

Mrs. Tracey Escogue
Executive Officer
Los Angeles Regional Water Quality Control Board
320 W. Fourth Street, Suite 200
Los Angeles, California 90013

Re: Los Angeles River Trash Total Maximum Daily Load (TMDL) Compliance

Dear Ms. Escogue:

The City of Hidden Hills (City) is pleased to notify the Los Angeles Regional Water Quality Control Board (Regional Board) that it is within established levels of the scheduled Waste Load Allocation for September 2008, per the Los Angeles River Trash Total Maximum Daily Load (TMDL) Basin Plan Amendment adopted by the Los Angeles Regional Water Quality Control Board (Resolution No. 07-012).

The City, based on Daily Generation Rates (DGR) studies performed in 2006 and 2007, currently discharges into the storm drain system approximately forty-two (42) pounds of uncompressed trash per year. Consequently, the City is within the established Waste Load Allocation for 2008. The City is proud to take a leadership role in our region's efforts to improve water quality and we look forward to working with the Regional Board in furtherance of this effort. Per our agreement with the Regional Board staff, the City will be submitting to your attention, by November 17, 2008, a final report detailing the compliance strategies and methods used to calculate these rates.

If have questions, comments, or require additional assistance, please contact me at (310) 257-2006.

Respectfully,

CITY OF HIDDEN HILLS

for Kevin Powers

Kevin J. Powers
Environmental Compliance Coordinator

c: Cherie L. Paglia, City Manager
Dirk Lovett, City Engineer
Roxanne Diaz, City Attorney
Matthew Cohen, Asst. City Attorney

City Council
Stephen A. Del Guercio, Mayor
Laura Olhasso, Mayor Pro Tem
Gregory C. Brown
David A. Spence
Donald R. Voss

CITY OF LA CAÑADA FLINTRIDGE ®

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LOS ANGELES REGION

March 23, 2009

Ms. Tracy J. Egoscue
Executive Officer
Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Submittal of the Los Angeles River Trash TMDL Implementation Plan

Dear Ms. Egoscue:

Please find enclosed the proposed Implementation Plan for the City of La Cañada Flintridge for the Los Angeles River Trash TMDL. The implementation plan is submitted in accordance with the requirements of Table 7-2.1, Implementation.

If you have any questions on this submittal please contact Mr. Elroy Kiepke at 562-908-6200 or myself at 818-790-8882.

Sincerely

City of La Cañada Flintridge

By Ed Hitti
for

Ed Hitti
Public Works Director

Attachment

1327 Foothill Boulevard • La Cañada Flintridge • California 91011-2137 • (818) 790-8880 • FAX: (818) 790-7536

14-568

Los Angeles River Trash TMDL
Implementation Report
March 23, 2009

As stated in the Basin Plan as amended by action of the Regional Water Quality Control Board – Los Angeles Region, "Trash in the Los Angeles River is causing impairment of beneficial uses." The Regional Board has set the numeric target at zero trash in the Water Body. The City of La Canada Flintridge has been assigned a Baseline Waste Load Allocation of 29,147 pounds (14,391 gallons) of trash. Over the nine year implementation period, beginning in September 2008 and concluding in September 2016, the City of La Canada Flintridge will implement full capture devices and street sweeping programs to meet the zero trash limit.

Compliance with the final waste load target will be achieved through a full capture system. A full capture system is any device or series of devices that trap all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the drainage area.

Full Capture Options

The Executive Officer of the Regional Water Quality Control Board – Los Angeles Region has approved several systems as full capture systems for use under this TMDL. These systems are:

1. City of Signal Hill and Los Angeles County DPW – Hamilton Bowl Trash Nets
2. California Department of Transportation – Gross solids Removal Devices
3. The Cities of Burbank, Glendale, La Canada Flintridge and Pasadena – Catch Basin Brush Inserts and Mesh screens
4. City of Los Angeles – Catch Basin Insert Screens
5. County of Los Angeles – Connector Pipe Screen

The City of La Canada Flintridge has installed Burbank, etal full capture system, which has been installed in 80 catch basins at this writing. This system along with the Street sweeping program that the City is currently using will provide the program to comply with the Trash TMDL. Based on the footnote to Table 7.2.3 the City will be deemed in compliance when full capture devices are installed in all catch basins in the City.

An issue that must be addressed is the issue of who is responsible to install the full capture device within the catch basin, the City or the owner of the catch basin? In the City of La Canada Flintridge there are a total of 542 catch basins in La Canada Flintridge, 395 are City Owned, and 147 are Flood Control owned. If the City installs 542 full capture systems in the Catch basins between now and September of 2016 the City will achieve full compliance with the TMDL. But the issue of responsibility will complicate the process.

Reporting

Each year between now and September 2016 the City will be required to submit a compliance report to the Regional Board showing that the compliance efforts are on schedule. No report was requested by the Regional Board in 2008, but a compliance goal of 60% of the baseline load should have been achieved. In September of 2009 the compliance point will be 55% of the baseline load calculated with a two year annual average. In each subsequent year until 2016 a lower compliance point will be required with the running three year average as the test of meeting the goal.

The form of the calculation is not clear and because there has been no request for the data there are no examples that have been filed. I would assume that the calculation would be something like this:

$$\% \text{ of WLA} = \frac{\text{WLA - Weight of material captured}}{\text{WLA}}$$

The area served by full capture devises is deemed to be in full compliance. Therefore the calculation will become a moot point as the full capture devices are installed in all catch basins citywide.

CITY OF MONTEREY PARK

320 West Newmark Avenue • Monterey Park • California 91754-2896
www.ci.monterey-park.ca.us

City Council
Betty Tom Chu
Mitchell Ing
David T. Lau
Benjamin "Frank" Venti
Anthony Wong

City Clerk
David Barron

City Treasurer
Joseph Leon

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March 23, 2009

Ms. Tracy Egoscue,
Executive Office
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Los Angeles River Trash TMDL, Implementation Report

Dear Mrs. Egoscue:

Los Angeles River Trash Total Maximum Daily Load (TMDL) Basin Plan Amendment requires cities to prepare an Implementation Plan on how they intends to comply with this TMDL six months after the effective date of the TMDL. Thus the City would like inform the Los Angeles Regional Water Quality Control Board (RWQCB) that the Implementation Report has been completed and is enclosed with this letter for your review.

A Daily Generation Rate (DGR) study report confirming the City's compliance with the Trash TMDL is also enclosed for your review. This report includes the results and indicates where the City stands in meeting the final Waste Load Allocation' goals.

We encourage for the Regional Board to review and analyze the enclosed materials and to know that our staff members are open to discuss any information found in both reports. Please feel free to contact me or our consultant John L. Hunter & Associates at (562) 802-7880 Ext.25 if you have any questions.

Sincerely,

Elias Saykali
Director of Public Works

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LOS ANGELES RIVER TRASH TOTAL MAXIMUM DAILY LOAD (TMDL)

CITY OF MONTEREY PARK

Implementation Report

March 20, 2009

Submitted to:

Tracy Ecosgue
Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

By:

_____

Elias Saykali
Acting Director of Public Works

CITY OF MONTEREY PARK

Implementation Report

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CITY OF MONTEREY PARK

Implementation Report

Executive Summary

On September 23, 2008, the Trash Total Maximum Daily Loads (TMDLs) became effective under Resolution No. 2007-012 of the Regional Water Quality Control Board (RWQCB). As a result, the City of Monterey Park is required to prepare an implementation report outlining how the City intends to comply with the TMDL. The goal of this TMDL is to reduce the amount of anthropogenic trash and litter in stormwater runoff to zero. The TMDL establishes a series of phased annual reductions beginning in the 2007-08 rainy season and continuing through to the 2013-14 rainy season when the numeric target of zero trash discharge is to be achieved. The City, after conducting a Daily Generation Rate Study, has demonstrated that it is within the required compliance requirements for the forty percent reductions as set forth in the Trash TMDL. The results obtained during this study have provided the City with information on the different techniques that may be implemented to meet future Trash TMDL goals and has developed a tentative implementation report.

This Implementation report, as required by the Regional Board, is due March 23, 2009 and identifies specific management practices and activities designed specifically to reduce trash discharges from urban sources in the City.

The implementation report contains the following elements:

- a description of control measures that will be implemented to achieve the annual reductions and the final zero trash discharge
- a schedule for implementing the control measures

The overall goal is to define a set of measures that will help achieve the zero trash discharge requirements and to meet water quality standards in the Los Angeles River Watershed.

Introduction & TMDL Background

A Total Maximum Daily Load (TMDL) for anthropogenic (man-made) trash was originally established for the Los Angeles River in September of 2001. However, this TMDL was subsequently overturned by the courts. A subsequent TMDL was eventually approved by the Regional Board on August 7, 2007 and the State Water Resources Control Board on April 15, 2008, eventually becoming effective on September 23, 2008. The Trash TMDLs sets a numeric limit of zero for trash being discharged into the receiving water bodies from the storm drain system by the 2013-2014 rainy season and requires permittees to attain water quality standards by reducing the amount of trash discharged to the watershed by 40% in 2008 followed thereafter by ten percent annual increments and meeting a final waste load allocation of zero trash discharge. To meet the numeric target of zero trash, the permittees are required to implement end-pipe full capture structural controls; partial capture controls systems; and/ or institutional control measures.

The Baseline Waste Load Allocation for the City of Monterey Park, established by the Trash TMDL, is 70,456 lbs and the allotted 40% reduction goal for the 2007-2008 rainy season is not to exceed 42,273 lbs:

City information

The City of Monterey Park is one of the cities within Los Angeles County. According to the 2000 US census, the City has a population of 60,051 with 19,564 households. The City's total square mileage is estimated to be 7.67 square miles, which entirely discharges to the Los Angeles River Watershed. The City's primarily land use types, according to Appendix 1 of the Trash TMDL are:

Land Usage Type	Square Miles	Percentage
High Density Residential	4.63	60.4%
Low Density Residential	0	0
Commercial	0.64	8.3%
Industrial	0.22	2.9%
Public Facilities	0.52	6.8%
Educational Institutions	0.28	3.7%
Military	0	0
Transportation	0.2	2.6%
Mixed Urban	0.03	0.4%
Open Space	0.81	10.6%
Agriculture	0.14	1.8%
Water	0.01	0.1%
Recreation	0.18	2.3%
TOTAL	**7.67**	**100%**

Compliance Requirements

The RWQCB has provided two methods that permittees can implement to achieve compliance with the TMDL Baseline WLA, 1) installation of full capture systems; 2) implementation of partial capture systems and institutional controls.

The first compliance point was September 30, 2008 when the City was required to demonstrate that it has met a forty percent reduction in the assigned Waste Load Allocation. After this first initial reduction, compliance will be evaluated based on ten percent annual increments until achieving the final numeric target.

A summary of the TMDL schedule, compliance dates, and future required reductions is presented as follows:

Implementation Year	Waste Load Allocation	Monterey Park WLA (lbs)
		70,456
Year 1: September 30, 2008	60% of Baseline Waste Load Allocation	42,273
Year 2: September 30, 2009	50% of Baseline Waste Load Allocation	35,228
Year 3: September 30, 2010	40% of Baseline Waste Load Allocation	28,182
Year 4: September 30, 2011	30% of Baseline Waste Load Allocation	21,136
Year 5: September 30, 2012	20% of Baseline Waste Load Allocation	14,091
Year 6: September 30, 2013	10% of Baseline Waste Load Allocation	7,045
Year 7: September 30, 2014	0% of Baseline Waste Load Allocation	0

Compliance Strategy

The City's initial approach to determine compliance and to study alternative methods to meet the objectives of the Trash TMDL was to conduct a Daily Generation Rate Study, which was performed during the summer of 2008. It was through this method that the City was able to quantify the amount of trash generated and its estimated annual discharge volumes and rates. These results have provided the City with information on being able to determine the most appropriate methods necessary to ensure future compliance.

The City, based on a Daily Generation Rate (DGR) study conducted in 2008[1], has achieved a calculated discharge level of 4,301 pounds of uncompressed trash per year. Consequently, the City is within the established levels of the scheduled Waste Load Allocations for September 2008. However, and because the Regional Board determines compliance based on a rolling average, the City has met 2013 standards. The DGR report detailing compliance strategies and methods used to calculate these rates has been included with this implementation report as a separate document for your review.

Proposed Implementation Plan

The City's implementation plan includes a description of the proposed control measures that will be employed in order to reduce and achieve the trash reductions as required by this TMDL, as well as a tentative schedule for their implementation.

The City's plans for compliance have, and will be base on implementing a series of controlled measures which will focus on the following:

- Enhanced street sweeping: continue sweeping in excess of MS4 permit requirements including, more frequent sweeping conducted for higher trash generating areas.
- Public educational antilittering outreach: the City educates its residents mainly through community involvement through programs and events. The use of various methods to disseminate information has also included and will continue to include newspapers, flyers and posters.
- Catch basin cleaning: the City and the Los Angeles County Department of Public Works (LACDPW), Flood Control District, are responsible for the operations and maintenance of city and county owned storm drains and catch basins. Annual inspections and maintenance are conducted.
- Installing catch basin inserts: City-owned catch basins are anticipated to be retrofitted with inserts meeting the full-capture design criteria. The County-owned catch basins are likely to be retrofitted with inserts in the near future once LA County finalizes their insert installation policy.

Implementation Plan Schedule

The following table represents a tentative schedule on how the City intends to comply with the Trash TMDL.

Implementation Year	Target Baseline WLA (lbs)	Compliance Strategies
Year 1: September 30, 2008	42,273	*Institutional Controls* *DGR Study was conducted in the summer*
Year 2: September 30, 2009	35,228	*Institutional Controls, DGR Study will be conducted in the summer to verify effectiveness and installation of city-owned catch basin inserts*
Year 3: September 30, 2010	28,182	*Institutional Controls* *DGR Study will be conducted in the summer to verify effectiveness*
Year 4: September 30, 2011	21,136	*Institutional Controls* *DGR Study will be conducted in the summer to verify effectiveness*
Year 5: September 30, 2012	14,091	*Institutional Controls* *DGR Study will be conducted in the summer to verify effectiveness*
Year 6: September 30, 2013	7,045	*Institutional Controls* *DGR Study will be conducted in the summer to verify effectiveness*
Year 7: September 30, 2014	0	*Retrofit all City and County owned catch basins with full capture inserts*

[1] DGR Report is included as a separate document

The City will continue to conduct DGR studies in the summer of each year to demonstrate compliance ratings and to measure the effectiveness of the institutional control measures put in place. Los Angeles County Public Works Department has the intention to retrofit its catch basins with full capture systems, though; this is dependent upon the County's finalizing their policy for retrofitting county catch basins in city areas. The City will adjust this implementation report accordingly depending on the County's decision.

Review Strategy & Conclusion

As already mentioned above, the City will continue to implement institutional control measures to achieve each year's numeric targets. Therefore in order to determine the effectiveness of each of the institutional control measures put in place, and to confirm the 2008 findings, the City will repeat the Daily Generation Rate (DGR) study during the summer 2009.

It is important to note, that the Regional Board will review and reconsider the final Waste Load Allocations once a reduction of 50% has been achieved and sustained in the watershed[2]. For this reason and based on current and future DGR results, the City may request a TMDL reopening.

In conclusion, the City has demonstrated commitment on complying with all water quality requirements and will continue to implement measures and educate its residents to increase their knowledge towards improving water quality problems.

BMPs outlined in this report are tentative and are subject to modification as necessitated by future conditions.

[2] Footnote 2, Table 7.2.3, Attachment A to Resolution No. 2007-012 (August 9, 2007)

GENE DANIELS
Mayor
DIANE J. MARTINEZ
Vice Mayor
TOM HANSEN
Councilmember
DARYL HOFMEYER
Councilmember
PEGGY LEMONS
Councilmember

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2009 MAR 24 PM 1 38
CALIFORNIA REGIONAL WATER
LOS ANGELES REGION

March 20, 2009

Ms. Tracy J. Egoscue
Executive Officer
Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Submittal of the Los Angeles River Trash TMDL Implementation Plan

Dear Ms. Egoscue:

Please find enclosed the proposed Implementation Plan for the City of Paramount for the Los Angeles River Trash TMDL. The implementation plan is submitted in accordance with the requirements of Table 7-2.1, Implementation.

If you have any questions on this submittal please contact myself or Mr. Elroy Kiepke at 562-908-6200.

Sincerely,

CITY OF PARAMOUNT

William C. Pagett
City Engineer

Attachment

95600-09/L02

16400 Colorado Avenue • Paramount, CA 90723-5012 • Ph: 562-220-2000 • Fax: 56?
www.paramountcity.com

1F-378

RECEIVED
2009 MAR 24 PM 1 40
CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

Los Angeles River Trash TMDL
Implementation Report
March 23, 2009

As stated in the Basin Plan as amended by action of the Regional Water Quality Control Board – Los Angeles Region, "Trash in the Los Angeles River is causing impairment of beneficial uses." The Regional Board has set the numeric target at zero trash in the Water Body. The City of Paramount has been assigned a Baseline Waste Load Allocation of 44,490 pounds (27,452 gallons) of trash. Over the nine year implementation period, beginning in September 2008 and concluding in September 2016, the City of Paramount will implement full capture devices and street sweeping programs to meet the zero trash limit.

Compliance with the final waste load target will be achieved through a full capture system. A full capture system is any device or series of devices that trap all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the drainage area.

Full Capture Options

The Executive Officer of the Regional Water Quality Control Board – Los Angeles Region has approved several systems as full capture systems for use under this TMDL. These systems are:

1. City of Signal Hill and Los Angeles County DPW – Hamilton Bowl Trash Nets
2. California Department of Transportation – Gross solids Removal Devices
3. The Cities of Burbank, Glendale, La Canada Flintridge and Pasadena – Catch Basin Brush Inserts and Mesh screens
4. City of Los Angeles – Catch Basin Insert Screens
5. County of Los Angeles – Connector Pipe Screen

The City of Paramount has a history with the County full capture system, which has been installed in 46 catch basins at this writing. This system along with the Street sweeping program that the City is currently using will provide the program to comply with the Trash TMDL. Based on the footnote to Table 7.2.3 the City will be deemed in compliance when full capture devices are installed in all catch basins in the Los Angeles River Watershed portion of the City.

An issue that must be addressed is the issue of who is responsible to install the full capture device within the catch basin, the City or the owner of the catch basin. In the City of Paramount there are a total of 330 catch basins in Paramount, 94 are City Owned, and 236 are Flood Control owned. If the City installs 330 full capture systems in the Catch basins between now and September of 2016 the City will achieve full compliance with the TMDL. But the issue of responsibility will complicate the process.

Reporting

Each year between now and September 2016 the City will be required to submit a compliance report to the Regional Board showing that the compliance efforts are on schedule. No report was requested by the Regional Board in 2008, but a compliance goal of 60% of the baseline load should have been achieved. In September of 2009 the compliance point will be 55% of the baseline load calculated with a two year annual average. In each subsequent year until 2016 a lower compliance point will be required with the running three year average as the test of meeting the goal.

The form of the calculation is not clear and because there has been no request for the data there are no examples that have been filed. I would assume that the calculation would be something like this:

$$\% \text{ of WLA} = \frac{\text{WLA - Weight of material captured}}{\text{WLA}}$$

The area served by full capture devises is deemed to be in full compliance. Therefore the calculation will become a moot point as the full capture devices are installed in all catch basins citywide.

City of San Marino

March 23, 2009

RECEIVED
2009 MAR 24 PM 1 38
CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

Ms. Tracy J. Egoscue
Executive Officer
Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Submittal of the Los Angeles River Trash TMDL Implementation Plan

Dear Ms. Egoscue:

Please find enclosed the proposed Implementation Plan for the City of San Marino for the Los Angeles River Trash TMDL. The implementation plan is submitted in accordance with the requirements of Table 7-2.1, Implementation.

If you have any questions on this submittal please contact Mr. Elroy Kiepke at 562-908-6200.

Sincerely

CITY OF SAN MARINO

Elroy L. Kiepke
NPDES Consultant

Attachment

16716/1006/06130 L01

2200 Huntington Drive, San Marino, CA 91108-2691 • Phone: (626) 300-0700 Fax: (62

7-29-09

Los Angeles River Trash TMDL
Implementation Report
March 23, 2009

As stated in the Basin Plan as amended by action of the Regional Water Quality Control Board – Los Angeles Region, "Trash in the Los Angeles River is causing impairment of beneficial uses." The Regional Board has set the numeric target at zero trash in the Water Body. The City of San Marino has been assigned a Baseline Waste Load Allocation of 29,147 pounds (14,391 gallons) of trash. Over the nine year implementation period, beginning in September 2008 and concluding in September 2016, the City of San Marino will implement full capture devices and street sweeping programs to meet the zero trash limit.

Compliance with the final waste load target will be achieved through a full capture system. A full capture system is any device or series of devices that trap all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the drainage area.

Full Capture Options

The Executive Officer of the Regional Water Quality Control Board – Los Angeles Region has approved several systems as full capture systems for use under this TMDL. These systems are:

1. City of Signal Hill and Los Angeles County DPW – Hamilton Bowl Trash Nets
2. California Department of Transportation – Gross solids Removal Devices
3. The Cities of Burbank, Glendale, La Canada Flintridge and Pasadena – Catch Basin Brush Inserts and Mesh screens
4. City of Los Angeles – Catch Basin Insert Screens
5. County of Los Angeles – Connector Pipe Screen

The City of San Marino is familiar with the County full capture system, which has been installed in a few catch basins at this writing. This system along with the Street sweeping program that the City is currently using will provide the program to comply with the Trash TMDL. Based on the footnote to Table 7.2.3 the City will be deemed in compliance when full capture devices are installed in all catch basins in the City.

An issue that must be addressed is the issue of who is responsible to install the full capture device within the catch basin, the City or the owner of the catch basin? In the City of San Marino there are a total of 297 catch basins in San Marino, 158 are City Owned, and 139 are Flood Control owned. If the City installs 297 full capture systems in the Catch basins between now and September of 2016 the City will achieve full compliance with the TMDL. But the issue of responsibility will complicate the process.

Reporting

Each year between now and September 2016 the City will be required to submit a compliance report to the Regional Board showing that the compliance efforts are on schedule. No report was requested by the Regional Board in 2008, but a compliance goal of 60% of the baseline load should have been achieved. In September of 2009 the compliance point will be 55% of the baseline load calculated with a two year annual average. In each subsequent year until 2016 a lower compliance point will be required with the running three year average as the test of meeting the goal.

The form of the calculation is not clear and because there has been no request for the data there are no examples that have been filed. I would assume that the calculation would be something like this:

$$\% \text{ of WLA} = \frac{\text{WLA - Weight of material captured}}{\text{WLA}}$$

The area served by full capture devises is deemed to be in full compliance. Therefore the calculation will become a moot point as the full capture devices are installed in all catch basins citywide.

CITY OF SIGNAL HILL
2175 Cherry Avenue • Signal Hill, California 90755-3799

RECEIVED
2009 APR 24 PM 2 17
CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

April 8, 2009

Ms. Tracy Egoscue, Executive Office
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: **Los Angeles River Trash TMDL, Implementation Report**

Dear Ms. Egoscue:

Los Angeles River Trash Total Maximum Daily Load (TMDL) Basin Plan Amendment requires cities to prepare an Implementation Report on how they intend to comply with this TMDL six months after the effective date. Thus, the City of Signal Hill would like to inform the Los Angeles Regional Water Quality Control Board (RWQCB) that the Implementation Report has been completed and is enclosed with this letter for your review.

We encourage the Regional Board to review and analyze the enclosed materials and to know that our staff members are open to discuss any information. Please feel free to contact me at (562) 989-7356 or our consultant, John L. Hunter & Associates, at (562) 802-7880 Ext. 25 if you have any questions.

Sincerely,

Barbara Muñoz
Director of Public Works

Encl: Implementation Report

14-384

LOS ANGELES RIVER
TRASH TOTAL MAXIMUM DAILY LOAD (TMDL)

CITY OF SIGNAL HILL

Implementation Report

March 20, 2009

Submitted to:

Tracy Ecosgue
Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

By:

Barbara Munoz
Public Works Director

CITY OF SIGNAL HILL

Implementation Report

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CITY OF SIGNAL HILL

Implementation Report

Background

A Total Maximum Daily Load (TMDL) for anthropogenic (man-made) trash was originally established for the Los Angeles River in September of 2001. This TMDL was subsequently overturned by the courts. A subsequent TMDL was eventually approved by the Regional Board on August 7, 2007 and the State Water Resources Control Board on April 15, 2008, eventually becoming effective on September 23, 2008.

The goal of this TMDL is to reduce the amount of anthropogenic trash and litter in stormwater runoff to zero. The TMDL establishes a series of phase annual reductions beginning in the 2007-08 implementation year[1] and continuing through to the 2013-14 implementation year when the zero trash goal is to be achieved.[2]

City Information

The City of Signal Hill is a small city located within Los Angeles County but completely surrounded by the city of Long Beach. According to the 2000 US census, the City has a population of 9,333 with 3,621 households. The City's total square mileage is estimated to be 2.2 square miles, with only half of its area discharging to the Los Angeles River Watershed. The City's primarily land use types, according to Appendix 1 of the Trash TMDL are:

Land Usage Type	Square Miles	Percentage
High Density Residential	0.19	16.7%
Low Density Residential	0	0
Commercial	0.18	15.6%
Industrial	0.55	48.3%
Public Facilities	0.02	1.8%
Educational Institutions	0.03	2.6%
Military	0	0
Transportation	0.05	4.4%
Mixed Urban	0.04	3.6%
Open Space	0.04	3.6%
Agriculture	0	0
Water	0	0
Recreation	0.04	3.6%
TOTAL	1.14	100%

[1] Implementation years end on September 30th of each year.

[2] Per Attachment A to Resolution 2007-012: The Regional Board will review and reconsider the Water Load Allocations once a reduction of 50% has been achieved and sustained in the watershed.

Compliance Target Goals

Based upon the type of land use and the approximately 665 acres of Signal Hill which are tributary to the Los Angeles River the TMDL assigned the City of Signal Hill a baseline waste allocation of 14,220 pounds. The target compliance reductions are:

Implementation Year	Waste Load Allocation	Signal Hill WLA (lbs)
	Initial baseline	*14,220*
Year 1: September 30, 2008	60% of Baseline Waste Load Allocation	8,532
Year 2: September 30, 2009	50% of Baseline Waste Load Allocation	7,110
Year 3: September 30, 2010	40% of Baseline Waste Load Allocation	5,688
Year 4: September 30, 2011	30% of Baseline Waste Load Allocation	4,266
Year 5: September 30, 2012	20% of Baseline Waste Load Allocation	2,844
Year 6: September 30, 2013	10% of Baseline Waste Load Allocation	1,422
Year 7: September 30, 2014	0% of Baseline Waste Load Allocation	0

The TMDL allows two alternative compliance strategies, although other strategies may be acceptable.

Alternative I. Partial Capture & Institutional Controls

Under this strategy, permittees use institutional controls such as increased street sweeping and public educational activities coupled with the installation of a limited number or size of structural trash capture system. Compliance is then measured in part by conducting a Daily Generation Rate study.

Alternative II.

Under this alternative, cities would install structural trash capture systems. These systems need to be certified as "full capture" by the Executive Officer of the Regional Board.

Implementation

For the purposes of describing the status of Implantation, the areas of Signal Hill tributary to the Los Angeles River will be divided herein into three areas (see figure 1 below).

Area 1

In 2004-06, the County of Los Angeles and the City of Signal Hill installed three Fresh Creek Trash capture systems and two Linear Radial systems in the Hamilton Bowl Detention Basins. Although more trash capture systems were actually installed at the same time within Hamilton Bowl, these were the five systems receiving runoff from areas of Signal Hill. The installation of these trash capture systems was funded in part by a grant from the State Water Resources Control Board and with assistance from the Los Angeles Regional Water Quality Control Board.

Both the Fresh Creek Trash capture systems and the Linear Radial Systems have been certified as full capture.

Therefore, runoff from approximately 410 acres flows through certified full capture systems prior to discharge into the Los Angeles River.

Signal Hill has been continuing operations and maintenance of these full capture systems. Due primarily to vandalism, the O & M costs have been approximatcly $50,000 per year.

Area 2

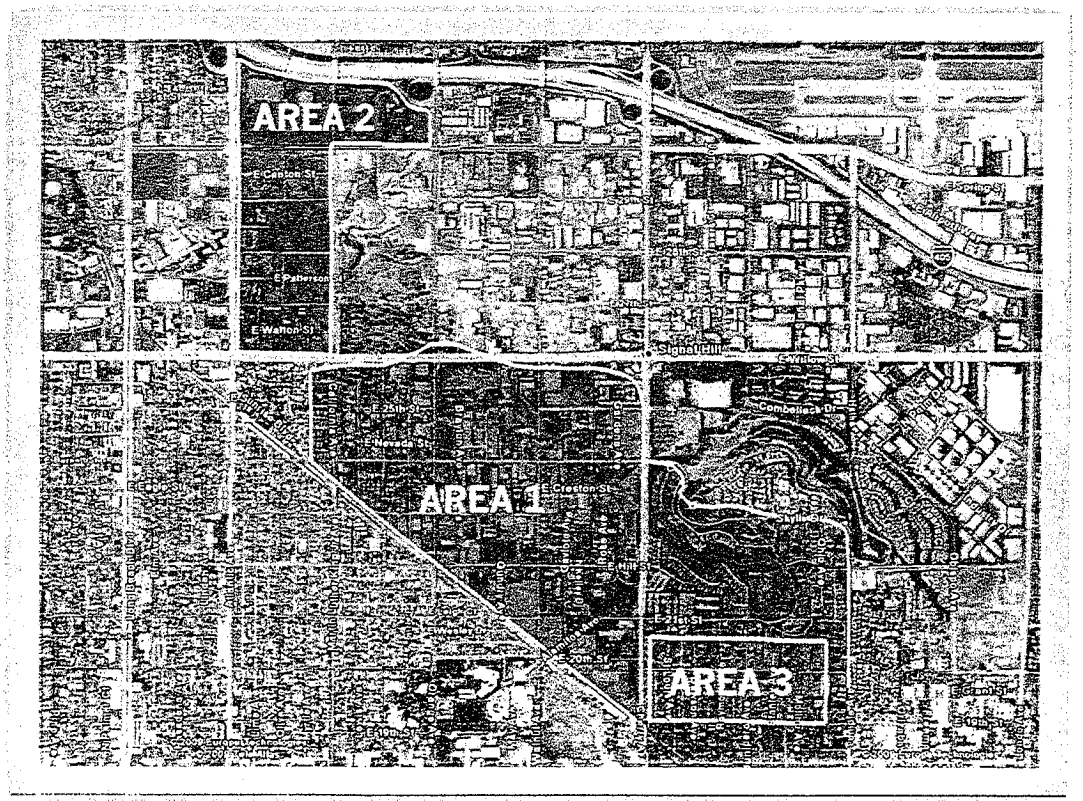
Runoff from this (approximately 185 acre) area flows into the two storm drain systems within the City of Long Beach. The City of Long Beach has long range plans (pending funding approvals) to install trash capture netting systems at the pump stations for these two outfalls.[3] Regardless of the City of Long Beach's plans, Signal Hill is investigating installing catch basin inserts within the next two years. The cities of Long Beach and Signal Hill expect to work closely together regarding TMDL issues in this area.

Area 3

Approximately 70 acres drain into Hamilton Bowl. By the year 2012, the city intends to:

1 Install full capture inserts, and/or

2 Require as part of the anticipated conversion of the Hamilton Bowl detention basin into a community recreation center that full capture systems be provided for the storm drain remaining outfalls.



[3] Per electronic communication with Long Beach staff 3/9/2009

Current Level of Compliance

The city of Signal Hill has installed full-capture certified trash BMPs for approximately 410 acres of the approximately 665acres draining to the Los Angeles River system or 61% of the total area. This is equivalent to compliance through the September 30, 2010 implementation year.

Attachment 1: TMDL Effective Date:

Downloaded from Regional Board website

3/9/2009

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

OCT 2 9 2008

Ms. Dorothy Rice
Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

Dear Ms. Rice:

Thank you for submitting the Basin Plan amendments containing total maximum daily loads (TMDLs) to address metals in Los Angeles River and Ballona Creek. The Los Angeles River metals TMDL submittal was dated September 17, 2008 and received September 22, 2008. The Ballona Creek metals TMDL submittal was dated October 22, 2008 and received October 23, 2008. As discussed in Regional Board Resolutions R2007-014 and R2007-015, the TMDLs now submitted to EPA are a re-adoption and reaffirmation of the TMDLs approved by EPA on December 22, 2005. EPA has reviewed the administrative record submitted by the State and has concluded that the current TMDLs are approvable for the same reasons discussed in our approval of the previous TMDLs.

California adopted these TMDLs to address the following waterbody-pollutant combinations identified on the State's 2002 Clean Water Act Section 303(d) list:

- Los Angeles River Reach 1 (cadmium, copper, lead, zinc), Los Angeles River Reach 2 and 4 (lead), Rio Hondo Reach 1 (copper, lead, zinc), Compton Creek (copper, lead), Tujunga Wash (copper), Monrovia Creek (lead), Aliso Creek (selenium), Dry Canyon Creek (selenium), and McCoy Canyon Creek (selenium);
- Ballona Creek (copper, lead, selenium, zinc) and Sepulveda Canyon Channel (lead).

During the original TMDL development process, the State determined the following additional waterbody-pollutant combinations were also water quality limited pursuant to the requirements of Section 303(d)(1), and adopted TMDLs to address these additional combinations:

- Los Angeles River Reaches 2, 3, 4, and 5 and Burbank Western Channel (copper);
- Los Angeles River Reaches 3 and 5 and Burbank Western Channel (lead);
- Los Angeles River Reach 6 (selenium);
- Sepulveda Canyon Channel (copper, selenium and zinc).

During the original decision-making process, the State clearly identified these additional waterbody-pollutant combinations as water quality limited waters for which TMDLs are required. The State provided sufficient documentation to support its determination and provided

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opportunities for public review and comment on the additional waterbody-pollutant identifications. The State's decision to concurrently identify additional water quality limited segments and adopt TMDLs for those segments was consistent with the provisions of the Clean Water Act and federal regulations. See 40 CFR 130.7. Subsequently, the State included all these segments on the "TMDLs completed" portion of the State's 2006 303(d) list, which EPA approved.

Based on EPA's review of the TMDL submittals, I have concluded the TMDLs adequately address the pollutants of concern, and will, upon implementation, result in attainment of applicable water quality standards. The TMDLs include allocations as needed, take into consideration seasonal variations and critical conditions, and provide an adequate margin of safety. The State provided adequate opportunities for the public to review and comment on the TMDLs. All required elements are adequately addressed; therefore, the TMDLs are hereby approved pursuant to Clean Water Act Section 303(d)(2).

The State's submittals also contain detailed plans for implementing the TMDLs. Current federal regulations do not define TMDLs as containing implementation plans; therefore, EPA is not taking action on the implementation plans provided with the TMDLs. However, EPA generally concurs with the State's proposed implementation approaches.

The enclosed review discusses the basis for this approval decision. We appreciate the State and Regional Boards' work to complete and adopt these TMDLs and look forward to our continuing partnership in TMDL development. If you have questions concerning this approval, please call me at (415) 972-3572 or Janet Hashimoto at (415) 972-3452.

Sincerely yours,

October 29, 2008

Alexis Strauss
Director, Water Division

Enclosure

cc: Tracy Egoscue, Los Angeles RWQCB

Attachment 2: TMDL Implementation Report Due Date:

Electronic Communications from Regional Board Staff

John Hunter

From: Ginachi Amah [gamah@waterboards.ca.gov]
Sent: Wednesday, January 21, 2009 10:11 AM
To: John Hunter
Cc: Samuel Unger
Subject: Re: Trash TMDL Implementation Plan

John;

The effective date for the Los Angeles River Trash TMDL is September 23, 2008. Therefore, the implementation plan would be due by March 23, 2009.

Ginachi Amah, D.Env
Water Resources Control Engineer
California Regional Water Quality Control Board Los Angeles Region

CONFIDENTIALITY NOTICE: This communication with its contents may contain confidential and/or legally privileged information. It is solely for the use of the intended recipient(s). Unauthorized interception, review, use or disclosure is prohibited and may violate applicable laws including the Electronic Communications Privacy Act. If you are not the intended recipient, please contact the sender and destroy all copies of the communication.

Basin Planning & Standards Unit
(213) 576 6685
gamah@waterboards.ca.gov

>>> "John Hunter" <jhunter@jlha.net> 1/19/2009 11:46 AM >>>
Good morning Ginachi:

My reading of the LA River Trash TMDL is that an Implementation Plan is due from each permittee six months after the effective date. We have a Watershed meeting on Wednesday and I want to remind all the permittees of this deadline. Before I do, can you verify the due date.

Thanks

John

Attachment 3: Excerpt from State Water Resources Control Board

Resolution 2008-0024

Approval date April 15, 2008

CITY OF SIGNAL HILL | 3/20/2009

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2008-0024

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION (BASIN PLAN) TO INCORPORATE A TOTAL MAXIMUM DAILY LOAD (TMDL) FOR TRASH IN THE LOS ANGELES RIVER WATERSHED

WHEREAS:

1. On September 19, 2001, the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) adopted a Basin Plan amendment (Resolution No. 01-013) incorporating the Los Angeles River Watershed Trash TMDL for the Coastal Watersheds of Los Angeles and Ventura Counties. The TMDL was approved by the State Water Resources Control Board (State Water Board) on February 19, 2002 and by the Office of Administrative Law (OAL) on July 16, 2002. The United States Environmental Protection Agency (U.S. EPA) approved the Los Angeles River Watershed Trash TMDL on August 1, 2002.

2. The City of Los Angeles and the County of Los Angeles filed petitions in Los Angeles Superior Court challenging the Los Angeles River Watershed Trash TMDL. Negotiations led to a settlement agreement, which became effective on September 23, 2003.

3. On January 26, 2006 following a lawsuit by 22 cities to set aside the TMDL, a California Appellate Court affirmed that the Los Angeles Water Board had not complied with the California Environmental Quality Act (CEQA). On June 8, 2006, the Los Angeles Water Board set aside the trash TMDL, pursuant to the writ of mandate.

4. On August 9, 2007, the Los Angeles Water Board adopted Resolution No. 07-012 amending the Basin Plan to incorporate a TMDL for trash in the Los Angeles River Watershed.

5. The TMDL for trash in the Los Angeles River Watershed is designed to protect the aquatic life habitat, water contact recreation, and non-contact water recreation beneficial uses of the Los Angeles River Watershed and to achieve the narrative water quality objectives set to protect those uses.

6. The Los Angeles Water Board found that the analysis contained in the Final Project Report, the CEQA "substitute documentation" for the proposed Basin Plan amendment, including the CEQA Checklist, the staff report, and the responses to comments prepared by Los Angeles Water Board staff complies with the requirements of the State Water Board's certified regulatory CEQA process, as set forth in the California Code of Regulations, Title 23, section 3775 et seq.

7. The State Water Board finds that in amending the Basin Plan to establish this TMDL, the Los Angeles Water Board complied with the requirements set forth in sections 13240 and 13242 of the California Water Code. The State Water Board also finds that the TMDL is consistent with the requirements of federal Clean Water Act section 303(d).

8. The Los Angeles Water Board found that adoption of this amendment is consistent with the State Antidegradation Policy (State Water Board Resolution No. 68-16), in that the changes to water quality objectives (i) consider maximum benefits to the people of the state, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies.

8. The Los Angeles Water Board established a loading capacity, represented as a numeric target for the Los Angeles River Watershed, at zero trash. Compliance with this trash load will be based on a nine-year implementation schedule.

9. A Basin Plan amendment does not become effective until approved by the State Water Board and until the regulatory provisions are approved by OAL. The TMDL must also be approved by U.S. EPA.

THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the amendment to the Basin Plan as adopted under Los Angeles Water Board Resolution No. 07-012.

2. Authorizes the Executive Director or designee to submit the amendment adopted under Los Angeles Water Board Resolution No. 07-012 to OAL for approval of the regulatory provisions and to USEPA for approval of the TMDL.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on April 15, 2008.

AYE:	Chair Tam M. Doduc Vice Chair Gary Wolff, P.E., Ph.D Charles R. Hoppin Frances Spivy-Weber
NAY:	None
ABSENT:	Arthur G. Baggett, Jr.
ABSTAIN:	None

Jeanine Townsend

Jeanine Townsend
Clerk to the Board

City of South Gate
8650 CALIFORNIA AVENUE • SOUTH GATE, CA 90280-3075 • (323) 357-9657
FAX (323) 563-9572

ROBERT T. DICKEY
DIRECTOR OF PUBLIC WORKS

March 30, 2009

Ms. Tracy Egoscue
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Los Angeles River Trash TMDL, Implementation Report

Dear Mrs. Tracy Egoscue:

Los Angeles River Trash Total Maximum Daily Load (TMDL) Basin Plan Amendment requires cities to prepare an Implementation Plan to comply with this TMDL six months after the effective date of the TMDL. The City would like inform the Los Angeles Regional Water Quality Control Board (RWQCB) that the Implementation Report has been completed and is enclosed for your review.

A Daily Generation Rate (DGR) study report confirming City compliance with the Trash TMDL is also enclosed. This report includes the results and indicates the City position in meeting the final Waste Load Allocation goals.

We encourage the Regional Board to review and analyze the enclosed materials and our staff is open to discuss the information found in both reports. Please feel free to contact me or our consultant John L. Hunter & Associates at (562) 802-7880 Ext. 25 if you have any questions.

Thank you for your consideration and cooperation.

Sincerely,

Robert T. Dickey

Encl: Implementation Report
DGR Report

LOS ANGELES RIVER
TRASH TOTAL MAXIMUM DAILY LOAD (TMDL)

CITY OF SOUTH GATE
Implementation Report

March 20, 2009

Submitted to:

Tracy Ecosgue
Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

By:

Robert Dickey
Director of Public Works

CITY OF SOUTH GATE

Implementation Report

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Executive Summary

On September 23, 2008, the Trash Total Maximum Daily Loads (TMDLs) became effective under Resolution No. 2007-012 of the Regional Water Quality Control Board (RWQCB). As a result, the City of South Gate is submitting this implementation report outlining how the City intends to comply with the TMDL. The goal of this TMDL is to reduce the amount of anthropogenic trash and litter in stormwater runoff to zero. The TMDL establishes a series of phased annual reductions beginning in the 2007-08 rainy season and continuing through to the 2013-14 rainy season when the numeric target of zero trash discharge is to be achieved. The City, after conducting a Daily Generation Rate Study, has demonstrated that it is within the required compliance requirements for the forty percent reductions by September 30, 2008 as set forth in the Trash TMDL. The results obtained during this study have provided the City with information on the different techniques that may be implemented to meet future Trash TMDL goals and has developed a tentative implementation report.

This Implementation report, as required by the Regional Board, is to be prepared by March 23, 2009 and identifies specific management practices and activities designed specifically to reduce trash discharges from urban sources in the City.

The implementation report contains the following elements:

- a description of control measures that will be implemented to achieve the annual reductions and the final zero trash discharge
- a schedule for implementing the control measures

The overall goal is to define a set of measures that will help achieve the zero trash discharge requirements and to meet water quality standards in the Los Angeles River Watershed.

Introduction & TMDL Background

A Total Maximum Daily Load (TMDL) for anthropogenic (man-made) trash was originally established for the Los Angeles River in September of 2001. However, this TMDL was subsequently overturned by the courts. A revised TMDL was eventually approved by the Regional Board on August 7, 2007 and the State Water Resources Control Board on April 15, 2008, eventually becoming effective on September 23, 2008. The Trash TMDLs sets a numeric limit of zero for trash being discharged into the receiving water bodies from the storm drain system by the 2013-2014 rainy season. Permittees are required to attain water quality standards in phases by reducing the amount of trash discharged to the watershed by 40% in 2008 followed thereafter by ten percent annual increments and meeting a final waste load allocation of zero trash discharge. To meet the numeric target of zero trash, the permittees are required to implement end-pipe full capture structural controls; partial capture controls systems; and/or institutional control measures.

The Baseline Waste Load Allocation for the City of South Gate, established by the Trash TMDL, is 72,333 lbs and the allotted 40% reduction goal for the 2007-2008 rainy season is not to exceed 43,400 lbs.

City information

The City of South Gate is one of the southeastern cities within Los Angeles County. According to the 2000 US census, the City has a population of 96,375 with 23,213 households. The City's total square mileage is estimated to be 7.48 square miles, which entirely discharges to the Los Angeles River Watershed. The City's primarily land use types, according to Appendix 1 of the Trash TMDL are:

Land Usage Type	Square Miles	Percentage
High Density Residential	3.92	52.5%
Low Density Residential	0	0
Commercial	.78	10.4%
Industrial	1.25	16.7%
Public Facilities	.18	2.4%
Educational Institutions	.26	3.5%
Military	0	0
Transportation	.40	5.3%
Mixed Urban	.07	.93%
Open Space	.04	.53%
Agriculture	.10	1.34%
Water	.22	3.0%
Recreation	.27	3.6%
TOTAL	7.48	100%

Compliance Requirements

The RWQCB has provided two methods that permittees can implement to achieve compliance with the TMDL Baseline WLA, 1) installation of full capture systems; 2) implementation of partial capture systems and institutional controls.

The first compliance point was September 30, 2008 when the City was required to demonstrate that it has met a forty percent reduction in the assigned Waste Load Allocation. After this first initial reduction, compliance will be evaluated based on a rolling 3-year average, roughly equivalent to ten percent annual increments until achieving the final numeric target.

A summary of the TMDL schedule, compliance dates, and future required reductions is presented as follows:

Implementation Year	Waste Load Allocation	South Gate WLA (lbs)
		72,333
Year 1: September 30, 2008	60% of Baseline Waste Load Allocation	43,400
Year 2: September 30, 2009	50% of Baseline Waste Load Allocation	36,167
Year 3: September 30, 2010	40% of Baseline Waste Load Allocation	28,933
Year 4: September 30, 2011	30% of Baseline Waste Load Allocation	27,700
Year 5: September 30, 2012	20% of Baseline Waste Load Allocation	14,467
Year 6: September 30, 2013	10% of Baseline Waste Load Allocation	7,233
Year 7: September 30, 2014	0% of Baseline Waste Load Allocation	0

Compliance Strategy

The City's initial approach to determine compliance and to study alternative methods to meet the objectives of the Trash TMDL was to conduct a Daily Generation Rate Study, which was performed during the summer of 2008. It was through this method that the City was able to quantify the amount of trash generated and its estimated annual discharge volumes and rates. These results have provided the City with information on being able to determine the most appropriate methods necessary to ensure future compliance.

The City, based on a Daily Generation Rate (DGR) study conducted in 2008[1], has achieved a calculated discharge level of 15,654 pounds of uncompressed trash per year. Consequently, the City is within the established levels of the scheduled Waste Load Allocations for September 2008. However, and because the Regional Board determines compliance based on a rolling average, the City has met 2011 standards. The DGR report detailing compliance strategies and methods used to calculate these rates has been included with this implementation report as a separate document for your review.

Proposed Implementation Plan

The City's implementation plan includes a description of the proposed control measures that will be employed in order to reduce and achieve the trash reductions as required by this TMDL, as well as a tentative schedule for their implementation.

The City's plans for compliance have, and will be base on implementing a series of controlled measures which will focus on the following:

- Enhanced street sweeping: continue sweeping in excess of MS4 permit requirements including, more frequent sweeping conducted for higher trash generating areas.
- Public educational antilittering outreach: the City educates its residents mainly through community involvement through programs and events. The use of various methods to disseminate information has also included and will continue to include newspapers, flyers and posters.
- Catch basin cleaning: the City and the Los Angeles County Department of Public Works (LACDPW), Flood Control District, are responsible for the operations and maintenance of city and county owned storm drains and catch basins. Annual inspections and maintenance are conducted.
- Installing catch basin inserts: the City has already installed inserts and screens in all City-owned catch basins. The County-owned catch basins are likely to be retrofitted with inserts in the near future once LA County finalizes their insert installation policy.

Implementation Plan Schedule

The following table represents a tentative schedule on how the City intends to comply with the Trash TMDL.

Implementation Year	Target Baseline WLA (lbs)	Compliance Strategies (Tentative)
Year 1: September 30, 2008	43,400	*Institutional Controls* *DGR Study was conducted in the summer*
Year 2: September 30, 2009	36,167	*Institutional Controls* *DGR Study will be conducted in the summer to verify effectiveness*
Year 3: September 30, 2010	28,933	*Institutional Controls* *DGR Study will be conducted in the summer to verify effectiveness*
Year 4: September 30, 2011	27,700	*Institutional Controls* *DGR Study will be conducted in the summer to verify effectiveness*
Year 5: September 30, 2012	14,467	*Institutional Controls* *DGR Study will be conducted in the summer to verify effectiveness*
Year 6: September 30, 2013	7,233	*Institutional Controls* *DGR Study will be conducted in the summer to verify effectiveness*
Year 7: September 30, 2014	0	*Possibly install full capture catch basin inserts depending upon Count's Policy*

[1] DGR Report is included as a separate document

The City of South Gate has so far taken initiative to install trash capture screens in all city-owned catch basins. These screens have helped retain the trash which prevents it from entering the storm drain systems. The City will also continue to conduct DGR studies in the summer of each year to demonstrate compliance ratings and to measure the effectiveness of the institutional control measures put in place. Los Angeles County Public Works Department may retrofit its catch basins with full capture systems though; this is dependent upon the County's finalizing their policy for retrofitting county catch basins in city areas. The City will adjust this implementation report accordingly depending on the County's decision.

According to the RWQCB, a permittee will be deemed in compliance with the Trash TMDL in areas served by Full Capture Systems within the Los Angeles River Watershed.

Review Strategy & Conclusion

As already mentioned above, the City will continue to implement institutional control measures to achieve each year's numeric targets. Therefore in order to determine the effectiveness of each of the institutional control measures put in place, and to confirm the 2008 findings, the City will repeat the Daily Generation Rate (DGR) study during the summer 2009.

It is important to note, that the Regional Board will review and reconsider the final Waste Load Allocations once a reduction of 50% has been achieved and sustained in the watershed[2]. For this reason and based on current and future DGR results, the City may request a TMDL reopening.

In conclusion, the City has demonstrated commitment on complying with all water quality requirements and will continue to implement measures and educate its residents to increase their knowledge towards improving water quality problems.

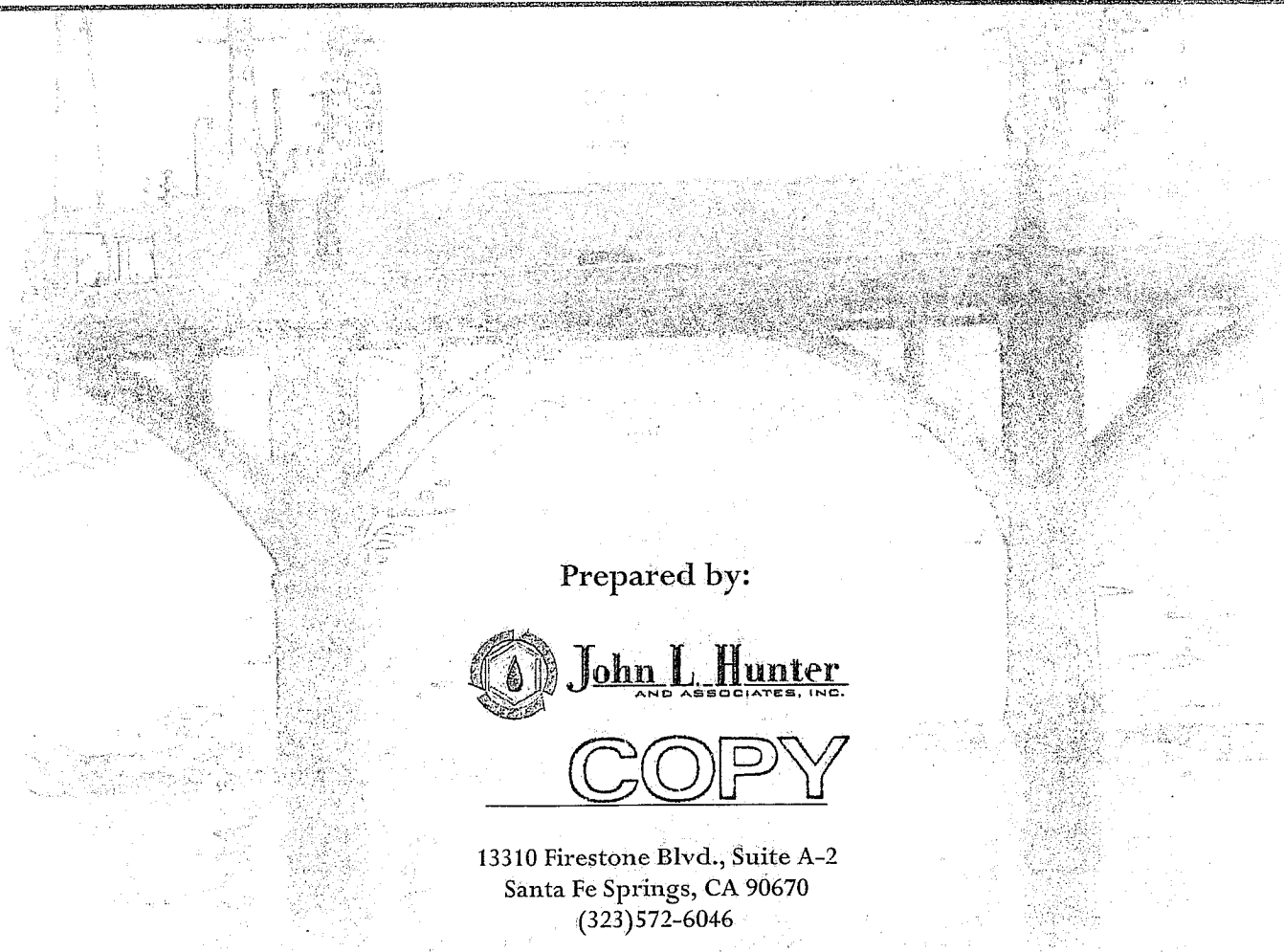
BMPs outlined in this report are tentative and are subject to modification as necessitated by future conditions.

[2] Footnote 2, Table 7.2.3, Attachment A to Resolution No. 2007-012 (August 9, 2007)

SOUTH GATE

DAILY GENERATION RATE 2008

November 3, 2008



Prepared by:

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SOUTH GATE

DAILY GENERATION RATE 2008

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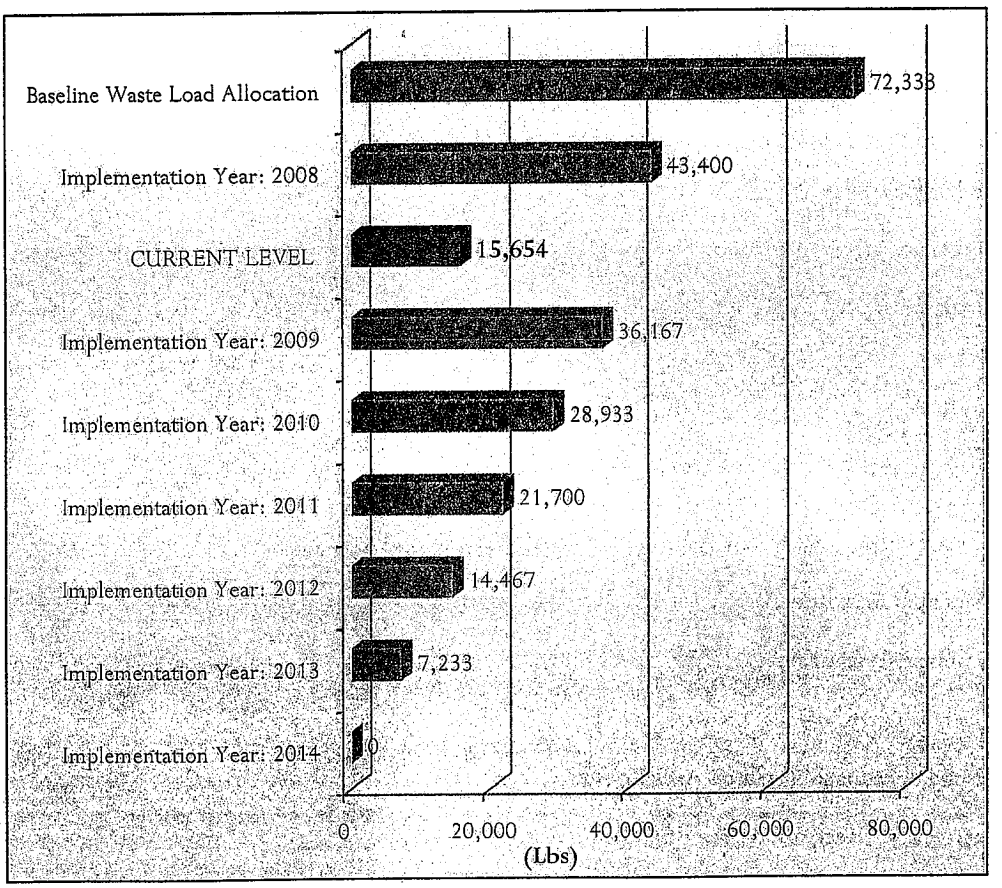
SOUTH GATE

DAILY GENERATION RATE 2008

Executive Summary

This report summarizes the activities and findings of the Daily Generation Rate (DGR) study conducted in the City of South Gate during the summer of 2008. The DGR was calculated in order to determine the effectiveness of the institutional control measures put in place to comply with this year's Trash Total Maximum Daily Loads (TMDLs) for the Los Angeles River Watershed. The DGR was used in a mass balance equation to estimate the amount of trash that is being deposited on the City's public streets. To establish the DGR, trash from approximately 10% of city curb miles in designated land use areas was collected prior to regularly schedule street sweepings. The collected trash was sorted and classified. This data was then used to estimate the amount of trash flowing into the storm drain systems and to determine the level of compliance with the Trash TMDLs for the year. This study found that the trash is well below the Trash TMDL goal. Consequently, this study indicates that the City of South Gate is in compliance with the Trash TMDL for this year.

South Gate
Implementation Schedule[1]



[1] Compliance is based on the total discharge to the river during the periods of October 1st through September 30th of every year.

TMDL Background

Trash has been a significant water quality problem throughout the Los Angeles River Watershed. The Los Angeles Regional Water Quality Control Board (RWQCB) determined that current levels of trash in the LA River exceed the existing water quality objectives necessary to protect beneficial uses of the river and designated the river to be an impaired water body. Due to this designation, in August 2007, The RWQCB adopted the Trash Total Maximum Daily Loads (TMDLs), which set a numeric limit of zero tolerance rule for trash being discharged into the receiving water bodies from the storm drain system by the year 2014. The Trash TMDLs requires the Permittees to attain water quality standards by reducing the amount of trash discharged to the watershed by 40% in 2008[2] followed thereafter by ten percent annual increments and meeting a final water load allocation of zero trash discharge. To meet the numeric target of zero trash, the Permittees are required to implement end-pipe full capture structural controls; partial capture controls systems; and/ or institutional control measures.

County Baseline & Waste Load Allocations

The Los Angeles RWQCB previously assigned Waste Load Allocations to the permittees. The Default Waste Load Allocation (DWLA) for the permittees in the earlier version of the trash TMDL was equal to 640 gallons of uncompressed trash per square mile. However, the permittees decided to seek refinement of the DWLA by implementing a Baseline Monitoring Plan. For this reason, a Baseline Monitoring was conducted by the Los Angeles County Department of Public Works. The Baseline Monitoring Program collected representative data from across the watershed to refine the DWLA presented in 2001 Trash TMDLs.

Each permittee is allowed 60% of their baseline Waste Load Allocation during the 2008 implementation year, and subsequent annual reductions of ten percent from the baseline allocation will be required through every year of implementation.

The Baseline Waste Load Allocation for the City of South Gate by the Trash TMDL is 72,333 lbs and the allotted 60% goal for the 2008 year is not to exceed 43,400 lbs.

Weight (lbs)	Volume (gallons)
$SP_B = 43{,}400$	$SP_B = 26{,}342$

Daily Generation Rate

The DGR Study was broken down into two phases. Phase I consisted of physically collecting the trash while Phase II was to analyze the collected materials. Before initiating the study, it was necessary to designate the land use areas and outline the sweeping routes. Representative study areas were selected at random to include four priority land use types:

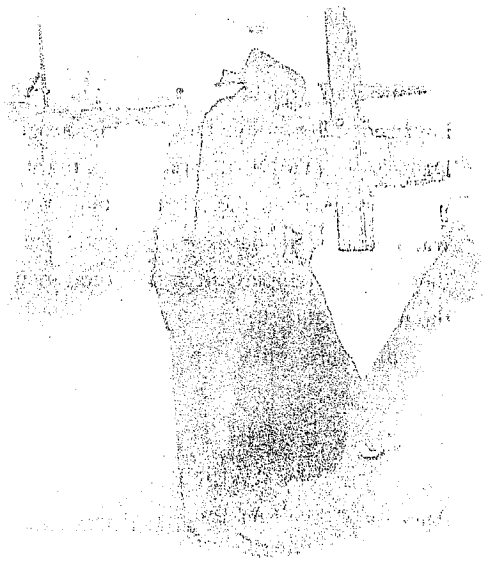
- High/Low density residential
- Commercial
- Industrial
- Open space and recreation
- Public/ Educational Facilities

Precise curb miles and collection routes were developed (see Figures)

[2] Compliance is based on the total discharged to the river during the period October 1, 2007 through September 30, 2008.

Phase I:

Once the land use areas were designated, a manual pick-up was performed. To facilitate this process, a pick-up reaching tool was used. Pieces of trash ¼ of an inch and greater were collected, anything smaller than that is not subject to the trash TMDL. Manual collection also prevented trash entering the catch basins and precluded the need to block the catch basin inlets. At the conclusion of each collection route, the trash collected from the commercial, residential, industrial, public facilities/ educational Institutions, open space/rec areas was then delivered directly to the City's Transfer Station located at 9599 Salt Lake Ave where the trash was quantified. The collected street litter was placed in separate piles to avoid mixing. Detailed maps and street sweeping routes are located on Pages 11-13, and summarized in the following table.



Picture 1: Manual pick-up collection of trash

Table 1:

Land Usage	Estimated Total Curb Miles	Street Sweeping Routes	Designated Curb Miles
Commercial	40	Tweedy Blvd.	2.5
Residential	134	Southern & Victoria Ave, Duane & Missouri Ave San Vicente, San Miguel, San Luis, San Gabriel & San Carlos Ave. San Antonio, Virginia & Elizabeth Ave.	12.5
Industrial	43	Rawlings, Scott, Borwick, Palmer, Garfield, Ruchti, Leeds, Sessler, Meadow & Garwick	4.2
Public Facilities/ Education Institutions	15	Firestone Blvd, Elizabeth, Dearborn, Ardmore, Southern, San Miguel & Otis	1.4
Open Space/ Recreation	20	Tweedy Blvd, Hildreth Ave, Southern Ave & Pinehurst Ave.	1.5

Phase II:

This phase consisted of the evaluating and weighing the trash which took place at the City's Transfer Station. The loads of trash were delivered from the designated routes and separated into the individual land use areas.

This study uses the definition of litter as defined by the California Government Code Section 68055.1(g):

"Litter means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the elands and water of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling or manufacturing."

Since the trash was collected by using a manual pick-up procedure, sorting of the collected materials was unnecessary, which avoided the need to separate green waste from anthropogenic trash. The collected trash from each individual land use area was then manually quantified and classified using the following procedures:

1. Standard safety precautions were followed during the trash weighing process.
2. Gardening gloves were utilized to grab the trash, from only one specific load, and placed onto 5-gallon buckets.

This process was repeated for the remainder of the unloaded trash. Trash collected from each area was quantified separately. All piles were kept separated to avoid combining the trash from the five different areas.

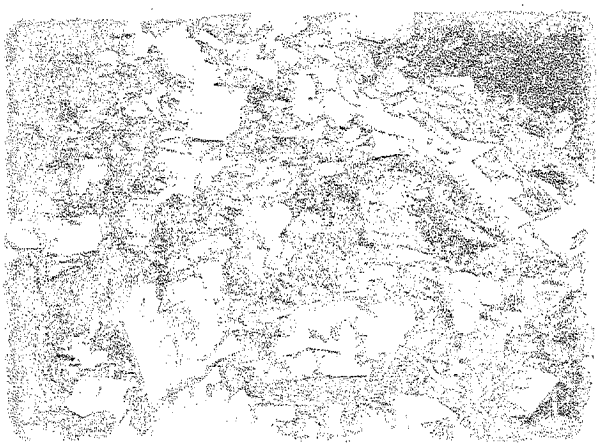
Picture 2: Obtaining the weight of trash.

Measuring

A digital scale was used to weigh the trash and a 5-gallon bucket to estimate an approximate volume. Each full bucket, of anthropogenic trash, was weighed separately, concluding with a final characterization by the different type of constituents.

Disposal

At the conclusion of each quantifying process, the piles of trash were placed on tarps and were left there at the City's Transfer station for proper disposal.



Picture 3: Trash collected during this study.

Results

Data collected from the above process is summarized in the following table:

Table 2:

Land Usage	Designated Curb Miles	Trash (lbs)	Days Since Last Sweeping
Commercial	2.5	11.5	1
Residential	12.5	82	5
Industrial	4.2	45	5
Public Facilities/Educational Institutions	1.4	9	2
Open Space/ Recreation	1.5	12.5	2
Total	22	160	

Characterization

The characterization of trash was done by separating it according to the following constituents.

- Glass: bottles, scraps, broken windows
- Paper: bags, newspaper, scraps, wrappers
- Plastic: bags, bottles, jugs, Styrofoam
- Yard Waste: clippings, branches, grass, leaves, plants
- Other: cigarette butts, food, metals, miscellaneous

The estimated composition of the trash loads for each land use is summarized in the following table:

Table 3: Sweeper Load Composition

Land Usage	Green Waste *(not collected)*	Plastic	Paper	Glass	Metal	Cloth
Commercial	1%	21%	71%	1%	3%	3%
Residential	0	26%	70%	1%	3%	0
Industrial	0	36%	60%	1%	3%	0
Public Facilities/Educational Institutions	1%	39%	58%	1%	1%	0
Open Space/ Recreation	1%	39%	58%	1%	1%	0

DGR per Land Use Area

An estimate of the trash produced for each land use area was calculated by taking the amount of trash collected for the study and extrapolating that value to the remaining number of curb miles for that land use area. The DGR was then determined by converting the trash per week (dependant on street sweeper's schedule) to trash collected per day. The final DGR value represents the amount of the trash generated for the entire city per day.

Table 4: DGR[3]

Land Usage	DGR (lbs)
Commercial	185
Residential	175
Industrial	92
Public Facilities/Educational Institutions	48
Open Space/ Recreation	84
Total	**584**

[3] DGR calculations can be found on Page 9-10

Trash Discharge Levels

The annual amount of trash that is being discharged into the storm drain system on a yearly basis was determined using the DGR values, the number of rain events during the year, and the amount of trash that is removed from the storm drain systems by the Los Angeles County Public Works Department (LACPW) on a yearly basis. Information and values obtained from the Baseline Monitoring Reports from the LACPW was extrapolated where appropriate.

The stormwater discharge for a given rain event was calculated by multiplying the number of days since the last street sweeping by the DGR and subtracting the volume of the trash recovered during the annual catch basin cleanouts conducted by the LACPW. The average of number days between a rain event and last street sweeping was estimated to be 3.5 for the residential area since sweeping takes place once every week, 1.0 for the commercial area since sweeping takes place three times a week, 3.5 for the industrial area since sweeping takes place once a week, 1.75 for the public/educational facilities area since sweeping takes place twice a week on average, and 3.5 for the open/rec area since sweeping takes place once week. The estimated weight of trash draining to catch basins during raining events was obtained by multiplying the average number of days between a rain event and the last street sweeping by the already obtained DGR values. The values obtained were 614 lbs for the residential area, 185 lbs for the commercial area, 323 lbs for the industrial area, 84 lbs for the public/educational facilities area, and 292 lbs for the open/rec area. The annual weight of trash draining to the catch basins was estimated by multiplying those previous obtained values by the total number of rain occurrences during the 2007-2008 season (11 rain events recorded[4]). These values were the estimated amount of trash being discharged into the storm drain system but not taking in consideration the total amount of trash that was removed by LACPW during catch basin cleanouts. The final and actual discharge was obtained by subtracting the values obtained for the annual weight of trash draining to catch basins from rain events by the estimated weight of trash removed by county.

Table 4 shows the calculated values of trash washed into the storm drain system in 2008.

Table 4: Stormwater Discharge

Land Usage	Discharge (lbs)
Commercial	1,856
Residential	6,460
Industrial	3,246
Public Facilities/Educational Institutions	896
Open Space/ Recreation	3,197
Total	**15,654**

[4] Value obtained from the National Oceanic and Atmospheric Administration (NOAA) National Weather Service. Only rain events greater than 0.25 inch and not within 3 days of another event where considered

Conclusion

The results obtained during this study indicate an effective implementation of institutional controls such as: public education and enhanced street sweeping. Based on these results, the City of South Gate has shown a trash reduction greater than the required by the Trash TMDL. The allowed 60% of the baseline Waste Load Allocation during this first year of implementation for the City of South Gate is 43,400 lbs. The final discharge obtained for the amount of trash flowing into the storm drain systems is 15,654 lbs which clearly indicates a full compliance with the Trash TMDL for this year.

Waste Load Allocation 2008 (lbs)	Calculated Stormwater Discharge 2008 (lbs)
43,400	15,654

DGR Calculations

Residential Area

W_R=	*81.8 lbs*	*Weight of trash collected for residential area*
C_R=	*12.5*	*Total swept residential curb miles*
T_R=	*Total residential miles*	134
L_S=	*Number of days since last sweeping*	5
	Weight per curb mile per month =	$[(W_R / C_R)/ L_S]*31$ $[(81.8/12.5)/5]*31$
	Weight per curb mile per month =	*41 lbs*
	DGR=	$[(41)*(T_R)]/31$ $[(41)*(134)]/31$
	Final Residential DGR=	175 lbs/ day

Commercial Area

W_C=	*11.5*	*Weight of trash collected for commercial area*
C_C=	*2.5*	*Total swept commercial curb miles*
T_C=	*Total commercial curb miles*	40
L_S=	*Number of days since last sweeping*	1
	Weight per curb mile per month =	$[(W_C/C_C)/ L_S]*31$ $[(11.5/2.5)/1)]*31$
	Weight per curb mile per month =	*143 lbs*
	DGR=	$[(143)*(T_C)]/31$ $[(143)*(40)]/31$
	Final Commercial DGR=	185 lbs/ day

DGR Calculations

Industrial Area

W_I=	*45*	*Weight of trash collected for industrial area*
C_I=	*4.2*	*Total swept industrial curb miles*
T_I=	*Total industrial curb miles*	43
L_S=	*Number of days since last sweeping*	5
	Weight per curb mile per month =	$[(W_I/C_I)/L_S]*31$ $[(45/4.2)/5)]*31$
	Weight per curb mile per month =	*66 lbs*
	DGR=	$[(66)*(T_I)]/31$ $[(66)*(43)]/31$
	Final Industrial DGR=	92 lbs/ day

Public/Educational Facilities Area

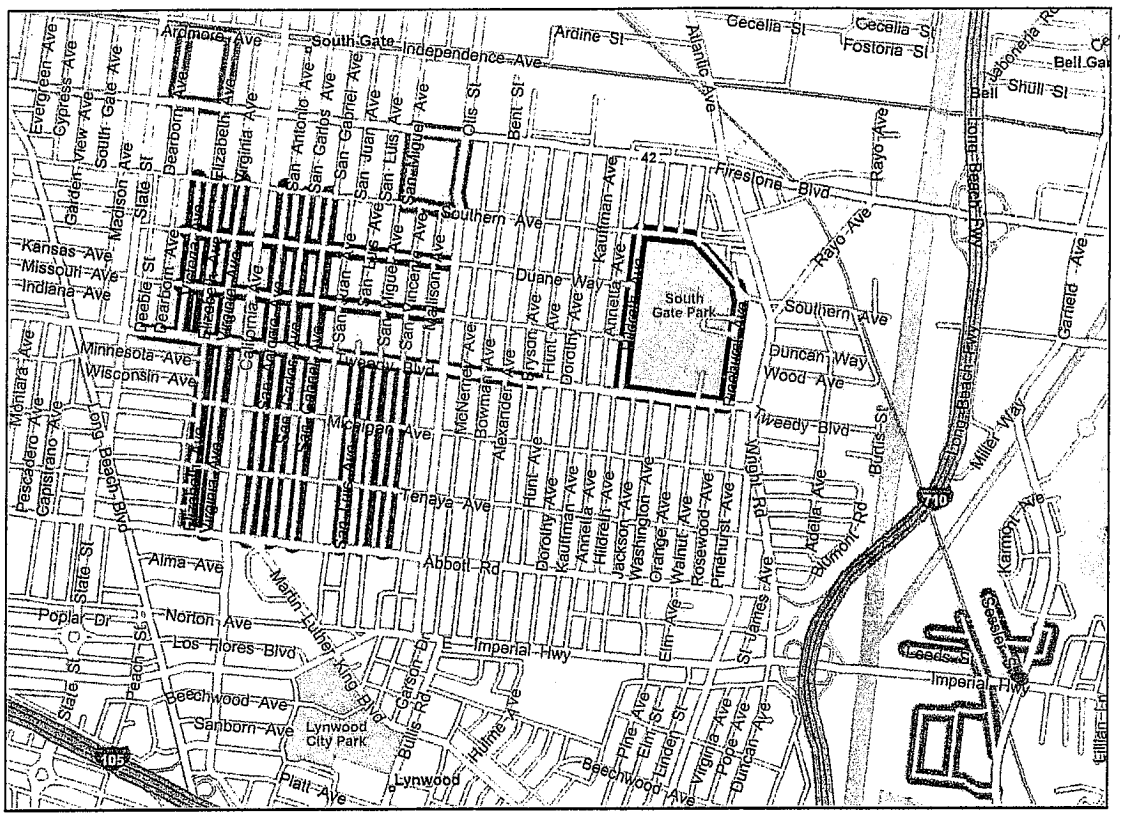
W_E=	*9.0*	*Weight of trash collected for public/educational facilities area*
C_E=	*1.4*	*Total swept public/educational facilities curb miles*
T_E=	*Total public/educational facilities curb miles*	15
L_E=	*Number of days since last sweeping*	2
	Weight per curb mile per month =	$[(W_E/C_E)/L_S]*31$ $[(9.0/1.4)/2)]*31$
	Weight per curb mile per month =	*100 lbs*
	DGR=	$[(100)*(T_E)]/31$ $[(100)*(15)]/31$
	Final Pubic/Edu. Facilities DGR=	48 lbs/ day

DGR Calculations

Open Space/Recreation Area

W_O=	12.5	*Weight of trash collected for open space/rec area*	
C_O=	1.5	*Total swept open space/rec area curb miles*	
T_O=	*Total open space/rec curb miles*		20
L_O=	*Number of days since last sweeping*		2
	Weight per curb mile per month =		$[(W_O/C_O)/L_S]*31$ $[(12.5/1.5)/2)]*31$
	Weight per curb mile per month =		*129 lbs*
	DGR=		$[(129)*(T_O)]/31$ $[(129)*(20)]/31$
	Final Open Space/Rec DGR=		84 lbs/ day

AREA OF STUDY



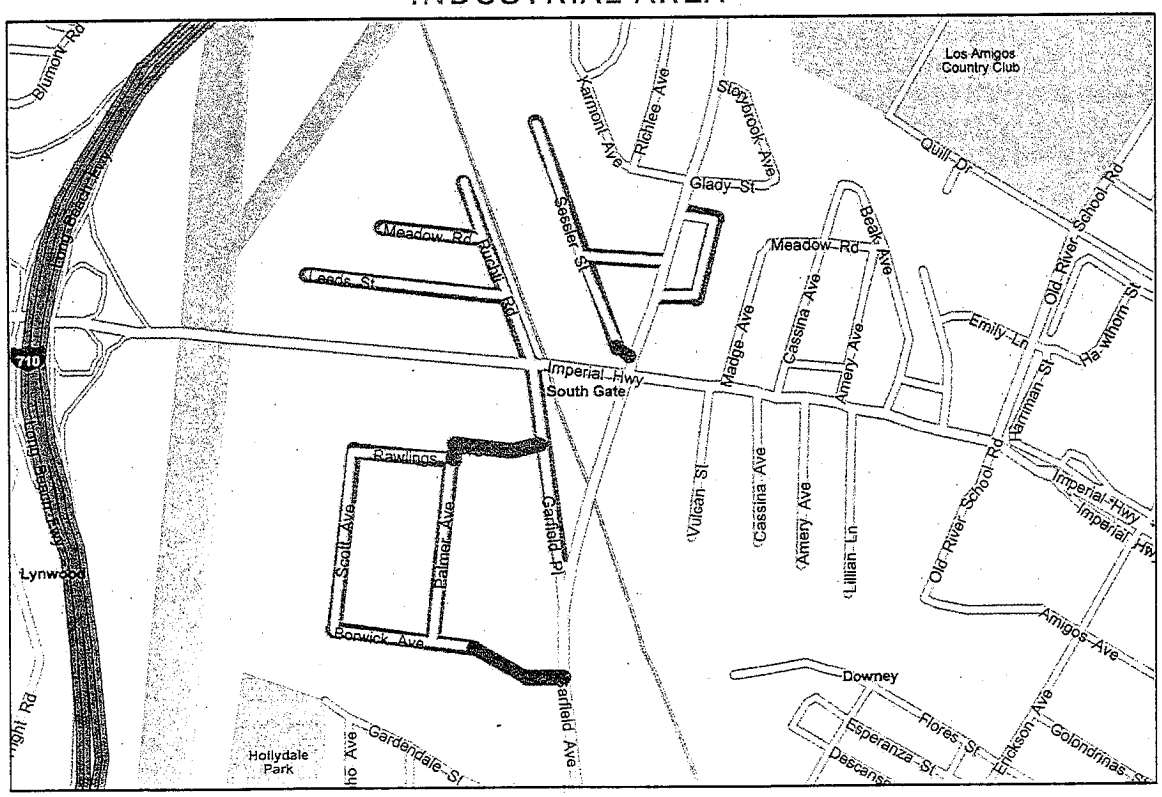
RESIDENTIAL AREA

Study Mileage: 12.5 curb miles

COMMERCIAL AREA

Study Mileage: 2.5 curb miles

INDUSTRIAL AREA

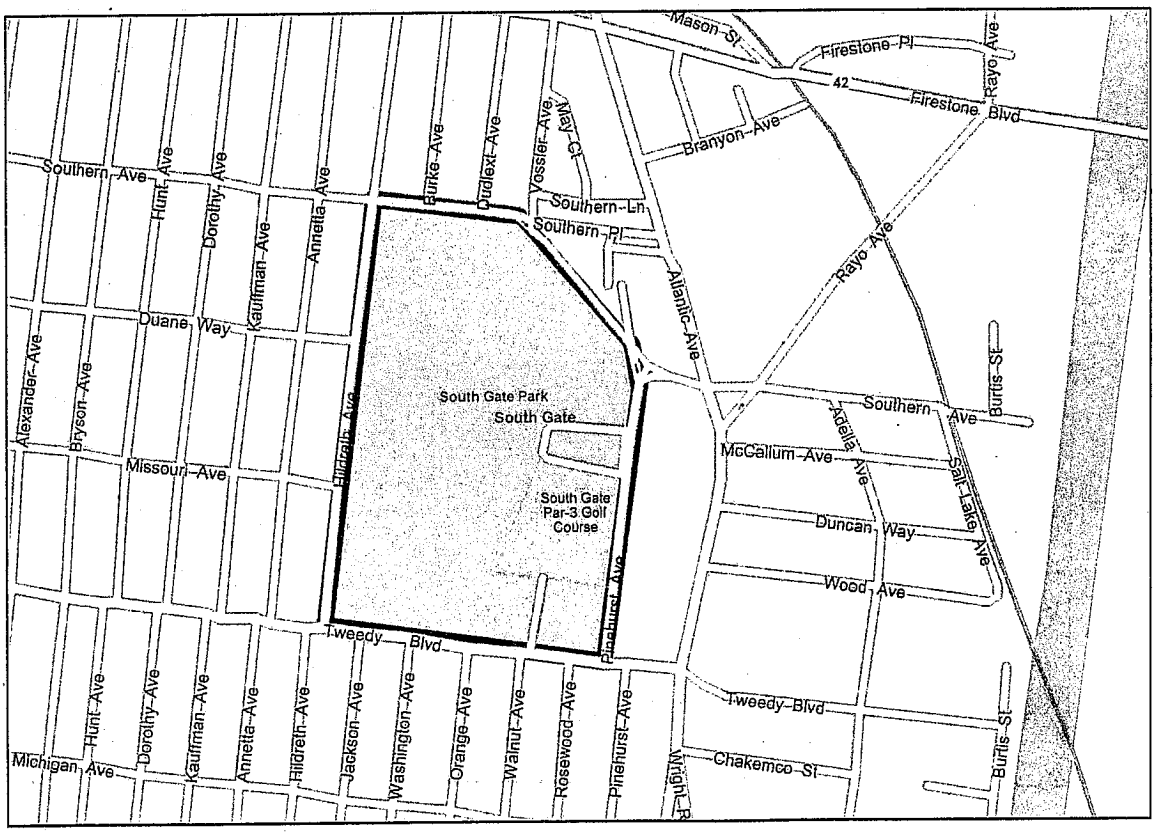


Study Mileage: 4.2 curb miles

PUBLIC/ EDUCATIONAL FACILITIES AREA

Study Mileage: 1.4 curb miles

OPEN SPACE/ RECREATION AREA



Study Mileage: 1.5 curb miles

LOS ANGELES RIVER
TRASH TOTAL MAXIMUM DAILY LOAD (TMDL)

CITY OF SOUTH PASADENA
Implementation Report

March 20, 2009

Submitted to:

Tracy Ecosgue
Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

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CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

By:

Matt Sweeney
Public Works Director

CITY OF SOUTH PASADENA

Implementation Report

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CITY OF SOUTH PASADENA

Implementation Report

Executive Summary

On September 23, 2008, the Trash Total Maximum Daily Loads (TMDLs) became effective under Resolution No. 2007-012 of the Regional Water Quality Control Board (RWQCB). As a result, the City of South Pasadena is submitting this implementation report outlining how the City intends to comply with the TMDL. The goal of this TMDL is to reduce the amount of anthropogenic trash and litter in stormwater runoff to zero. The TMDL establishes a series of phased annual reductions beginning in the 2007-08 rainy season and continuing through to the 2013-14 rainy season when the numeric target of zero trash discharge is to be achieved. The City, after conducting a Daily Generation Rate Study (DGR), has demonstrated that it is within the compliance requirements for this year as set forth in the Trash TMDL. Indeed, the City is within one percent (1%) of the ultimate goal.

This Implementation report, as required by the Regional Board, is due March 23, 2009 and identifies specific management practices and activities designed specifically to reduce trash discharges from urban sources in the City.

The City's tentative implementation report contains the following elements:

- a description of control measures that will continue to be implemented to achieve the annual reductions and the final zero trash discharge

Introduction & TMDL Background

A Total Maximum Daily Load (TMDL) for anthropogenic (man-made) trash was originally established for the Los Angeles River in September of 2001. However, this TMDL was subsequently overturned by the courts. A second TMDL was eventually approved by the Regional Board on August 7, 2007 and the State Water Resources Control Board on April 15, 2008, eventually becoming effective on September 23, 2008. The Trash TMDLs sets a numeric limit of zero for trash being discharged into the receiving water bodies from the storm drain system by the 2013-2014 rainy season and requires permittees to attain water quality standards by reducing the amount of trash discharged to the watershed by 40% as of September 30, 2008 followed thereafter by ten percent annual increments and meeting a final waste load allocation of zero trash discharge. To meet the numeric target of zero trash, the permittees are required to implement end-pipe full capture structural controls; partial capture controls systems; and/or institutional control measures.

The Baseline Waste Load Allocation for the City of South Pasadena, established by the Trash TMDL, is 28,357 lbs and the allotted 40% reduction goal for the 2007-2008 rainy season is not to exceed 17,014 lbs.

City information

The City of South Pasadena is one of the cities located within Los Angeles County. According to the 2000 US census, the City has a population of 24,292 with 10,477 households. The City's total square mileage is estimated to be 3.44 square miles, which entirely discharges to the Los Angeles River Watershed. The City's primarily land use types, according to Appendix 1 of the Trash TMDL are:

Land Usage Type	Square Miles	Percentage
High Density Residential	2.43	70.8%
Low Density Residential	0.13	3.8%
Commercial	0.2	5.8%
Industrial	0	0
Public Facilities	0.06	1.7%
Educational Institutions	.01	2.9%
Military	0	0
Transportation	0.09	2.6%
Mixed Urban	0.02	0.6%
Open Space	0.24	7%
Agriculture	0.01	0.3%
Water	0.01	0.3%
Recreation	0.13	3.8%
TOTAL	**3.43**	**100%**

Compliance Requirements

The RWQCB has provided two methods that permittees can implement to achieve compliance with the TMDL Baseline WLA, 1) installation of full capture systems; 2) implementation of partial capture systems and institutional controls.

The first compliance point was September 30, 2008 when the City was required to demonstrate that it has met a forty percent reduction in the assigned Waste Load Allocation. After this first initial reduction, compliance will be evaluated based on a rolling 3-year average, roughly equivalent to ten percent annual increments until achieving the final numeric target.

A summary of the TMDL schedule, compliance dates, and future required reductions is presented as follows:

Implementation Year	Waste Load Allocation	South Pasadena WLA (lbs)
		28,357
Year 1: September 30, 2008	60% of Baseline Waste Load Allocation	17,014
Year 2: September 30, 2009	50% of Baseline Waste Load Allocation	14,179
Year 3: September 30, 2010	40% of Baseline Waste Load Allocation	11,343
Year 4: September 30, 2011	30% of Baseline Waste Load Allocation	8,507
Year 5: September 30, 2012	20% of Baseline Waste Load Allocation	5,671
Year 6: September 30, 2013	10% of Baseline Waste Load Allocation	2,836
Year 7: September 30, 2014	0% of Baseline Waste Load Allocation	0

Compliance Strategy

The City's initial approach to determine compliance and to study alternative methods to meet the objectives of the Trash TMDL was to conduct a Daily Generation Rate Study, which was performed during the summer of 2008. It was through this method that the City was able to quantify the amount of trash generated and its estimated annual discharge volumes and rates. These results have provided the City with information on being able to determine the most appropriate methods necessary to ensure future compliance.

The City, based on the Daily Generation Rate (DGR) study conducted in 2008[1], has achieved a calculated discharge level of 120 pounds of uncompressed trash per year, which is an extremely low value compared to the waste load allocation of 17,014. This calculates to a 0.71% of waste versus load allocated. Consequently, the City is within the established levels of the scheduled Waste Load Allocations for September 20008. Because the Regional Board determines compliance based on a rolling average, the City has actually surpassed the storm water discharge compliance requirements for 2013.

Proposed Implementation Plan

The City's implementation report includes a description of the control measures that have and will continued to be employed in order to reduce and achieve the trash reductions as required by this TMDL, as well as a tentative schedule for their implementation.

The City's plans for compliance include a series of controlled measures that focus on the following:

- Enhanced street sweeping: continue sweeping in excess of MS4 permit requirements including, more frequent sweeping conducted for higher trash generating areas.
- Public educational antilittering outreach: the City enforces antilittering laws and educates its residents mainly through community involvement through programs and events. The use of various methods to disseminate information has also included and will continue to include newspapers, flyers and posters.
- Catch basin cleaning: the City and the Los Angeles County Department of Public Works (LACDPW), Flood Control District, are responsible for maintenance of city and county owned storm drains and catch basins. Annual inspections and maintenance are conducted.

Implementation Plan Schedule

The following table represents a tentative schedule on how the City intends to comply with the Trash TMDL.

Implementation Year	Target Baseline WLA (lbs)	Compliance Strategies
Year 1: September 30, 2008	17,014	*Institutional Controls* *DGR Study was conducted in the summer* *The City is requesting the Regional Board for a finding of a 100% compliance equivalency*

[1] DGR Report is included as a separate document

The City is requesting the Regional Board to grant a finding of a functional 100% compliance equivalency and as having fulfilled the final waste load allocation goals. Future activities will be dependent upon the Regional Board's response to this request.

Review Strategy & Conclusion

It has been through institutional control measures that the City has been able to achieve a discharge of less than one percent (1%) of the ultimate trash reduction goal and will therefore, continue to implement such measures.

It is important to note, that the Regional Board will review and reconsider the final Waste Load Allocations once a reduction of 50% has been achieved and sustained in the watershed[2]. Consequently, the City strongly encourages the Regional Board to analyze the successful results and institutional controls set forth and consider that the City of South Pasadena has fulfilled the requirements of this TMDL and should therefore, require no additional implementation actions.

In conclusion, the City of South Pasadena is committed on maintaining its efforts to comply with all water quality requirements and proud to take a leadership role in the regions efforts to improve water quality standards. The City will continue to implement institutional control measures and continue to educate its residents to further increase their knowledge towards water quality problems.

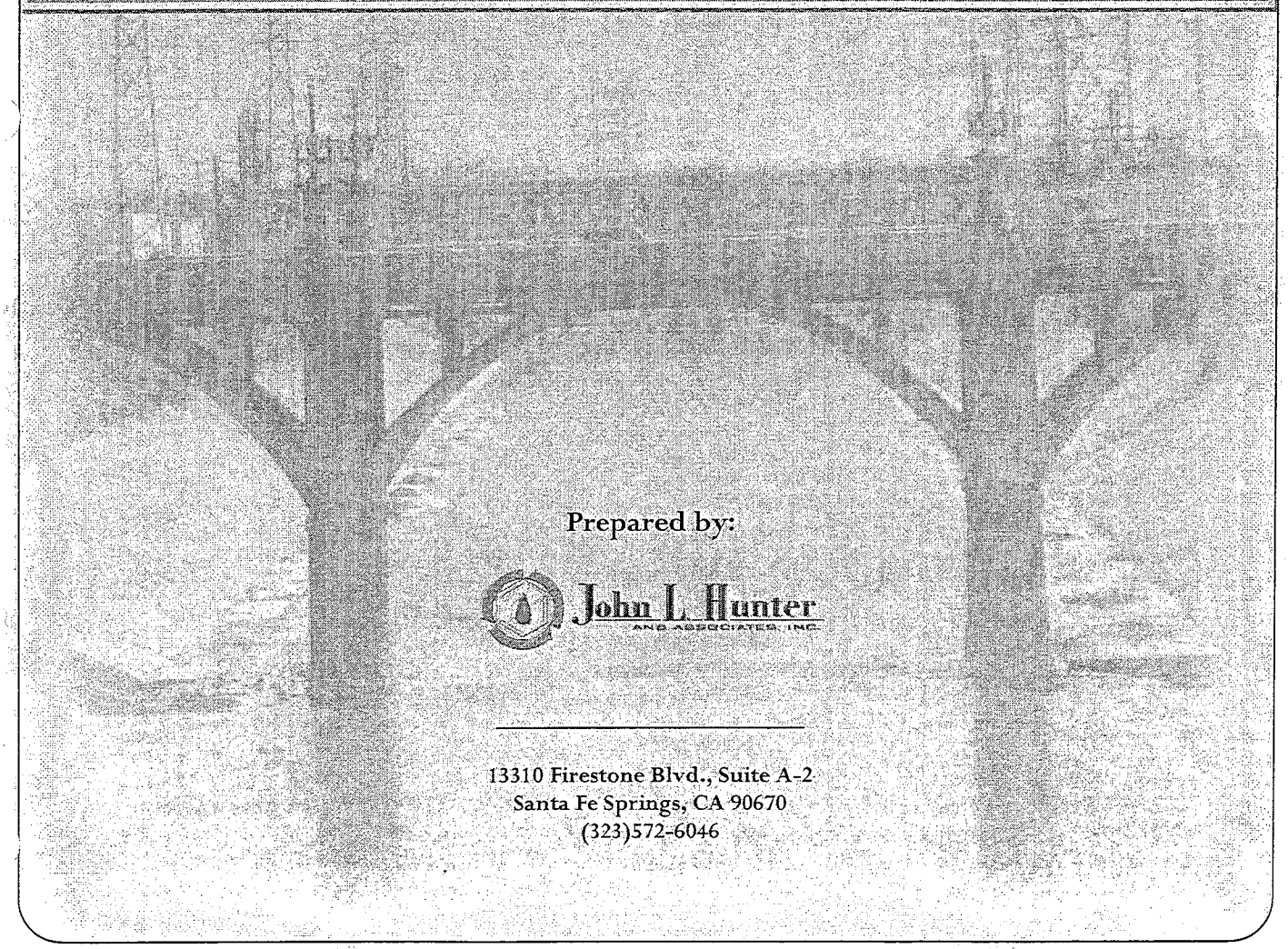
BMPs outlined in this report are tentative and are subject to modification as necessitated by future conditions.

[2] Footnote 2, Table 7.2.3, Attachment A to Resolution No. 2007-012 (August 9, 2007)

SOUTH PASADENA

DAILY GENERATION RATE 2008

October 13, 2008



Prepared by:

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SOUTH PASADENA

DAILY GENERATION RATE 2008

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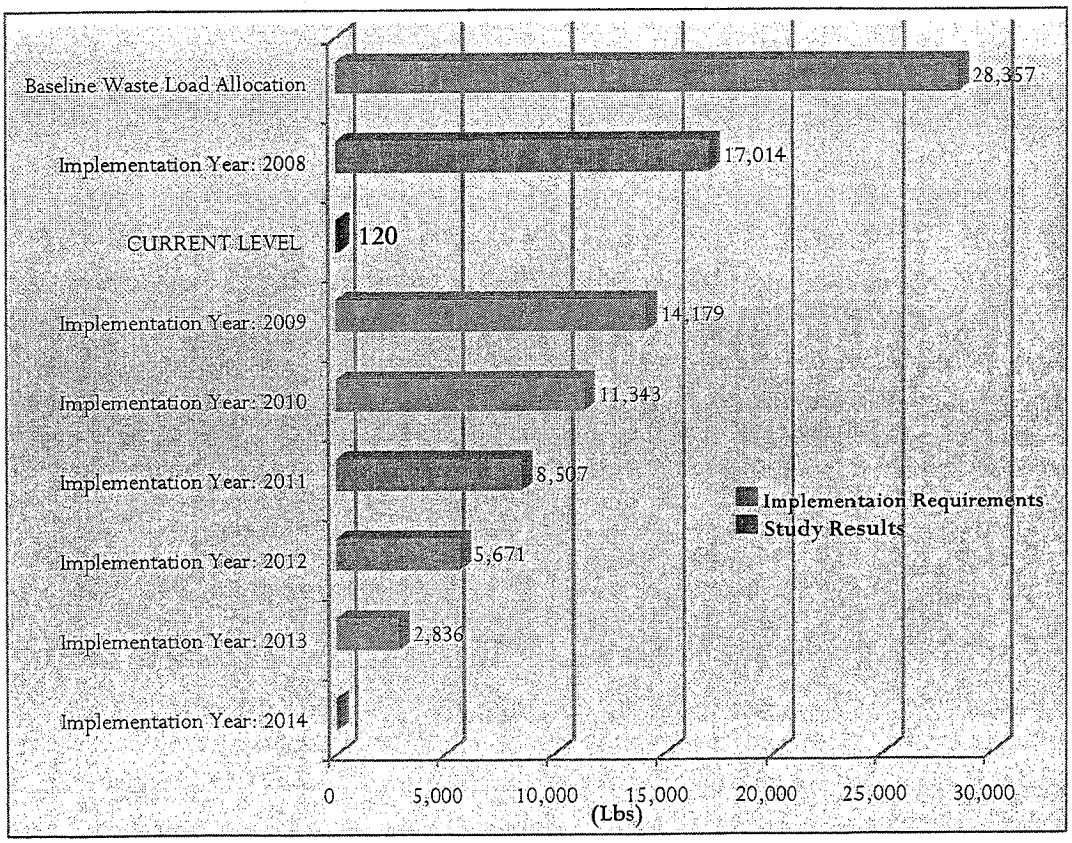
SOUTH PASADENA

DAILY GENERATION RATE 2008

Executive Summary

This report summarizes the activities and findings of the Daily Generation Rate (DGR) study conducted in the City of South Pasadena during the summer of 2008. The DGR was calculated in order to determine the effectiveness of the institutional control measures put in place to comply with this year's Trash Total Maximum Daily Loads (TMDLs) for the Los Angeles River Watershed. The DGR was used in a mass balance equation to estimate the amount of trash that is being deposited on the City's public streets. To establish the DGR, trash from approximately 10% of city curb miles in designated land use areas was collected during regularly scheduled street sweepings. The collected trash was sorted and classified. This data was then used to estimate the amount of trash flowing into the storm drain systems and to determine the level of compliance with the Trash TMDLs for the year. This study found that the trash is well below the Trash TMDL goal. Consequently, this study indicates that the City of South Pasadena is in compliance with the Trash TMDL for this year.

South Pasadena
Implementation Schedule[1]



[1] Compliance is based on the total discharge to the river during the periods of October 1st through September 30th of every year.

TMDL Background

Trash has been a significant water quality problem throughout the Los Angeles River Watershed. The Los Angeles Regional Water Quality Control Board (RWQCB) determined that current levels of trash in the LA River exceed the existing water quality objectives necessary to protect beneficial uses of the river and designated the river to be an impaired water body. Due to this designation, in August 2007, The RWQCB adopted the Trash Total Maximum Daily Loads (TMDLs), which set a numeric limit of zero tolerance rule for trash being discharged into the receiving water bodies from the storm drain system by the year 2014. The Trash TMDLs requires the Permittees to attain water quality standards by reducing the amount of trash discharged to the watershed by 40% in 2008[2] followed thereafter by ten percent annual increments and meeting a final water load allocation of zero trash discharge. To meet the numeric target of zero trash, the Permittees are required to implement end-pipe full capture structural controls; partial capture controls systems; and/ or institutional control measures.

County Baseline & Waste Load Allocations

To achieve the allowable TMDLs for trash, the Los Angeles RWQCB previously assigned Waste Load Allocations to the permittees. The Default Waste Load Allocation (DWLA) for the permittees in the earlier version of the trash TMDL was equal to 640 gallons of uncompressed trash per square mile. However, the permittees decided to seek refinement of the DWLA by implementing a Baseline Monitoring Plan. For this reason, a Baseline Monitoring was conducted by the Los Angeles County Department of Public Works. The Baseline Monitoring Program collected representative data from across the watershed to refine the DWLA presented in 2001 Trash TMDLs.

Each permittee is allowed 60% of their baseline Waste Load Allocation during the 2008 implementation year, and subsequent annual reductions of ten percent from the baseline allocation will be required through every year of implementation.

The 60% Baseline Waste Load Allocation for the City of South Pasadena by the Trash TMDL is[3]:

Weight (lbs)	Volume (gallons)
$SP_B = 17{,}014$	$SP_B = 8{,}944$

Daily Generation Rate

The DGR Study was broken down into two phases. Phase I consisted of physically collecting the trash while Phase II was to analyze the collected materials. Before initiating the study, it was necessary to designate the land use areas and outline the sweeping routes. Representative study areas were selected at random to include four priority land use types:

- High/Low density residential
- Commercial
- Open space and recreation
- Public/ Educational Facilities

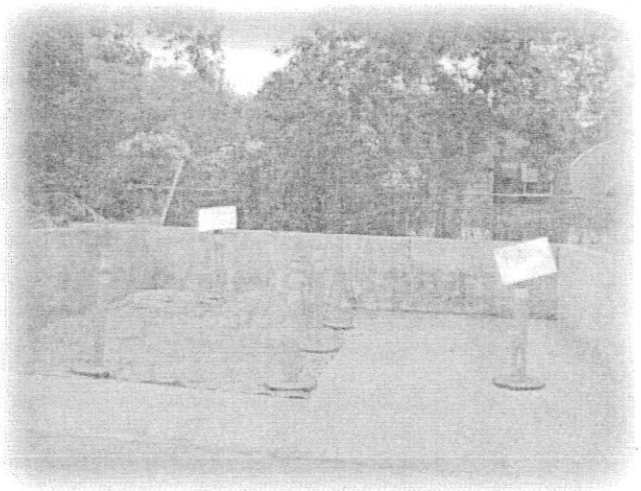
Precise curb miles and routes detailing each area were determined and provided to the sweeping contractor. The sweeper was instructed to sweep the assigned length with an empty load, record the odometer readings, and then unload at the City's Corporate Yard. According to Athens Services, sweepers equipped with vacuums and rotating systems were used during this study, which help avoid trash from entering the storm drain system while conducting their regular street sweeping and precluded the need to block the catch basin inlets.

[2] Compliance is based on the total discharged to the river during the period October 1, 2007 through September 30, 2008.
[3] The volume shown is in uncompressed volume.

To ensure that cars and vehicles were not obstructing the sweeping routes, the DGR street sweeping was conducted on the regularly scheduled sweeping days. The street sweeping procedure, currently in place for South Pasadena, is designated such that both sides of the street are swept on the same day.

Phase I:

Once the land use areas were designated, the corresponding streets within the areas were swept. At the conclusion of each sweeping route, the trash collected from the commercial and residential areas was then delivered directly to the City's Corporate Yard located at 630 Stoney Drive where the trash was sorted and quantified. The collected street sweepings were placed in separate piles to avoid mixing. Detailed maps and street sweeping routes are located on Pages 8-10, and summarized in the following table.



Picture 1: Designated area for the collected trash. Labels were used to avoid mixing.

Table 1:

Land Usage	Estimated Total Curb Curb Miles	Street Sweeping Routes	Curb Miles Designated
Commercial	10	Entire Downtown area was swept. Major streets: Fair Oaks Ave., Mission St., & Freemmont	5
Residential	86	Huntington Dr., Alhambra Rd., Maple St., Milan Ave., & Marendo Ave. Between 21st St and PCH, Olive Ave and Orange Ave	7
Public Facilities / Education Institutions	6	*Visual survey (walkthrough) was sufficient* Streets: Marengo Ave., Stratford Ave., Bank St., Rolling St., & Oak St.	1.5
Open Space / Recreation	12	*Visual survey (walkthrough) was sufficient* Street: Arroyo Dr.	1

During this study, only the trash collected for the commercial and residential areas were used for the calculation of the DGR. A visual inspection was sufficient to classify, categorize and evaluate the public facilities/educational institutions and open space/recreation due to their low land use areas and trash generation. The curb miles for these areas were combined with the residential area's curb miles to calculate a DGR for the entire city.

Phase II:

This phase consisted of the sorting and weighing which took place at the City's Corporate Yard. The loads of trash were delivered from the designated street and separated into the individual land use areas. These loads of trash where then unloaded onto large plastic tarps, and the odometer readings were recorded.

This study uses the definition of litter as defined by the California Government Code Section 68055.1(g):

"Litter means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the elands and water of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling or manufacturing."

The unloaded trash was then sorted. To facilitate this effort, two specifically designed and built table-mounted trash sorting sieves equipped with ¼ inch screen were used. The collected trash from each individual land use area was sorted, separated and classified using the following procedures:

1. Standard safety precautions were followed during the trash sorting operations.
2. Small piles of trash were grabbed, from only one specific load, and placed onto a sieve using a shovel.
3. Cultivators were then used to separate any anthropogenic trash within the pile.
4. A manual procedure (while wearing gardening gloves) was used to separate and removed all visible pieces of trash.
5. The trash was placed in five gallon buckets.

The remaining non-anthropogenic trash, vegetative matter, was then dumped on separate tarps.

This process was repeated for the remainder of the unloaded trash. Trash collected from each area was sorted and weighed separately. All piles were kept separated to avoid combining the trash from the two different areas.

Picture 2: Obtaining the weight of trash.

Measuring

A digital scale was used to weigh the trash and a 5-gallon bucket to estimate its volume. Each full bucket, of anthropogenic trash, was weighed separately, concluding with a final characterization by different type of constituents.

Picture 3: Trash collected during this study.

Disposal

The piles of trash were placed on tarps and were left there at the City's Corporate Yard for proper disposal.

Street Sweeping Results

Data collected from the trash sorting is summarized in the following table:

Table 2:

Land Usage	Swept Curb Miles	Trash (lbs)	Days Since Last Sweeping
Commercial	5	4	2
Residential	7	5.7	14
Public Facilities / Educational Institutions [1]	1.5	Less than 2 lbs	14
Open Space / Recreation [1]	1	Less than 2 lbs	14
Total	**12**	**9.7**	

Characterization

The characterization of trash was done by separating it according to the following constituents.

- Glass: bottles, scraps, broken windows
- Paper: bags, newspaper, scraps, wrappers
- Plastic: bags, bottles, jugs, Styrofoam
- Yard Waste: clippings, branches, grass, leaves, plants
- Other: cigarette butts, food, metals, miscellaneous

The estimated composition of the trash loads for each land use is summarized in the following table:

Table 3: Sweeper Load Composition

Land Usage	Green Waste	Plastic	Paper	Glass	Metal
Commercial	90%	4%	5%	0%	1%
Residential	95%	3%	1.9%	0%	0.1%
Public Facilities / Educational Institutions	98%	0.5%	1.5%	0%	0%
Open Space / Recreation	95%	1.5%	3.5%	0%	0%

DGR per Land Use Area

An estimate of the trash produced for each land use area was calculated by taking the amount of trash collected for the study and extrapolating that value to the remaining number of curb miles for that land use area. The DGR was then determined by converting the trash per week (dependant on street sweeper's schedule) to trash collected per day.

Table 4: DGR[4]

Land Usage	DGR (lbs)
Commercial	8
Residential[5]	6
Total	14

[4] DGR calculations can be found on Page 8

[5] Includes public facilities, educational, and open space.

Trash Discharge Levels

The annual amount of trash that is being discharged into the storm drain system on a yearly basis was determined using the DGR values, the number of rain events during the year, and the amount of trash that is removed from the storm drain systems by the Los Angeles County Public Works Department (LACPW) on a yearly basis. Information and values obtained from the Baseline Monitoring Reports from the LACPW were extrapolated where appropriate.

The stormwater discharge for a given rain event was calculated by multiplying the number of days since the last street sweeping by the DGR and subtracting the volume of the trash recovered during the annual catch basin cleanouts conducted by the LACPW. The average of number days between a rain event and last street sweeping was estimated to be 7 for the residential areas, since sweeping takes place once every two weeks, and 1.0 for the commercial area since sweeping takes place three times a week. The estimated weight of trash draining to catch basins during raining events was obtained by multiplying the average number of days between a rain event and the last street sweeping by the already obtained DGR values. The values obtained were 42 lbs for the residential area and 8.0 lbs for the commercial area. The annual weight of trash draining to the catch basins was estimated by multiplying those previous obtained values by the total number of rain occurrences during the 2007-2008 season (11 rain events recorded[6]). These values were the estimated amount of trash being discharged into the storm drain system but not taking in consideration the total amount of trash that was removed by LACPW during catch basin cleanouts. The final and actual discharge was obtained by subtracting the values obtained for the annual weight of trash draining to catch basins from rain events by the estimated weight of trash removed by county.

Table 4 shows the calculated values of trash washed into the storm drain system in 2008.

Table 4: Stormwater Discharge

Land Usage	Discharge (lbs)
Commercial	16
Residential	104
Total	**120**

Conclusion

The results obtained during this study indicate an effective implementation of institutional controls such as: public education and enhanced street sweeping. Based on these results, the City of South Pasadena has shown a trash reduction greater than the required by the Trash TMDL. The allowed 60% of the baseline Waste Load Allocation during this first year of implementation for the City of South Pasadena is 17,014 lbs. The final discharge obtained for the amount of trash flowing into the storm drain systems is 120 lbs which clearly indicates a full compliance with the Trash TMDL for this year.

Waste Load Allocation 2008 (lbs)	Calculated Stormwater Discharge 2008 (lbs)
17,014	120

[6] Value obtained from the National Oceanic and Atmospheric Administration (NOAA) National Weather Service. Only rain events greater than 0.25 inch and not within 3 days of another event where considered

DGR Calculations

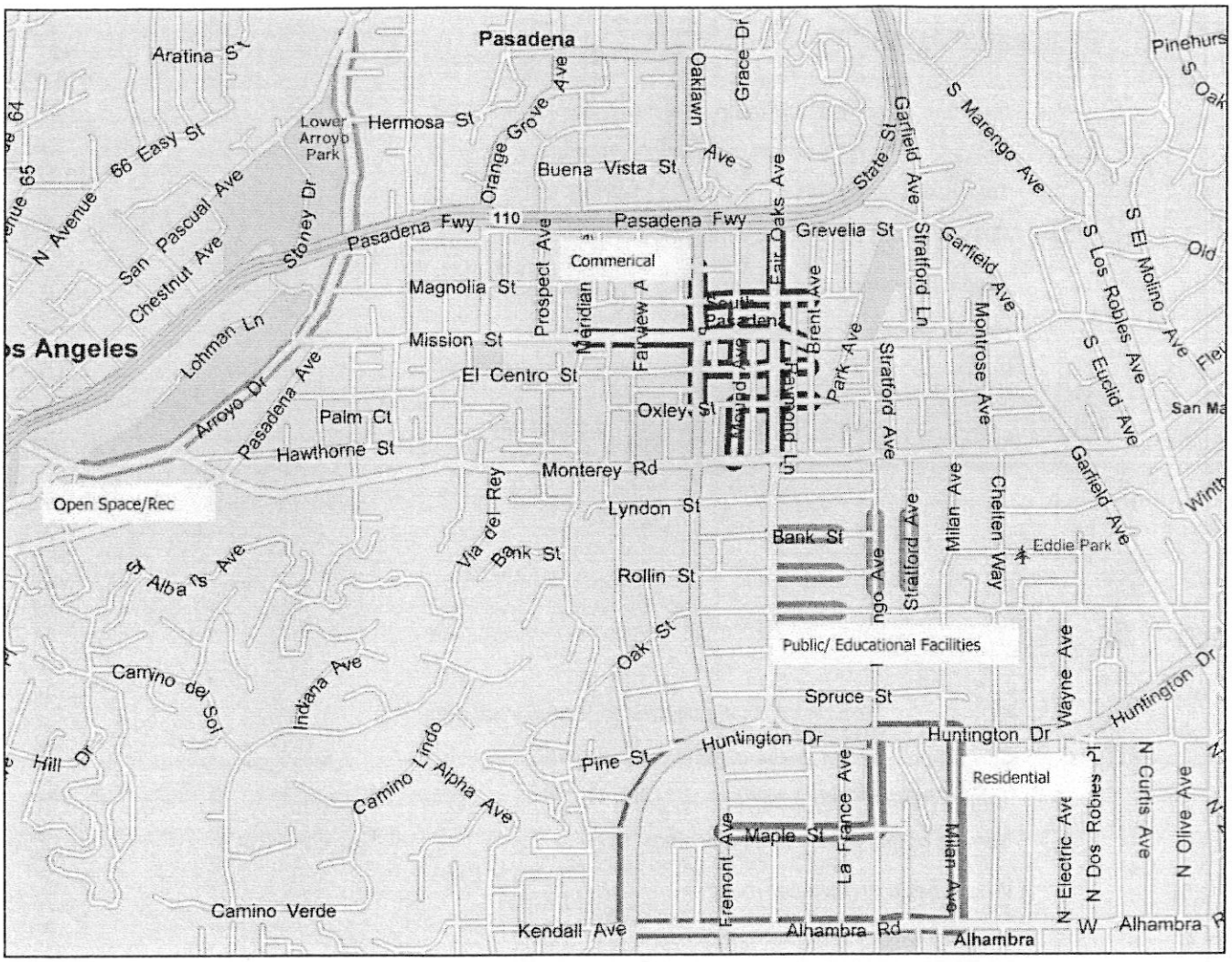
Residential Area

W_R=	*5.7 lbs*	*Weight of trash collected for residential area*
C_R=	*7.0*	*Total swept residential curb miles*
T_R=	*Total residential miles*	104
L_S=	*Number of days since last sweeping*	14
	Weight per curb mile per month =	$[(W_R / C_R)/ L_S]*31$ $[(5.7/7.0)/14]*31$
	Weight per curb mile per month =	*1.8 lbs*
	DGR=	$[(1.8)*(T_R)]/31$
	Final Residential DGR=	**6.0 lbs/ day**

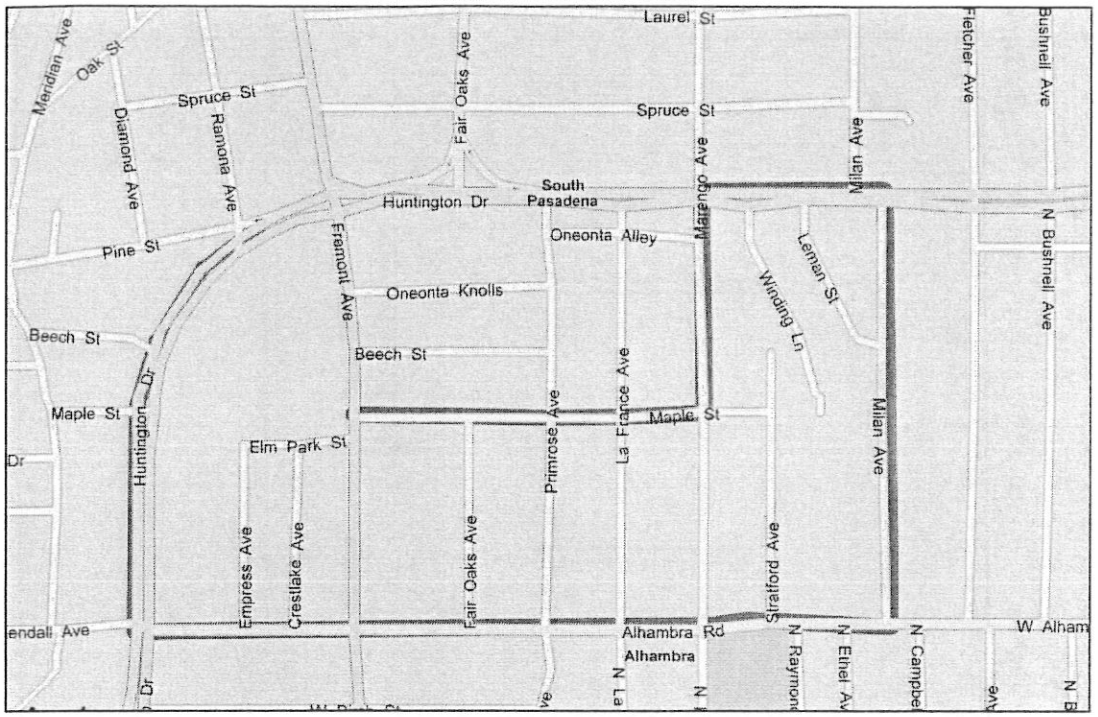
Commercial Area

W_C=	*4.0*	*Weight of trash collected for commercial area*
C_C=	*5*	*Total swept commercial curb miles*
T_C=	*Total commercial curb miles*	10
L_S=	*Number of days since last sweeping*	1
	Weight per curb mile per month =	$[(W_R / C_R)/ L_S]*31$ $[(4.0/5)]*31$
	Weight per curb mile per month =	*24.5 lbs*
	DGR=	$[(24.5)*(T_C]/31$
	Final Commercial DGR=	**8.0 lbs/ day**

AREA OF STUDY

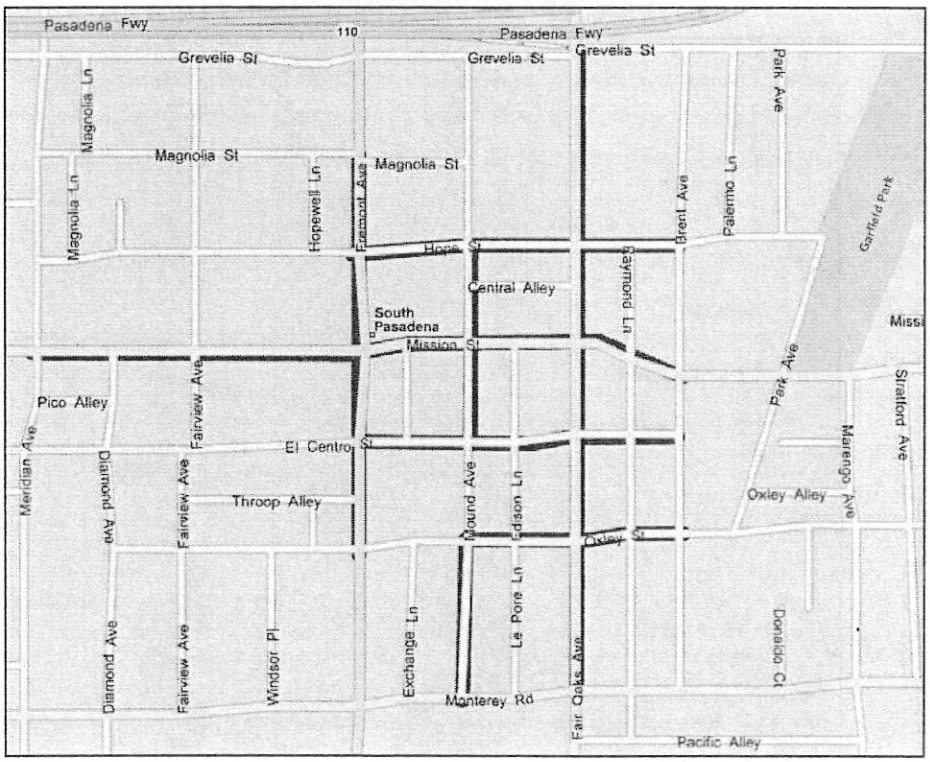


RESIDENTIAL AREA



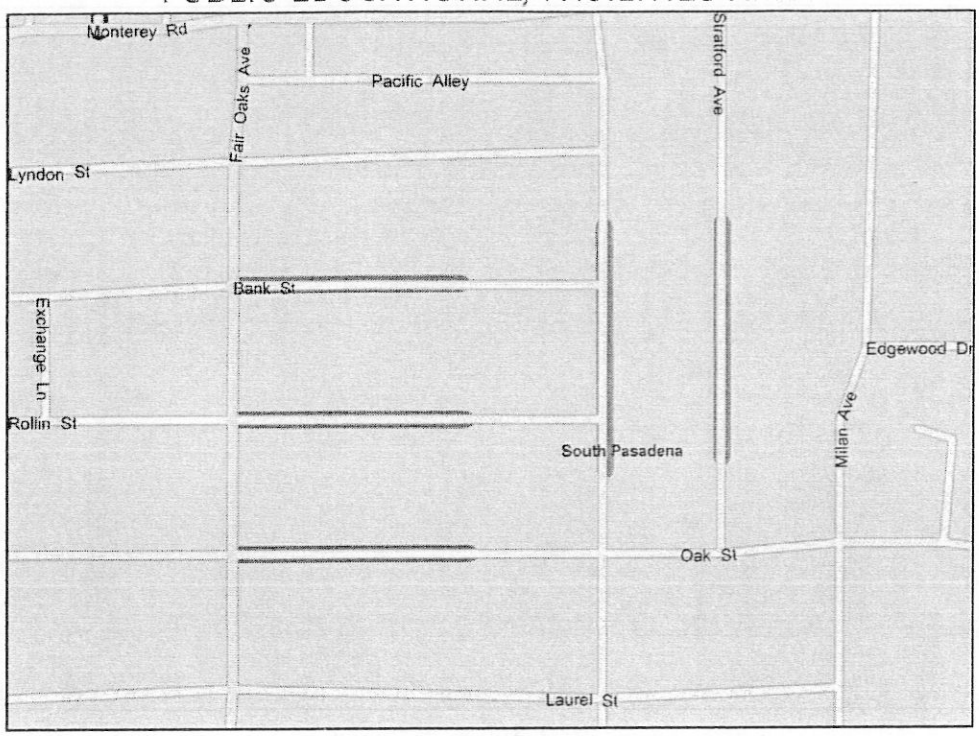
Study Mileage: 7 curb miles

COMMERCIAL AREA



Study Mileage: 5 curb miles

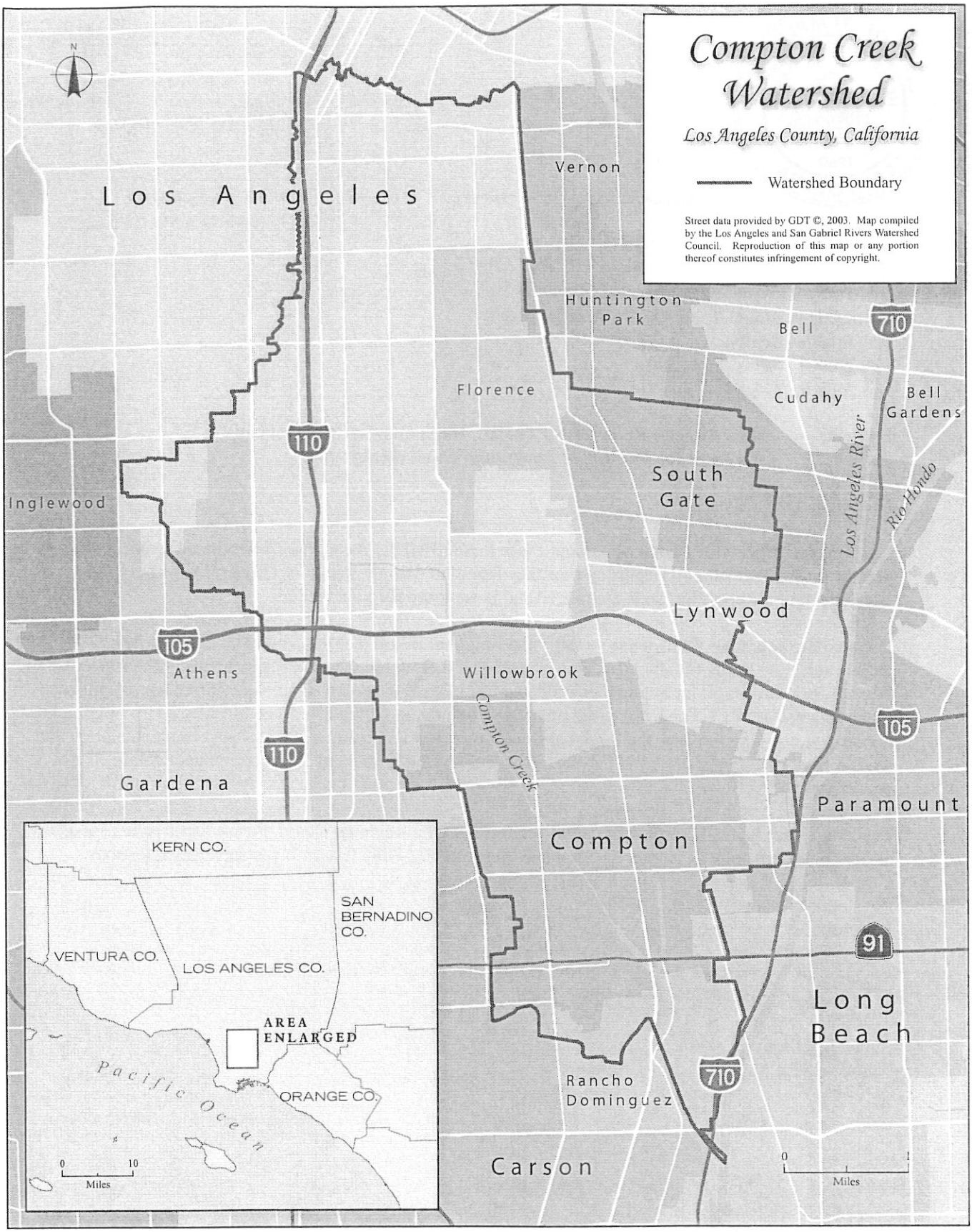
PUBLIC EDUCATIONAL/FACILITIES AREA



Study Mileage: 1.5 curb miles

OPEN SPACE/RECREATION AREA

Study Mileage: 1 curb mile


Compton Creek Watershed
Los Angeles County, California
Watershed Boundary
Street data provided by GDT ©, 2003. Map compiled by the Los Angeles and San Gabriel Rivers Watershed Council. Reproduction of this map or any portion thereof constitutes infringement of copyright.
N
Los Angeles
Vernon
Huntington Park
Bell
Florence
Cudahy
Bell Gardens
Inglewood
South Gate
Los Angeles River
Rio Hondo
Lynwood
Athens
Willowbrook
Compton Creek
Gardena
Paramount
Compton
Long Beach
Rancho Dominguez
Carson
110
105
710
91
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1
Miles
KERN CO.
SAN BERNADINO CO.
VENTURA CO.
LOS ANGELES CO.
AREA ENLARGED
ORANGE CO.
Pacific Ocean
0
10
Miles

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2009 APR 24 PM 2 17
CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

April 22, 2009

Ms. Tracy Egoscue, Executive Office
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: **Los Angeles River Trash TMDL, Implementation Report and Request for Finding of Functional Equivalency**

Dear Mrs. Tracy Egoscue:

Los Angeles River Trash Total Maximum Daily Load (TMDL) Basin Plan Amendment requires cities to prepare an Implementation Report on how they intend to comply with this TMDL. Thus, the Implementation Report has been completed and is enclosed for your review.

It is also the intention of this letter to notify the Regional Board that the City, after conducting a Daily Generation Rate Study (DGR), has demonstrated that it is within the established levels of the scheduled Waste Load Allocation for September 2008 and has indeed, exceeded storm water discharge compliance requirements for 2013. The City, based on the DGR study, is within 5% of the ultimate 2013-14 goal. For this reason, the City requests the Regional Board to review and analyze the enclosed Implementation and DGR reports and consider for the City as having achieved a functional 100% compliance rating equivalency.

The City's staff is available to discuss this request with the Regional Board. Please feel free to contact me or our consultant John L. Hunter & Associates at (562) 802-7880 Ext.25 if you have any questions.

Sincerely,
City of Temple City

Chuck Erickson
Public Service Manager

Encl: Implementation Report
DGR Report

14-446

LOS ANGELES RIVER
TRASH TOTAL MAXIMUM DAILY LOAD (TMDL)

CITY OF TEMPLE CITY
Implementation Report

March 23, 2009

Submitted to:

Tracy Ecosgue
Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, California 90013

By: COPY

Original Signed

Chuck Erickson
Public Services Manager

Implementation Report

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CITY OF TEMPLE CITY

Implementation Report

Executive Summary

On September 23, 2008, the Trash Total Maximum Daily Loads (TMDLs) became effective under Resolution No. 2007-012 of the Regional Water Quality Control Board (RWQCB). As a result, the City of Temple City is required to prepare an implementation report outlining how the City intends to comply with the TMDL. The goal of this TMDL is to reduce the amount of anthropogenic trash and litter in stormwater runoff to zero. The TMDL establishes a series of phased annual reductions beginning in the 2007-08 implementation year[1] and continuing through to the 2013-14 implementation year when the numeric target of zero trash discharge is to be achieved. The City, after conducting a Daily Generation Rate Study (DGR), has demonstrated that it is within the required compliance requirements as set forth in the Trash TMDL. Indeed, the City is within five percent (5%) of the ultimate goal.

This Implementation report, as required by the Regional Board, is due March 23, 2009 and identifies specific management practices and activities designed specifically to reduce trash discharges from urban sources in the City.

The City's tentative implementation report contains the following elements:

- a description of control measures that will continue to be implemented to achieve the annual reductions and the final zero trash discharge

The overall goal is to define a set of measures that will help achieve the zero trash discharge requirements and to meet water quality standards in the Los Angeles River Watershed.

Introduction & TMDL Background

A Total Maximum Daily Load (TMDL) for anthropogenic (man-made) trash was originally established for the Los Angeles River in September of 2001. However, this TMDL was subsequently overturned by the courts. A subsequent TMDL was eventually approved by the Regional Board on August 7, 2007 and the State Water Resources Control Board on April 15, 2008, eventually becoming effective on September 23, 2008. The Trash TMDLs sets a numeric limit of zero trash being discharged into the receiving water bodies from the storm drain system by the 2013-2014 implementation year and requires permittees to attain water quality standards by reducing the amount of trash discharged to the watershed by 40% in 2008 followed thereafter by ten percent annual increments and meeting a final waste load allocation of zero trash discharge. To meet the numeric target of zero trash, the permittees are required to implement end-pipe full capture structural controls; partial capture controls systems; and/or institutional control measures.

The Baseline Waste Load Allocation for the City of Temple City, established by the Trash TMDL, is 31,819 lbs and the allotted 40% reduction goal for the 2007-2008 rainy season is not to exceed 19,091 lbs.

[1] Implementation years are October 1st through September 30th of every year

City information

The City of Temple City is one of the cities located in the west San Gabriel Valley. According to the 2000 US census, the City has a population of 33,377 with 11,338 households. The City's total square mileage is estimated to be 4.02 square miles, which entirely discharges to the Los Angeles River Watershed. The City's primarily land use types, according to Appendix 1 of the Trash TMDL are:

Land Usage Type	Square Miles	Percentage
High Density Residential	3.44	85.6%
Low Density Residential	0	0
Commercial	0.27	6.7%
Industrial	0.08	2%
Public Facilities	0.07	1.7%
Educational Institutions	0.12	3%
Military	0	0
Transportation	0.01	0.2%
Mixed Urban	0	0
Open Space	0	0
Agriculture	0	0
Water	0	0
Recreation	0.03	0.7%
TOTAL	**4.02**	**100%**

Compliance Requirements

The RWQCB has provided two methods that permittees can implement to achieve compliance with the TMDL Baseline WLA, 1) installation of full capture systems; 2) implementation of partial capture systems and institutional controls.

According to the RWQCB, a permittee will be deemed in compliance with the Trash TMDL in areas served by Full Capture Systems within the Los Angeles River Watershed.

The first compliance point was September 30, 2008 when the City was required to demonstrate that it has met a forty percent reduction in the assigned Waste Load Allocation. After this first initial reduction, compliance will be evaluated based on a rolling 3-year average, roughly equivalent to ten percent annual increments until achieving the final numeric target.

A summary of the TMDL schedule, compliance dates, and future required reductions is presented as follows:

Implementation Year	Waste Load Allocation	Temple City WLA (lbs)
		31,819
Year 1: September 30, 2008	60% of Baseline Waste Load Allocation	19,091
Year 2: September 30, 2009	50% of Baseline Waste Load Allocation	15,910
Year 3: September 30, 2010	40% of Baseline Waste Load Allocation	12,728
Year 4: September 30, 2011	30% of Baseline Waste Load Allocation	9,546
Year 5: September 30, 2012	20% of Baseline Waste Load Allocation	6,364
Year 6: September 30, 2013	10% of Baseline Waste Load Allocation	3,182
Year 7: September 30, 2014	0% of Baseline Waste Load Allocation	0

Compliance Strategy

The City's initial approach to determine compliance and to study alternative methods to meet the objectives of the Trash TMDL was to conduct a Daily Generation Rate Study, which was performed during the summer of 2008. It was through this method that the City was able to quantify the amount of trash generated and its estimated annual discharge volumes and rates. These results have provided the City with information on being able to determine the most appropriate methods necessary to ensure future compliance.

The City, based on a Daily Generation Rate (DGR) study conducted in 2008[2], has achieved a calculated discharge level of 1,008 pounds of uncompressed trash per year (95% reduction from the baseline WLA). Consequently, the City is within the established levels of the scheduled Waste Load Allocations for September 2008. However, and because the Regional Board determines compliance based on a rolling average, the City has indeed, surpassed the storm water discharge compliance requirements for 2013. The DGR report detailing compliance strategies and methods used to calculate these rates has been included with this implementation report as a separate document for your review.

Proposed Implementation Plan

The City's implementation plan includes a description of the control measures that have and will continued to be employed in order to reduce and achieve the trash reductions as required by this TMDL, as well as a tentative schedule for their implementation.

The City's plans for compliance include a series of controlled measures that focus on the following:

- Enhanced street sweeping: more frequent sweeping is conducted for higher trash generating areas.
- Public educational antilittering outreach: the City enforces antilittering laws and educates its residents mainly through community involvement through programs and events. The use of various methods to disseminate information has also included and will continue to include newspapers, flyers and posters.
- Catch basin cleaning: the City and the Los Angeles County Department of Public Works (LACDPW), Flood Control District, are responsible for maintenance of city and county owned storm drains and catch basins. Trash screens are already installed at selected locations and annual inspections and maintenance is conducted.
- Installing catch basin inserts: the County-owned catch basins may be retrofitted with inserts in the near future once LA County finalizes their insert installation policy.

Implementation Plan Schedule

The following table represents a tentative schedule on how the City intends to comply with the Trash TMDL.

Implementation Year	Target Baseline WLA (lbs)	Compliance Strategies
Year 1: September 30, 2008	19,091	*Institutional Controls* *DGR Study was conducted in the summer*
Year 1: September 30, 2009	15,910	*Institutional Controls* *The City is requesting the Regional Board for a finding of a 100% compliance equivalency* *Future actions will be contingent upon discussion with the Regional Board*

[2] DGR Report is included as a separate document

The City is requesting the Regional Board to grant a finding of a functional 100% compliance equivalency and as having fulfilled the final waste load allocation goals. Future activities will be dependent upon the Regional Board's response to this request.

Review Strategy & Conclusion

It has been through institutional control measures that the City has been able to achieve a discharge of less than five percent (5%) of the ultimate trash reduction goals and will therefore, continue to implement such measures.

It is important to note, that the Regional Board will review and reconsider the final Waste Load Allocations once a reduction of 50% has been achieved and sustained in the watershed[3]. For this reason and based on current or future DGR results, the City may request a TMDL reopening. Consequently, the City strongly encourages the Regional Board to analyze the successful results and institutional controls set forth and grant the City of South Pasadena as having fulfilled all requirements of this TMDL and should therefore, require no further implementation actions.

In conclusion, the City of Temple City is committed on maintaining its efforts to comply with all water quality requirements and proud to take a leadership role in the regions efforts to improve water quality standards. The City will continue to implement institutional control measures and continue to educate its residents to further increase their knowledge towards water quality problems.

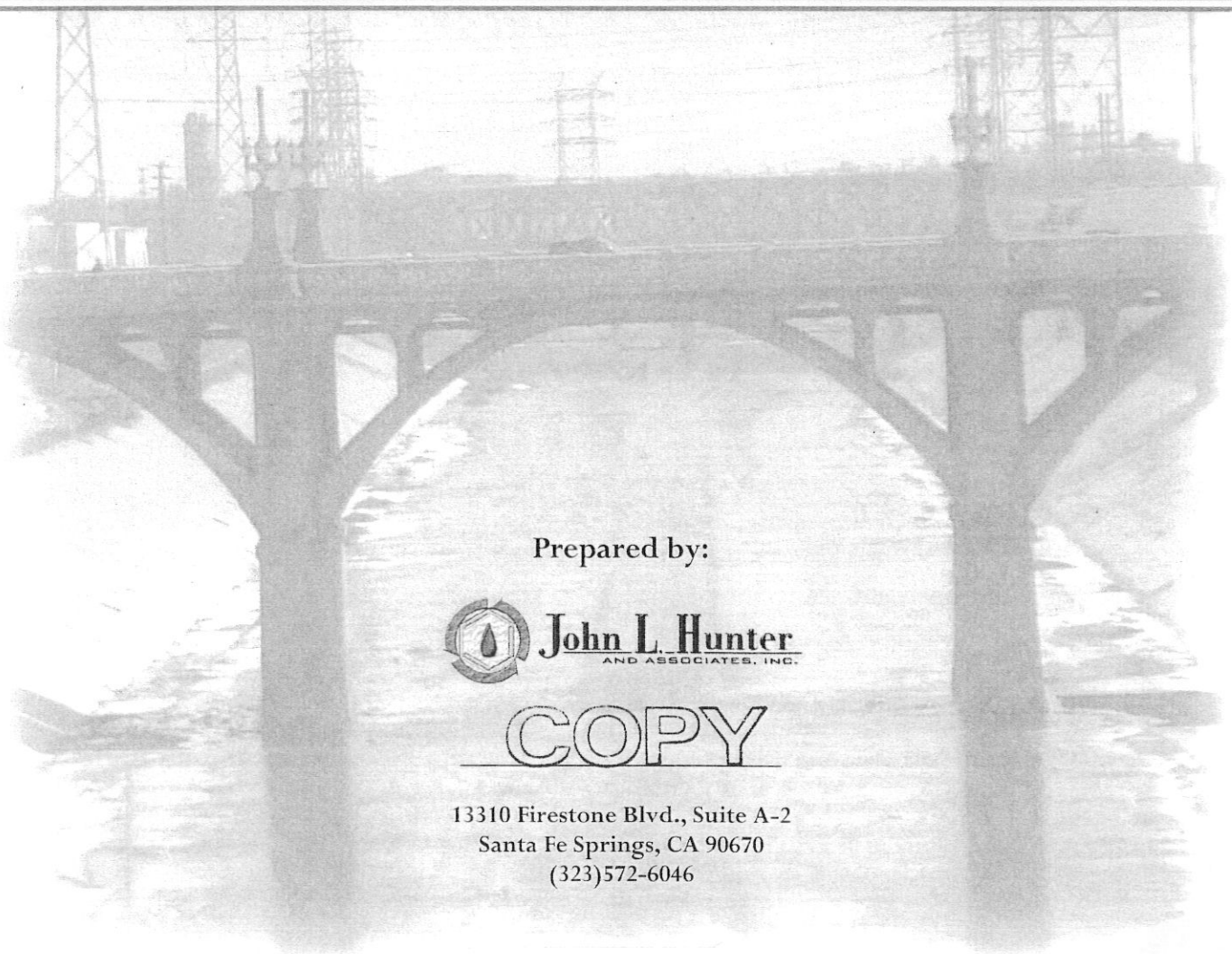
BMPs outlined in this report are tentative and are subject to modification as necessitated by future conditions.

[3] Footnote 2, Table 7.2.3, Attachment A to Resolution No. 2007-012 (August 9, 2007)

TEMPLE CITY

DAILY GENERATION RATE 2008

October 31, 2008



Prepared by:

John L. Hunter
AND ASSOCIATES, INC.

COPY

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Santa Fe Springs, CA 90670
(323)572-6046

TEMPLE CITY

DAILY GENERATION RATE 2008

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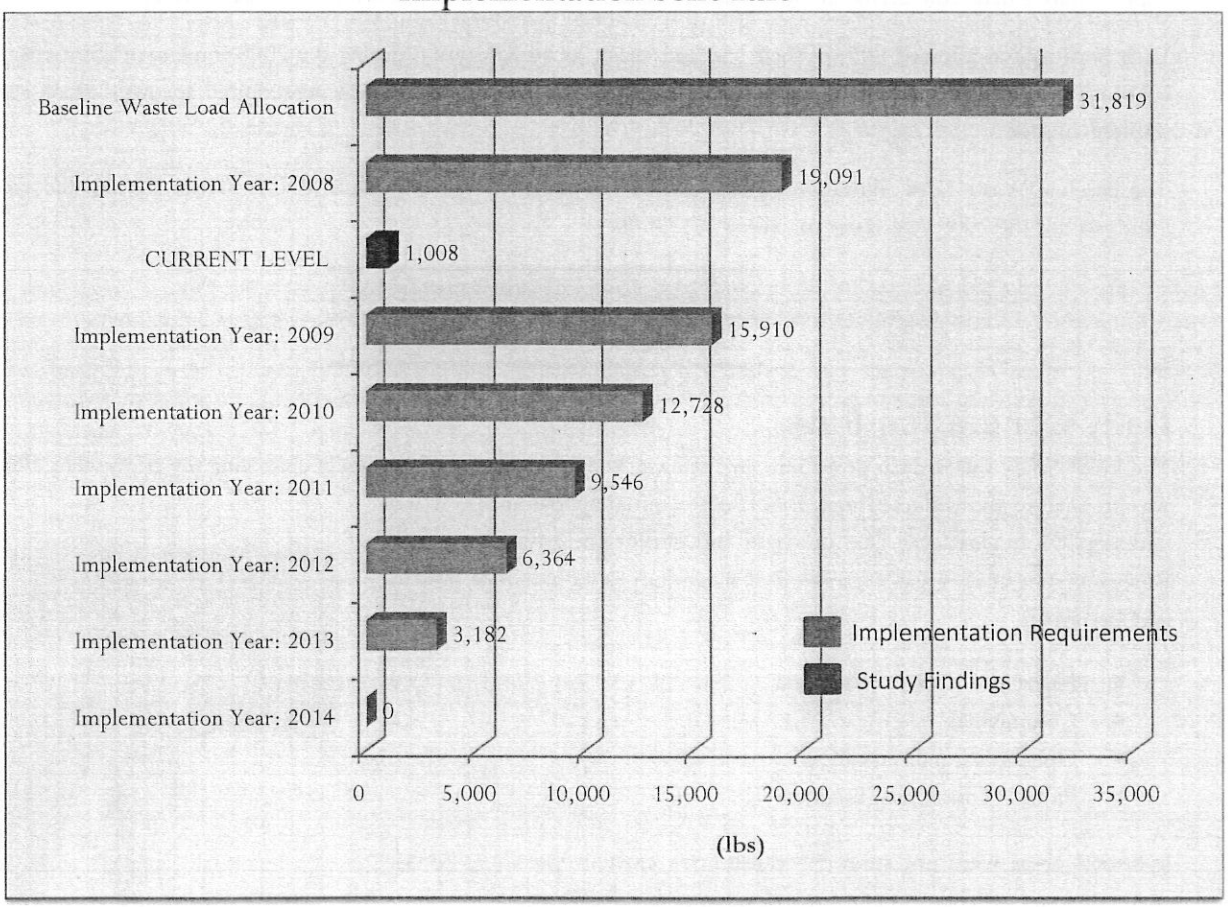
TEMPLE CITY

DAILY GENERATION RATE 2008

Executive Summary

This report summarizes the activities and findings of the Daily Generation Rate (DGR) study conducted in the City of Temple City during the summer of 2008. The DGR was calculated in order to determine the effectiveness of the institutional control measures put in place to comply with this year's Trash Total Maximum Daily Loads (TMDLs) for the Los Angeles River Watershed. The DGR was used in a mass balance equation to estimate the amount of trash that is being deposited on the City's public streets. To establish the DGR, trash from approximately 10% of city curb miles in designated land use areas was collected prior to regularly schedule street sweepings. The collected trash was sorted and classified. This data was then used to estimate the amount of trash flowing into the storm drain systems and to determine the level of compliance with the Trash TMDLs for the year. This study found that the trash is well below the Trash TMDL goal. Consequently, this study indicates that the City of Temple City is in compliance with the Trash TMDL for this year.

Temple City
Implementation Schedule[1]



[1] Compliance is based on the total discharge to the river during the periods of October 1st through September 30th of every year.

TMDL Background

Trash has been a significant water quality problem throughout the Los Angeles River Watershed. The Los Angeles Regional Water Quality Control Board (RWQCB) determined that current levels of trash in the LA River exceed the existing water quality objectives necessary to protect beneficial uses of the river and designated the river to be an impaired water body. Due to this designation, in August 2007, The RWQCB adopted the Trash Total Maximum Daily Loads (TMDLs), which set a numeric limit of zero tolerance rule for trash being discharged into the receiving water bodies from the storm drain system by the year 2014. The Trash TMDLs requires the Permittees to attain water quality standards by reducing the amount of trash discharged to the watershed by 40% in 2008[2] followed thereafter by ten percent annual increments and meeting a final water load allocation of zero trash discharge. To meet the numeric target of zero trash, the Permittees are required to implement end-pipe full capture structural controls; partial capture controls systems; and/ or institutional control measures.

County Baseline & Waste Load Allocations

To achieve the allowable TMDLs for trash, the Los Angeles RWQCB previously assigned Waste Load Allocations to the permittees. The Default Waste Load Allocation (DWLA) for the permittees in the earlier version of the trash TMDL was equal to 640 gallons of uncompressed trash per square mile. However, the permittees decided to seek refinement of the DWLA by implementing a Baseline Monitoring Plan. For this reason, a Baseline Monitoring was conducted by the Los Angeles County Department of Public Works. The Baseline Monitoring Program collected representative data from across the watershed to refine the DWLA presented in 2001 Trash TMDLs.

Each permittee is allowed 60% of their baseline Waste Load Allocation during the 2008 implementation year, and subsequent annual reductions of ten percent from the baseline allocation will be required through every year of implementation.

The Baseline Waste Load Allocation for the City of Temple City by the Trash TMDL is 31,819 lbs and the allotted 60% goal for the 2008 year is not to exceed 17,370 lbs.

Weight (lbs)	Volume (gallons)
$SP_B = 31{,}819$	$SP_B = 19{,}313$

Daily Generation Rate

The DGR Study was broken down into two phases. Phase I consisted of physically collecting the trash while Phase II was to analyze the collected materials. Before initiating the study, it was necessary to designate the land use areas and outline the sweeping routes. Representative study areas were selected at random to include four priority land use types:

- High/Low density residential
- Commercial
- Open space and recreation
- Public/ Educational Facilities

Industrial areas were not studied because none exist in the City. Precise curb miles and collection routes were developed (see Figures).

Picture 1: Trash being collected

[2] Compliance is based on the total discharged to the river during the period October 1, 2007 through September 30, 2008.

Phase I:

Once the land use areas were designated, a manual pick-up was performed. To facilitate this process, a pick-up reaching tool was used. Pieces of trash ¼ of an inch and greater were collected, anything smaller than that is not subject to the trash TMDL. Manual collection also prevented trash entering the catch basins and precluded the need to block the catch basin inlets. At the conclusion of each collection route, the trash collected from the commercial, residential, Public Facilities/ Educational Institutions, Open Space/Recreation areas was then delivered directly to the City's Corporate Yard where the trash was quantified. The collected street litter was placed in separate piles to avoid mixing. Detailed maps and street sweeping routes are located on Pages 9-10, and summarized in the following table.

Table 1:

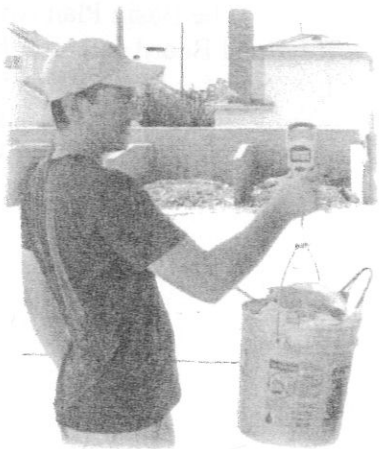
Land Usage	Streets Studied	Estimated Total Curb Miles	Curb Miles Designated
Commercial	Rosemead Blvd., Las Tunas Dr. & Temple City Blvd.	9	1.5
Residential	Camelia Ave, Bareda Ave, Kauffman Ave, Golden West Blvd, Agnes Ave, Hallowell, Arden, Daines, Glickman, Lynrose, Robinhood, Nadine, Ryland Ave, La Rosa Dr, Pal Mal Ave, Doreen Ave, Halifax Rd.	120	7
Public Facilities/ Education Institutions	Camino Real., Temple City Blvd. & Lemon Ave.	5	0.4
Open Space/ Recreation	Bogue St., Glickman Ave., Gracewood Ave., Daines Ave.	1	0.6

Phase II:

This phase consisted of the evaluating and weighing the trash which took place at the City's Corporate Yard. The loads of trash were delivered from the designated routes and separated into the individual land use areas.

This study uses the definition of litter as defined by the California Government Code Section 68055.1(g):

"Litter means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the elands and water of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling or manufacturing."



Picture 2: Obtaining the weight of trash.

Since the trash was collected by using a manual pick-up procedure, sorting of the collected materials was unnecessary, which avoided the need to separate green waste from anthropogenic trash. The collected trash from each individual land use area was then manually quantified and classified using the following procedures:

1. Standard safety precautions were followed during the trash weighing process.
2. Gardening gloves were utilized to grab the trash, from only one specific load, and placed onto 5-gallon buckets.

City of Vernon

COMMUNITY SERVICES & WATER DEPARTMENT
Samuel Kevin Wilson, Director of Community Services & Water
4305 Santa Fe Avenue, Vernon, California 90058
Telephone (323) 583–8811 Fax (323) 826-1435

RECEIVED
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CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

March 23, 2009

California Regional Water Quality Control Board
Los Angeles Region
320 W. 4th Street, Suite 200
Los Angeles, CA 90013
Attn: Ms. Tracy J. Egoscue, Executive Director

SUBJECT: Los Angeles River Watershed Total Maximum Daily Load for Trash – Implementation Report

Dear Ms. Egoscue:

The Basin Plan Amendment established under Resolution No. 07-012 of the Los Angeles Regional Board calls for the preparation of an implementation report for the Trash TMDL of the Los Angeles River Watershed. The City of Vernon has prepared the report and herein transmits a copy for your records. If you require additional information, please contact Sherwood Natsuhara of my staff at (323) 583-8811, Ext. 305.

Sincerely,

Samuel Kevin Wilson, P.E.
Director of Community Services & Water

SKW/sn
Enclosure

City of Vernon

Los Angeles River Trash TMDL

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CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

Implementation Report

March 2009

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Public Works

The City of Vernon's Street Division is responsible for the maintenance and cleanup of over 47-miles of street. It is the goal of the Division to keep the City's streets as clean as possible. In this pursuit, the City contracts with a contractor, Common Area Maintenance (CMA), to remove trash and debris from City streets and sidewalks to insure the City is kept clean and to prevent residual trash from reaching the Los Angeles River. CMA works full time, year round to maintain the cleanliness of the public right of way. The City also utilizes the services of City Street Division utility personnel to periodically patrol the City for any waste materials that have been illegally dumped on City property or right of way. Collected trash is taken to the City's Recycle Center where it is separated into bins for green waste, metals, rubber or general trash. These bins are picked up on an as needed basis and incorporated into an environmentally responsible recycling system.

The City of Vernon contracts with Consolidated Disposal Service for the collection and disposal of solid waste and recycling services for all City owned facilities, including City Hall. The solid waste is disposed of at landfills. Consolidated has dedicated trash containers at the City's Recycle Station, located at 2221 55th Street, earmarked for recyclable general trash, green waste, and tires. The City also contracts with Eco Metals for the pickup and disposal of metals. Like Consolidated, Eco has a dedicated trash container for the metals located at the Recycle Station.

In addition, the City of Vernon contracts for citywide street sweeping services. Each week, the City's contractor using state of the art non-polluting street sweepers sweeps every street in the City. All street sweepers must meet the South Coast Air Quality Management District's emission requirement. The sweepers are monitored by a GPS system that records the location and speed of the street sweepers to ensure that the sweeping is done on time and with the effectiveness required. The quarterly reporting of the collected debris shows that on, the average, 680 tons of debris are collected and disposed of each year into approved landfills.

The Street Division maintains its own street sweeper to remove trash and debris from the street and curb gutters when a report of trash dumping is received in order to prevent this waste from migrating to the Los Angeles River or to nearby communities. Moreover, the Sewer Division cleans and removes trash from approximately 422 catch basins connected to 12 miles of storm drain lines throughout the City in the months of October and again in April. The Sewer Division owns and operates a vactor truck to remove the trash from these catch basins and quantifies the amount of trash collected from each basin. The removal of this trash, on the average, diverts approximately 80 tons of trash each year that would end up in local tributaries or surrounding communities. In mid-2008, 233 full capture connector pipe screens approved by the LA Regional Water Quality Control Board were installed in City owned catch basins that had the highest volume of trash. The installations effectively remove the volume of trash discharged through the storm drain system to meet the mandated 60% of the baseline waste load allocation in the Los Angeles River Trash TMDL. The City of Vernon will continue to comply with TMDL goals in future years by these installations. The County of Los Angeles maintains and disposes of trash from the catch basins owned by the County of Los Angeles in the City of Vernon.

Trash receptacles have been placed at 80 bus stop locations in the City and the receptacles are emptied on an as needed basis to ensure that the trash in these areas is captured and disposed of into landfills.

Environmental Health Department

The Department instituted a non-exclusive franchise system for solid waste haulers which provides for the following:

Department collects 10% franchise fee on all solid wastes hauled to waste disposal facilities, but encourages recycling by collecting no fees on wastes that are recycled. A portion of the franchise fees is used to pay for the services of a consultant, who visits Vernon businesses to review waste streams and provide specific advice on how to reduce waste-generating activities and/or recycle/reclaim certain wastes.

Department requires all new businesses to contract with a franchise solid waste hauler prior to issuance of an occupancy permit.

Department requires all businesses to maintain active and sufficient service with a franchise solid waste hauler.

Department inspectors incorporate a stormwater pollution prevention inspection in with inspections for other Health Department programs such as hazardous materials, underground tank, retail food, and garment manufacturing.

Department inspectors regularly inspect outdoor trash storage, staging, process, and material storage locations in conjunction with inspections for other Health Department programs. These programs include hazardous materials, wholesale food, retail food, food or hazardous material warehousing, and garment manufacturing.

Department organizes periodical electronic waste collection events to collect and recycle electronic materials such as computers, printers, and monitors, as well as dry cell batteries and fluorescent lights.

Department uses grant money to promote used oil recycling by sponsoring an annual calendar contest at a local grammar school. Fourth and fifth-graders submit artwork that either depicts the consequences of unlawful waste oil disposal or advocates oil recycling, and the twelve best are incorporated onto a calendar that is given away to any taker. Students who submit the winning entries receive awards such as gift certificates, passes to amusement parks, or electronic toys donated by local businesses.

Department annually permits vehicles that are associated with food catering, trash collection, offal collection, sump pumping, and food delivery. Permit process includes an inspection to confirm none of these vehicles are leaking trash or sewage.

Department regularly encounters catering trucks working within the City and makes impromptu inspections. The inspections include confirmation that the trucks are not spilling liquid from waste tanks, or solids from overfilled waste containers.

Department responds to complaints from the public regarding unlawful storage of waste and debris.

Department conducts investigations for reports of illicit discharges or illegal dumping.

Department exercises progressive enforcement actions against responsible parties of illicit discharges and/or illegal dumping.

Department generates articles for local distribution on waste minimization, waste storage, stormwater protection and vector control tips which include proper storage of waste materials.

Department maintains pamphlets on waste reduction in its office for distribution to the public. These include Department-generated pamphlets on used oil recycling, pollution prevention best management practices for various industries and activities, and recycling and waste minimization; as well as ones from other government agencies on tire recycling, pollution prevention, and recycling market development.

Department reviews construction plans for stormwater Best Management Plan (BMP) devices designed to filter contaminants from stormwater runoff.

Department performs regular inspections of stormwater BMP devices to confirm devices are in proper working order.

Department reviews SUSMP plans.

Department requires manufacturers of post construction BMPs, which are proposed for an area that is susceptible to flooding, to provide a written declaration that their product is designed to retain all trash collected during flooding conditions.

Department reviews and comments on all construction stormwater pollution prevention plans (SWPPP) for City capital improvement, renovation, and development projects

Department does stormwater pollution prevention, BMP, and stormwater consultations.

Department supervises activities for the clean-up of non-hazardous spills, and provides technical assistance for the clean-up of hazardous spills.

Department reviews construction plans with respect to stormwater issues.

Department responds to complaints regarding mud and dirt being tracked onto public streets by vehicles leaving construction sites.

Fire Department

The City of Vernon Fire Department conducts annual fire inspections of all businesses within the City. These inspections are conducted by individual fire engine companies throughout the year on a prearranged rotating schedule. These fire inspections are classified as life safety inspections, mainly concentrating on safety issues covered under the California Fire Code.

General housekeeping is covered in the course of these inspections and excessive trash and debris on the outside of the building will be noted by the inspector. The business occupant and possibly the building owner will be given a time frame to clean up these areas before a re-inspection is conducted. General housekeeping has been a component of the Fire Departments life safety inspections since the early 1950's.

When the trash is noted on railroad right of ways within the City the responsible railroad will be notified to clean the affected area.

Capital Improvement Projects

The Capital Improvement projects in the City of Vernon are subject the following mitigation measures to minimize the debris and trash entering the storm drain system during the construction of a project. The City has continuous inspection of the projects and the City's inspector monitors and enforces the mitigation measures.

Dust control

The Contractor is required to abate dust nuisance by cleaning, sweeping and sprinkling water by a water truck when requested by the City inspector.

Cleaning of the site during construction

During construction, all pavement, sidewalk, curb and gutter adjacent to construction areas is swept free from asphalt, soils, gravel, dirt, debris and trash on a daily basis. The Contractor is responsible for maintaining all sidewalk, curb and gutter areas within the construction zone free from loose materials at all times.

The Contractor implements all necessary efforts to minimize the tracking of the fresh tack coat oil and loose asphalt aggregates on to existing improvements (sidewalks, driveways, curb and gutters, and private property).

Final cleaning of the site and restoration

The Contractor is responsible for restoration of all damaged existing improvements such as pavement, sidewalk, driveway, curb and gutter, monuments, manhole covers, valves, utility poles and private property. All trash and debris is to be collected and disposed of at a landfill or recycled.

Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP)

The Contractor is required to file a Notice of Intent (NOI) for storm water discharges under the State General Construction Activity Storm Water Permit. After the NOI is filed, a copy is submitted to the City. Prior to Contractor commencing work, a completed Storm Water Pollution Prevention Plan (SWPPP) is reviewed and approved by the City of Vernon Health Department. The City inspector and the Health Department routinely inspect the site for compliance with the plan. The SWPPP is to be on file at the construction site to comply with the State General Construction Activity Storm Water Permit.

As part of the contract, the Contractor administers the Storm Water Pollution Prevention Plan (SWPPP). Any additional work required for compliance with the requirements of the SWPPP is performed by the Contractor and full compensation for conforming to the SWPPP is included in the various items of work involved.

SWPPP preparation guidelines are available at the State of California website: http://www.waterboards.ca.gov/~rwqcb4/html/programs/stormwater/sw_construction.html

The SWPPP document includes, at a minimum, all items in Section A of the State General Construction Activity Storm Water Permit. The SWPPP monitoring program and reporting requirements includes, at a minimum, all items in Sections B and C of the State General Construction Activity Storm Water Permit. The Contractor is notified that the SWPPP must be amended from time to time during construction to reflect actual construction practices.

The SWPPP document is not construed to be a waiver of the Contractor's obligation to review and understand the State General Construction Activity Storm Water Permit before submitting a bid for a project. By submitting a bid, the Contractor acknowledges satisfaction of the requirements of the State General Construction Activity Storm Water Permit.

Applicable construction practices in the Standard Specifications for Public Works Construction are incorporated into the SWPPP.

Police Department

The Police Department issues citations for littering and, on the average, issues 18 citations per year.

HAND DELIVERED

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

GAIL FARBER, Director

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ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
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ALHAMBRA, CALIFORNIA 91802-1460

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CALIFORNIA REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

March 23, 2009

Ms. Tracy Egoscue, Executive Officer
California Regional Water Quality
Control Board – Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-2343

Attention Mr. Sam Unger

Dear Ms. Egoscue:

LOS ANGELES RIVER WATERSHED TRASH IMPLEMENTATION REPORT

On behalf of the County of Los Angeles, we respectfully submit the enclosed Trash Implementation Report for the Los Angeles River Watershed for your consideration. The County of Los Angeles has independently developed the implementation plan for the unincorporated areas of the County of Los Angeles located within the Los Angeles River Watershed.

If you have any questions, please call me or your staff may contact Ms. Angela George at (626) 458-4341 or ageorge@dpw.lacounty.gov.

Very truly yours,

GAIL FARBER
Director of Public Works

MARK PESTRELLA
Assistant Deputy Director
Watershed Management Division

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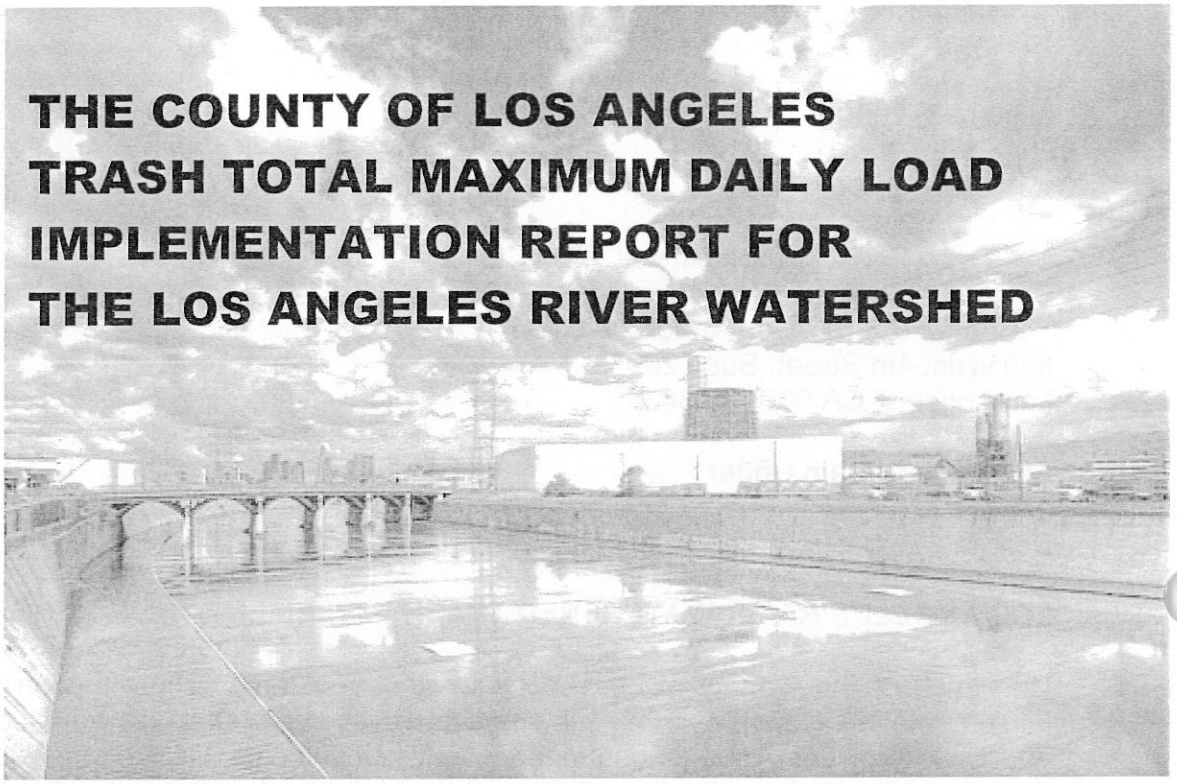
County of Los Angeles



THE COUNTY OF LOS ANGELES TRASH TOTAL MAXIMUM DAILY LOAD IMPLEMENTATION REPORT FOR THE LOS ANGELES RIVER WATERSHED

PREPARED BY

THE COUNTY OF LOS ANGELES

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March 23, 2009

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Implementation Report:
Los Angeles River Watershed
Trash Total Maximum Daily Load (TMDL)

March 2009

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Implementation Report:
Los Angeles River Watershed
Trash Total Maximum Daily Load (TMDL)

March 2009

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Appendix D	Map - Trash TMDL Implementation Areas in the Los Angeles River Watershed
Appendix E	County of Los Angeles, Department of Public Works, Technical Report - Connector Pipe Screen Design (Full-Capture TMDL Compliance, Screen, and Bypassing Sizing Requirements) dated April 2007
Appendix F	Map – Los Angeles River Watershed Trash TMDL Projects within Unincorporated Community Areas.

The County of Los Angeles
Trash Total Maximum Daily Load
Implementation Report for
the Los Angeles River Watershed

Executive Summary

The County of Los Angeles Trash Total Maximum Daily Load (TMDL) Implementation Report for the Los Angeles River Watershed has been prepared in response to the California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the Regional Board), Resolution No. 2007-012 (Appendix A). This Resolution amended the Los Angeles Region's Basin Plan to establish a TMDL for trash within the Los Angeles River Watershed and required an implementation report for this TMDL. The purpose of this plan is to outline how the County of Los Angeles (County) intends to comply with the TMDL.

The County will comply with the Trash TMDL's waste load allocation for discharges into the Los Angeles River by retrofitting all catch basins in the unincorporated communities of the County located within the Los Angeles River Watershed with Regional Board approved full-capture devices. The full-capture devices were approved by the Regional Board in August 2007 after the County submitted a Full-Capture Device Technical Report and letter in April 2007. By retrofitting all catch basins for full capture, it is estimated that the County will achieve 100 percent reduction of the trash baseline by September 2015. The County expects to achieve full Trash TMDL Compliance one year prior to the final compliance deadline of September 2016 (Table 1-1).

As of March 2009, the County has exceeded Year 1 (September 30, 2008) Trash TMDL requirement of 40 percent reduction by retrofitting 586 catch basins with full-capture and 1,551 catch basins for partial-capture devices. By the Year 2 TMDL compliance date of September 30, 2009, the County expects to achieve the 45 percent reduction by installing additional full-capture devices.

From Year 3 (September 30, 2010) to Year 8 (September 30, 2015) of the compliance schedule, the County expects an additional 10 percent annual reduction of the trash baseline load and will achieve 100 percent reduction in Year 8 (September 2015). This will be accomplished by implementing subsequent phases of the Trash TMDL Full-Capture Retrofit Project each year until all unincorporated County catch basins within the Los Angeles River Watershed are retrofitted with full-capture devices.

Section 1

Los Angeles River Watershed Trash TMDL

1.1 Background

Federal regulations under the Clean Water Act require States to develop a list of impaired waters and the pollutants for which they are impaired, also known as the 303(d) List. As part of California's 2006 303(d) list submittal, the Regional Board identified the reach of the Los Angeles River at the Sepulveda Flood Basin and all reaches downstream of it as being impaired due to trash.

The Regional Board adopted the current Resolution No. 2007-012 (Resolution), on August 9, 2007 (Appendix A), which establishes a TMDL for trash within the Los Angeles River Watershed[1]. It was subsequently approved by the United States Environmental Protection Agency (EPA) on July 24, 2008, and became effective on September 23, 2008. The previous Resolution (No. 2001-013) was not in compliance with the California Environmental Quality Act (CEQA). The Regional Board adopted Resolution No. 2001-013 on September 19, 2001, and it was subsequently approved by EPA on August 1, 2002. On June 8, 2006, the Regional Board set aside Resolution No. 2001-013 as a result of a court mandate.

After subsequent negotiations, a settlement agreement, and court hearings the Court of Appeal affirmed a writ of mandate issued by the trial court. The mandate ordered the California Water Board to set aside Resolution No. 2001-013 until it was brought into compliance with the CEQA. The current Resolution (No. 2007-012) includes the necessary CEQA requirements.

[1] California Regional Water Quality Control Board, Los Angeles Region (Regional Board), Resolution No. 2007-012. Dated August 9, 2007.

1.2 Trash TMDL Implementation Schedule

The Trash TMDL includes an implementation schedule and the corresponding compliance dates set by the adopted Trash TMDL document are as follows:

TABLE 1-1
Trash TMDL Compliance Dates[2]
Set by the Regional Board

Task No.	Task Description	Implementation Period	Compliance Date
1	Submit Implementation Report	Six months from the Trash TMDL effective date	3/23/09
2	Achieve 40% reduction of trash baseline load	Implementation Year 1	9/30/08
3	Achieve 45% reduction of trash baseline calculated as a 2-year annual average	Implementation Year 2 [3]	9/30/09
4	Achieve 50% reduction of trash baseline calculated as a rolling 3-year annual average	Implementation Year 3	9/30/10
5	Achieve 60% reduction of trash baseline calculated as a rolling 3-year annual average	Implementation Year 4	9/30/11
6	Achieve 70% reduction of trash baseline calculated as a rolling 3-year annual average	Implementation Year 5	9/30/12
7	Achieve 80% reduction of trash baseline calculated as a rolling 3-year annual average	Implementation Year 6	9/30/13
8	Achieve 90% reduction of trash baseline calculated as a rolling 3-year annual average	Implementation Year 7	9/30/14
9	Achieve 96.7% reduction of trash baseline calculated as a rolling 3-year annual average	Implementation Year 8	9/30/15
10	Achieve 100% reduction of trash baseline calculated as a rolling 3-year annual average	Implementation Year 9	9/30/16

[2] Notwithstanding the zero trash target and the baseline waste load allocations shown in Table 5 (of the Trash TMDL), a permittee will be deemed in compliance with the Trash TMDL in areas served by a Full-Capture System within the Los Angeles River Watershed.

[3] As specified in Section VI.A. (of the Trash TMDL), the Regional Board will review and reconsider the final Waste Load Allocations once a reduction of 50% has been achieved and sustained in the watershed.

1.3 Responsible Jurisdictions

The Los Angeles River Watershed is comprised of 44 cities and 33 unincorporated Los Angeles County communities. The County is responsible for the point-source trash contributed by unincorporated communities within the Los Angeles River Watershed.

Section 2

ASSESSMENT AND QUANTIFICATION

2.1 Los Angeles River

The Los Angeles River Watershed covers a total land area of 834 square miles. The Los Angeles River flows from its headwaters to the Pacific Ocean and is a total of 51 miles long. Additionally, there are eight major tributaries to the Los Angeles River. They include Burbank Western Channel, Pacoima Wash, Tujunga Wash, and Verdugo Wash in the San Fernando Valley; and the Arroyo Seco, Compton Creek, and Rio Hondo south of the Glendale Narrows.

Excluding the National Forest areas (shown in green in Appendix D), eight percent of the Los Angeles River Watershed is made up of unincorporated communities. Within the watershed, the estimated area of the Los Angeles National Forest and unincorporated County is 288 square miles (shown in yellow in Figure 2.1). All of the unincorporated communities have been grouped into implementation areas for this implementation report as outlined in Section 2.2.

[3] As specified in Section VI.A. (of the Trash TMDL), the Regional Board will review and reconsider the final Waste Load Allocations once a reduction of 50percent has been achieved and sustained in the watershed.

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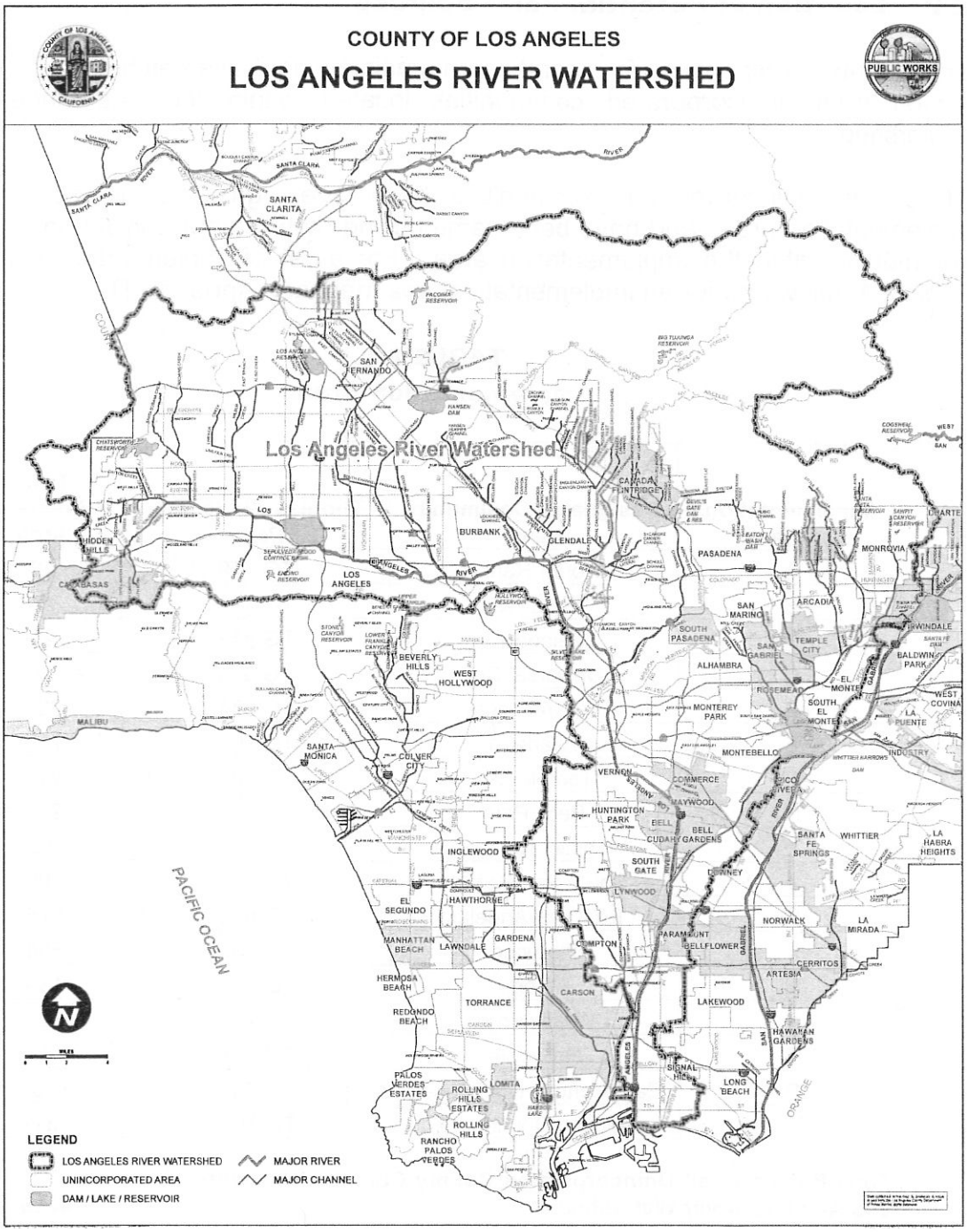

FIGURE 2.1: Unincorporated County Communities within the Los Angeles River Watershed

2.2 Location of Potential Point Sources

The County is responsible for operating and maintaining 4,289 catch basins that collect run-off from unincorporated communities located within the Los Angeles River Watershed.

All of the unincorporated communities have been grouped geographically into implementation areas and have been named using both a letter and an unincorporated community within the implementation area. For a list of implementation areas, see Table 2-1 below and for an implementation area map, see Appendix D.

TABLE 2-1
Implementation Areas

Implementation Areas	Designated Community Name	Thomas Guide (TG) Page	Total Basins in Area
A	Porter Ranch	TG 479	40
B	West Hills	TG 499	24
C	Calabasas	TG 559	25
D	Universal City	TG 563	0
E	La Crescenta	TG 504	327
F	Altadena	TG 566	753
G	Temple City	TG 596	519
H	Peck Park	TG 597	248
I	Whittier Narrows	TG 637	12
J	South San Gabriel	TG 636	109
K	East Los Angeles	TG 635	975
L	Florence	TG 704	608
M	Athens	TG 703	139
N	Willowbrook	TG 734	383
O	Hollydale	TG 705	0
P	East Rancho Dominguez	TG 735	76
Q	Rancho Dominguez	TG 765	51
Total Basins in all Unincorporated County Communities within the Los Angeles. River Watershed			**4289**

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MONITORING PLAN

3.1 Monitoring and Reporting Plan for Point Sources

In accordance with the provisions of the Trash TMDL Implementation Report, the County plans to install a full-capture system throughout unincorporated County areas. Therefore, no monitoring will be conducted.

A final Full-Capture Device Technical Report[4] on the Connector Pipe Screen (CPS) Device (Appendix E) was submitted by the County to the Regional Board in April 2007 after extensive research, testing, and development. The CPS Device[5] was subsequently certified by the Regional Board as a full-capture device on August 1, 2007.

The full-capture devices will be maintained according to the requirements of the Full-Capture Device Technical Report approved by the Regional Board.

IMPLEMENTATION PLAN

The County, as the responsible agency for point-source trash, discharged into the Los Angeles River from County unincorporated areas, has developed the following implementation plan to achieve 100 percent reduction of the trash baseline per the Trash TMDL.

4.1. Prioritization and Implementation Plan – Catch Basin Full-Capture Retrofits

The County proposes to meet the Trash TMDL's waste load allocation for point sources by installing an "Executive Officer Certified Full-Capture System" in all catch basins within unincorporated County communities that discharge into the Los Angeles River. The CPS device was certified by the Regional Board as a Full-Capture System after the County submitted Full-Capture Device Technical Reports documenting its testing and development.

A CPS is a vertical stainless screen with five millimeter openings, installed inside a
A CPS is a vertical stainless screen with five millimeter openings installed inside a catch

[4] Technical Report - Connector Pipe Screen Design (Full-Capture TMDL Compliance, Screen and Bypassing Sizing Requirements). Dated April 2007.

[5] The list of Executive Officer approved full-capture systems are available at the following site: http://www.waterboards.ca.gov/losangeles/water_issues/programs/tmdl/full_capture_certification.shtml

A CPS is a vertical stainless screen with five millimeter openings installed inside a catch basin directly upstream of the connector pipe in such a manner that all water entering the basin must pass through the screen device (Figure 4.1). A vertical opening is provided around the perimeter of the screen to allow stormwater to bypass in the event of a large storm or if the screen becomes clogged.

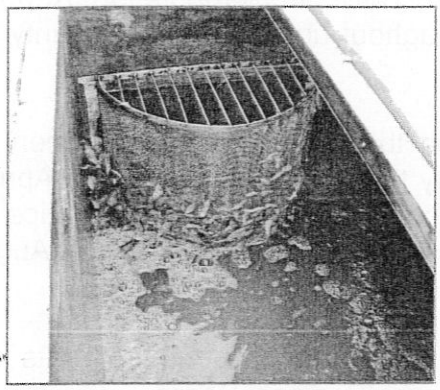

Figure 4.1.1: Connector Pipe Screen Device

As part of its Full-Capture Retrofit Program, the County will also install Automatic Retractable Screens (ARS) to further limit trash entering the catch basin (Figure 4.2). ARS prevent trash from entering the catch basin during dry weather and small rainstorms. When flows are elevated, the screens open to prevent localized flooding. This system reduces overall maintenance because accumulated trash can be removed by routine street sweeping.

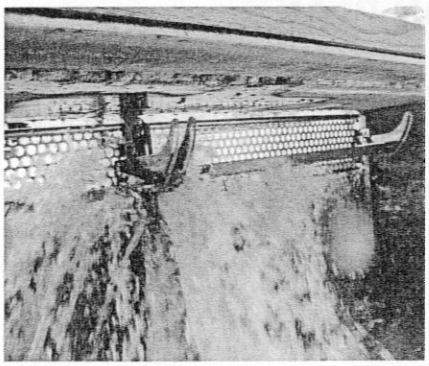

Figure 4.1.2: Automatic Retractable Screen (ARS)

The Retrofit Program will be implemented according to Table 4-1 and this program will allow the County to achieve 100 percent compliance with the Los Angeles River Watershed Trash TMDL. This work will be implemented in phases according to the schedule outlined in Section 4.2.

TABLE 4-1
Priority Implementation Areas

Implementation Area	Commercial (acres)	HD SF Residential (acres)	Industrial (acres)	LD SF Residential (acres)	Open Space/Parks (acres)	Total Area (acres)	Total Trash (gal/yr)	percent Trash Generation (percent of total)	Unit Trash Generation (gal/acre/yr)	No. of Catch Basins Retrofitted
WLA (gal/zcre/yer)[1]	14.8	5.6	15.3	3.0	5.8					
Q - Rancho Dominguez[2]	80.8	69.0	721.1	0.0	96.6	967.5	13,200	4.5percent	13.64	51
D - Universal City	107.1	1.1	136.8	0.0	55.4	300.4	4,008	1.4percent	13.34	0
O – Hollydale	14.5	0.0	8.8	0.0	59.8	83.1	697	0.2percent	8.38	0
L – Florence	424.0	1,835.0	324.4	0.0	170.5	2,753.9	22,452	7.7percent	8.15	608
K - East LA[2]	965.8	2,986.1	327.1	0.0	506.9	4,785.9	38,863	13.4percent	8.12	975
N – Willowbrook[2]	228.7	1,332.9	149.2	0.0	197.3	1,908.1	14,238	4.9percent	7.46	383
I - Whittier Narrows	109.4	38.5	103.5	0.0	1,794.8	2,046.2	13,846	4.8percent	6.77	12
P - East Rancho Dominguez[2]	62.5	451.2	0.0	0.0	14.3	528.0	3,520	1.2percent	6.67	76
C - Calabasas	67.2	81.9	10.8	32.1	532.2	724.2	4,804	1.7percent	6.63	25
A - Porter Ranch	157.0	139.6	1,122.7	196.5	12,395.3	14,011.1	92,931	31.9percent	6.63	40
E - La Crescenta[2]	203.8	1,374.3	10.8	9.0	513.1	2,111.0	13,840	4.8percent	6.56	327
M – Athens[2]	65.0	646.6	0.0	0.0	30.7	742.3	4,741	1.6percent	6.39	139
H - Peck Park[2]	76.6	969.7	4.5	0.0	14.5	1,065.3	6,687	2.3percent	6.28	248
G - Temple City[2]	203.3	1,825.4	37.1	238.9	114.6	2,419.3	15,130	5.2percent	6.25	519
J - So. San Gabriel	16.2	473.2	4.9	4.6	37.7	536.6	3,184	1.1percent	5.93	109
F - Altadena[2]	248.1	3,208.8	92.4	691.6	1,027.5	5,268.4	31,023	10.7percent	5.89	753
B - West Hills	0.0	243.7	0.0	34.6	1,096.1	1,374.4	7,831	2.7percent	5.70	24
TOTAL (acres)	**3,030.0**	**15,667.0**	**3,054.1**	**1,207.3**	**18,657.3**	**41,625.7**	**290,992.9**	100percent		
TOTAL (gal/yr)	**44,755.7**	**87,333.8**	**46,845.0**	**3,657.2**	**108,401.2**	**290,992.9**				

Notes:

[1] Based on Baseline Monitoring Data for unincorporated areas from 2002-03 and 2003-04 for the Los Angeles River Watershed
[2] Partial-capture devices have been installed in these areas

4.2. Implementation Schedule

The County previously retrofitted 2,137 catch basins for partial capture. Of the 2,137 catch basins with partial-capture devices, the County retrofitted 586 of them for full capture by adding Regional Board-approved CPS devices during the Los Angeles River Trash TMDL, Phase 3 Project. The project was completed in January 2009 and the 586 full-capture catch basins yielded a 38.4 percent reduction of the trash baseline (Appendix B).

The remaining 1,551 catch basins with only partial-capture devices provide an additional 18.1 percent reduction of the trash baseline. This reduction percentage is based on assuming a 50 percent reduction per partial-capture device rather than using the 100 percent reduction for a full-capture CPS device (Appendix C). After taking into

14-471

account the 2,137 catch basins with partial- and full-capture devices, a total trash reduction of 56.5 percent has been achieved. The County has achieved compliance with the Year 1 requirement (40 percent reduction of the trash baseline).

The remaining 1,551 catch basins with only partial-capture devices will have full-capture CPS devices added to them with the completion of the Los Angeles River Trash TMDL, Phase 4 Project. The Phase 4 project is expected to be finished by December 2009. By the Year 2 compliance date (September 30, 2009), the County expects to have completed only a specified number of the full-capture retrofits and estimates that it will achieve the 45 percent reduction requirement of the trash baseline by the Year 2 compliance date.

The trash reduction percentage decreases from Year 1 (56.5 percent) to Year 2 (45 percent) because for the Year 2 compliance calculation, the County did not include the 18.1 percent trash reduction gained from partial-capture devices. Instead, the County will include the additional 6.6 percent trash reduction achieved from the number of Full Capture, Phase 4, retrofits to be complete by the Year 2 compliance date. Please see Table 4-2 below showing the Year 2 estimated trash reduction percentage (45 percent) calculated from only full-capture retrofits. (See Appendix F for a map showing the locations of completed and current full-capture retrofit projects).

TABLE 4-2
Los Angeles County Trash TMDL Year 1 and 2 Compliance

PROJECT	TRASH REDUCT.%	REQ'D TRASH REDUCT.%
• Partial-Capture Los Angeles River (LAR) Trash TMDL Phases 1 and 2	18.1%	-
• Full-Capture LAR Trash TMDL Phase 3	38.4%	-
Year 1 Compliance Percentage Total	***56.5%***	***40%***
• Full-Capture LAR Trash TMDL Phase 3	38.4%	-
• Full-Capture LAR Trash TMDL Phase 4*	6.6%	-
*Year 2 Estimated Compliance Percentage Total***	***45%***	***45%***

* Estimated Trash Reduction percentage at the Year 2 compliance date (September 30, 2009). The project will be completed in December 2009.
** Not including the additional Trash Reduction percentage from partial-capture devices.

The County proposes to implement subsequent phases of the Trash TMDL Full Compliance Project over the next six years to achieve an expected 100 percent reduction of the trash baseline. An additional 10 percent reduction of the trash baseline is expected by September 30 of each year. Table 4-3 below illustrates the County's plan to achieve 100 percent reduction of the baseline by September 30, 2015, one year prior to the required final compliance date (September 30, 2016).

TABLE 4-3
Los Angeles County Trash TMDL Compliance Plan

Implementation Period	LA County Project Name	Expected Compliance Reduction percent	Required Compliance Reduction percent (per Table 1-1)	Compliance Date
Implementation Year 2	LAR Trash TMDL, Phase 4	Achieve 45% reduction of trash baseline calculated as a 2-year annual average	Achieve 45% reduction of trash baseline calculated as a 2-year annual average	9/30/09
Implementation Year 3	LAR Trash TMDL, Phase 5 (Future)	Achieve 55% reduction of trash baseline calculated as a rolling 3-year annual average	Achieve 50% reduction of trash baseline calculated as a rolling 3-year annual average	9/30/10
Implementation Year 4	LAR Trash TMDL, Phase 6 (Future)	Achieve 65% reduction of trash baseline calculated as a rolling 3-year annual average	Achieve 60% reduction of trash baseline calculated as a rolling 3-year annual average	9/30/11
Implementation Year 5	LAR Trash TMDL, Phase 7 (Future)	Achieve 75% reduction of trash baseline calculated as a rolling 3-year annual average	Achieve 70% reduction of trash baseline calculated as a rolling 3-year annual average	9/30/12

TABLE 4-3 (cont'd)

Implementation Period	LA County Project Name	Expected Compliance Reduction percent	Required Compliance Reduction percent (per Table 1-1)	Compliance Date
Implementation Year 6	LAR Trash TMDL, Phase 8 (Future)	Achieve 85% reduction of trash baseline calculated as a rolling 3-year annual average	Achieve 80% reduction of trash baseline calculated as a rolling 3-year annual average	9/30/13
Implementation Year 7	LAR Trash TMDL, Phase 9 (Future)	Achieve 95% reduction of trash baseline calculated as a rolling 3-year annual average	Achieve 90% reduction of trash baseline calculated as a rolling 3-year annual average	9/30/14
Implementation Year 8	LAR Trash TMDL, Phase 10 (Future)	Achieve 100% reduction of trash baseline calculated as a rolling 3-year annual average	Achieve 96.7% reduction of trash baseline calculated as a rolling 3-year annual average	9/30/15
Implementation Year 9	N/A	N/A	Achieve 100% reduction of trash baseline calculated as a rolling 3-year annual average	9/30/16

All catch basins within the unincorporated communities of the Los Angeles River Watershed will be retrofitted with full-capture devices with the development of this implementation report. Full-capture devices will be maintained as outlined in the Full-Capture Device Technical Reports.

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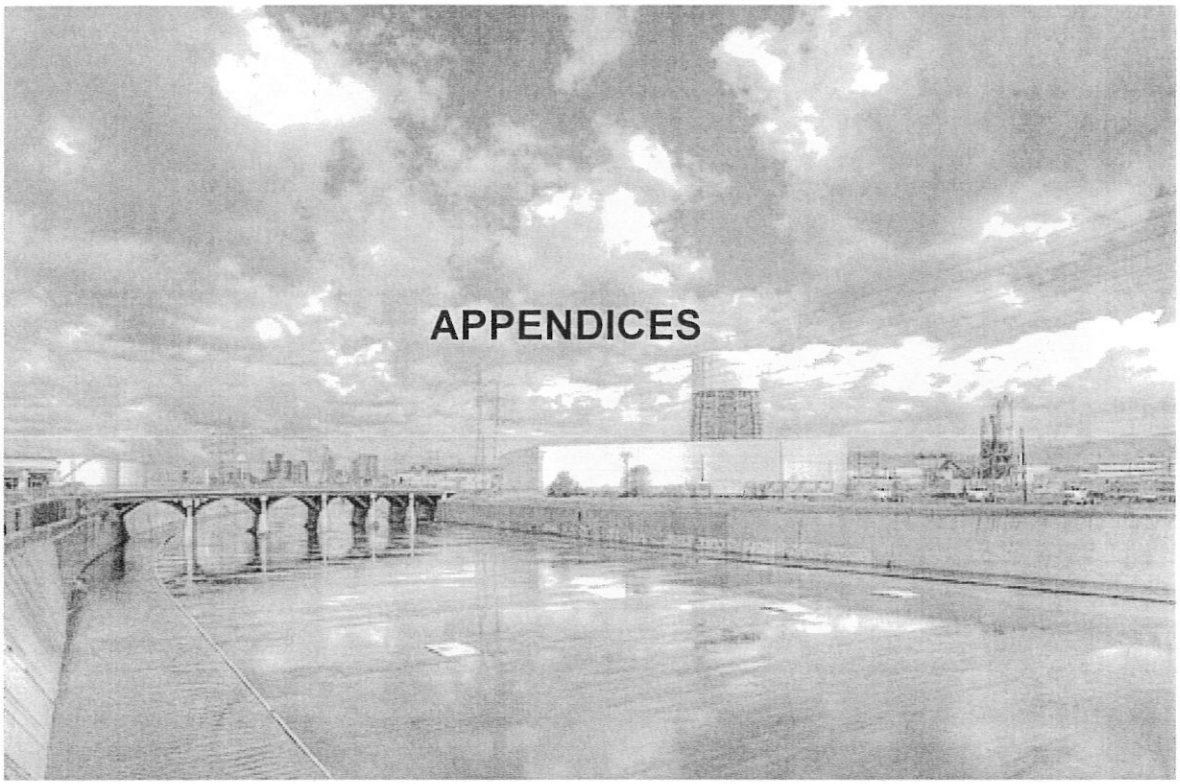
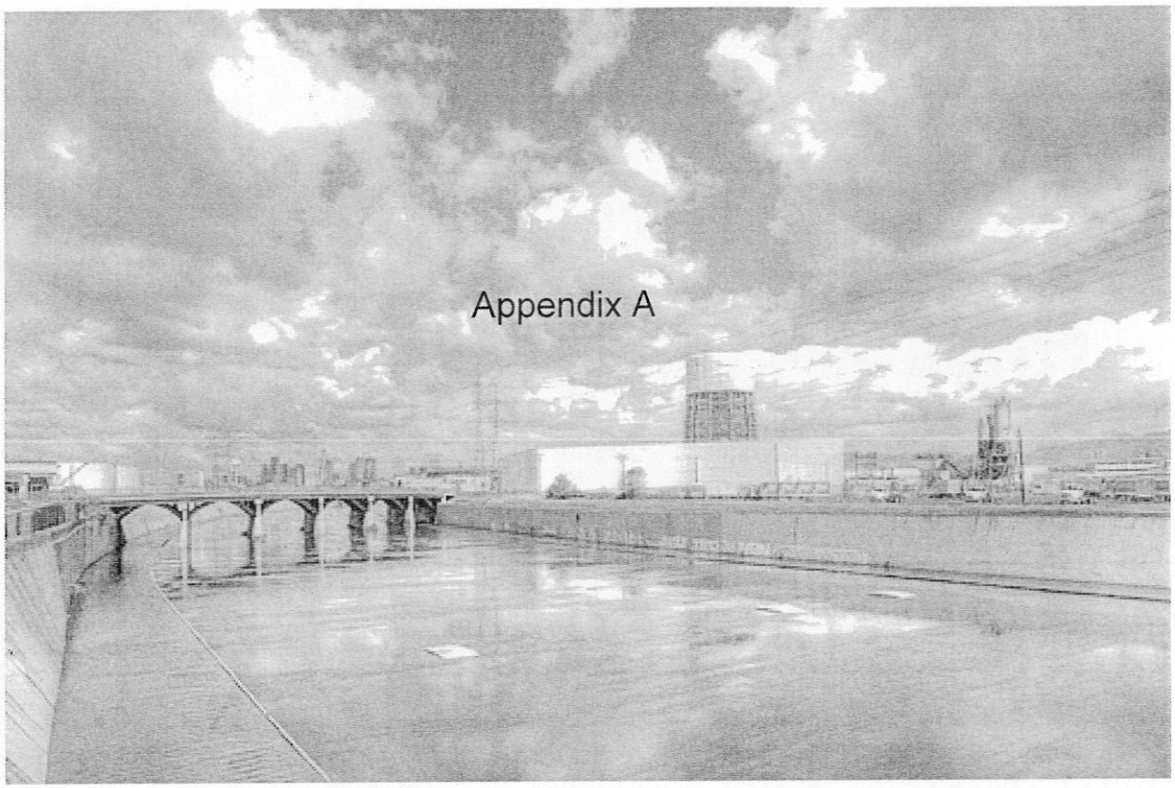


APPENDICES



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Attachment A to Resolution No. 07-012

Amendment to the Water Quality Control Plan – Los Angeles Region to incorporate the TMDL for Trash in the Los Angeles River Watershed

Adopted by the California Regional Water Quality Control Board, Los Angeles Region on August 9, 2007.

Amendments:

Table of Contents
Add:

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries
7-2 Los Angeles River Watershed Trash TMDL*

List of Figures, Tables and Inserts
Add:

Chapter 7. Total Maximum Daily Loads (TMDLs)
Tables
7-2 Los Angeles River Watershed Trash TMDL
7-2.1. Los Angeles River Watershed Trash TMDL Elements
7-2.2. Los Angeles River Watershed Trash TMDL Baseline Waste Load Allocations
7-2.3. Los Angeles River Watershed Trash TMDL Implementation Schedule

Chapter 3. Water Quality Objectives
Regional Objectives for Inland Surface Waters

Floating Material 3-9

A fourth paragraph will be added under Floating Material referencing specific guidelines for the Los Angeles River. Additional narrative to read: "See additional regulatory guidelines described under the Los Angeles River Trash Total Maximum Daily Load (Chapter 7)."

Solid, Suspended, or Settleable Materials 3-16

A fourth paragraph will be added under Solid, Suspended, or Settleable Materials referencing specific guidelines for the Los Angeles River. Additional narrative to read: "See additional regulatory guidelines described under the Los Angeles River Trash Total Maximum Daily Load (Chapter 7)."

* The complete administrative record for the TMDL is available for review upon request.

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Attachment A to Resolution No. 2007-012

Chapter 7. Total Maximum Daily Loads (TMDLs) Summaries, Section 7-2 (Los Angeles River Watershed Trash TMDL)

This TMDL was adopted by the Regional Water Quality Control Board on August 9, 2007.

This TMDL was approved by:
The State Water Resources Control Board on [Insert Date].
The Office of Administrative Law on [Insert Date].
The U.S. Environmental Protection Agency on [Insert Date].

The following table includes all the elements of this TMDL.

August 9, 2007

Table 7-2.1. Los Angeles River Watershed Trash TMDL: Elements

Element	Key Findings and Regulatory Provisions
Problem Statement	Trash in the Los Angeles River is causing impairment of beneficial uses. The following designated beneficial uses are impacted by trash: water contact recreation (REC1); non-contact water recreation (REC2); warm freshwater habitat (WARM); wildlife habitat (WILD), estuarine habitat (EST); marine habitat (MAR); rare and threatened or endangered species (RARE); migration of aquatic organisms (MIGR); spawning, reproduction and early development of fish (SPWN); commercial and sport fishing (COMM); shellfish harvesting (SHELL); wetland habitat (WET); and cold freshwater habitat (COLD).
Numeric Target *(Interpretation of the numeric water quality objective, used to calculate the waste load allocations)*	Zero trash in all waterbodies.
Source Analysis	Stormwater discharge is the major source of trash in the river. Nonpoint sources, i.e., direct deposition of trash by people or wind into the water body, is a de minimus source of trash loading to the LA River.
Loading Capacity	Zero
Waste Load Allocations	Baseline Waste Load Allocations for each city in the Los Angeles River Watershed are as provided in Table 7.2.2. The TMDL requires phased reductions over a period of 9 years, from existing baseline loads to zero (0). Phase II stormwater permittees (including educational institutions) also have a final wasteload allocation of zero. An implementation schedule for these permittees will be established once their stormwater permit has been developed.
Load Allocations	The load allocations for nonpoint source trash discharges to the LA River are zero.
Implementation	This TMDL will be implemented through stormwater permits and via the authority vested in the Executive Officer by section 13267 of the Porter-Cologne Water Quality Control Act: (Water Code section 13000 et seq.). Compliance with the final waste load allocation may be achieved through a full capture system. A full capture system is any device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the subdrainage area. The Rational Equation is used to compute the peak flow rate: $Q = C \times I \times A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per

Element	Key Findings and Regulatory Provisions
	hour, as determined per the rainfall isohyetal map in Figure A), and A= subdrainage area (acres). The isohyetal map may be updated annually by the Los Angeles County hydrologist to reflect additional rain data gathered during the previous year. Annual updates published by the Los Angeles County Department of Public Works are prospectively incorporated by reference into this TMDL and accompanying Basin Plan amendment. The Executive Officer has authority to certify, as full-capture, any trash reduction system that meets the operating and performance requirements as described above. To the extent nonpoint source implementation of load allocations is necessary, it will be accomplished, consistent with the *Plan for Nonpoint Source Pollution Control Policy*, with waste discharge requirements, waivers of waste discharge requirements, or any appropriate order, including a cleanup and abatement order, pursuant to e.g., sections 13263, 13269, and/or 13304. An implementation report, outlining how responsible agencies intend to comply with the TMDL, will be prepared six months after the effective date of the TMDL.
Margin of Safety	"Zero discharge" is a conservative standard which contains an implicit margin of safety.
Seasonal Variations and Critical Conditions	Discharge of trash from the storm drain occurs primarily during or shortly after a rain event of greater than 0.25 inches.

14-480

Attachment A to Resolution No. 07-012

Figure A

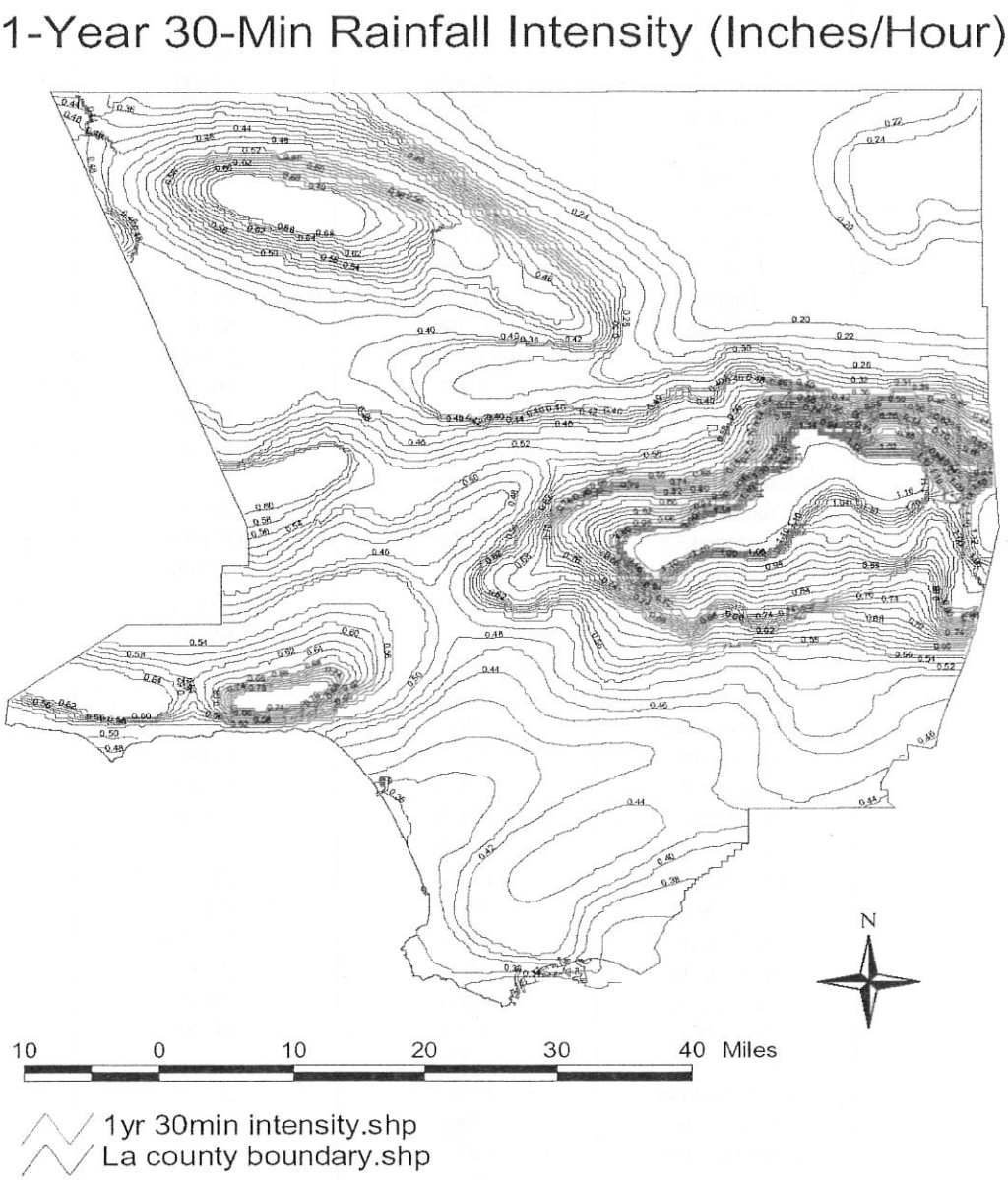


Figure A: Isohyethal Map of Rainfall Intensities in Portions of Los Angeles County

14-481

Attachment A to Resolution No. 2007-012

Table 7-2.2. Los Angeles River Trash TMDL Baseline Waste Load Allocations (gallons and lbs of trash).

City	WLA (gals)	WLA (lbs)
Alhambra	39903	68761
Arcadia	50108	93036
Bell*	16026	25337
Bell Gardens	13500	23371
Bradbury	4277	12160
Burbank*	92590	170389
Calabasas	22505	52230
Carson	6832	10208
Commerce	58733	85481
Compton*	53191	86356
Cudahy	5935	10061
Downey	39063	68507
Duarte	12210	23687
El Monte	42208	68267
Glendale*	140314	293498
Hidden Hills	3663	10821
Huntington Park	19159	30929
Irwindale	12352	17911
La Cañada Flintridge	33496	73747
Long Beach*	87135	149759
Los Angeles*	1374845	2572500
Los Angeles County*	310223	651806
Lynwood	28201	46467
Maywood	6129	10549
Monrovia	46687	100988
Montebello	50369	83707
Monterey Park	38899	70456
Paramount	27452	44490
Pasadena*	111998	207514
Pico Rivera	13953	22549
Rosemead	27305	47378
San Fernando	13947	23077
San Gabriel	20343	36437
San Marino	14391	29147
Santa Clarita	901	2326
Sierra Madre	11611	25192
Signal Hill	9434	14220
Simi Valley	137	344
South El Monte	15999	24319
South Gate	43904	72333
South Pasadena	14907	28357
Temple City	17572	31819
Vernon	47203	66814
Caltrans	59421	66566

*Military Installations were not included in calculation of Baseline WLA.

August 9, 2007

Attachment A to Resolution No. 2007-012

Table 7.2.3. Los Angeles River Trash TMDL: Implementation Schedule.[1]

(Required percent reductions based on initial baseline wasteload allocation of each city)

End of Storm Year	Implementation	Waste Load Allocation	Compliance Point
Sept 30, 2008	Implementation: Year 1	60% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 60% of the baseline load
Sept 30, 2009	Implementation: Year 2	50% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 55% of the baseline load calculated as a 2-year annual average
Sept 30, 2010	Implementation: Year 3[2]	40% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 50% of the baseline load calculated as a rolling 3-year annual average
Sept 30, 2011	Implementation: Year 4	30% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 40% of the baseline load calculated as a rolling 3-year annual average
Sept 30, 2012	Implementation: Year 5	20% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 30% of the baseline load calculated as a rolling 3-year annual average
Sept 30, 2013	Implementation: Year 6	10% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 20% of the baseline load calculated as a rolling 3-year annual average
Sept 30, 2014	Implementation: Year 7	0% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 10% of the baseline load calculated as a rolling 3-year annual average
Sept 30, 2015	Implementation: Year 8	0% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 3.3% of the baseline load calculated as a rolling 3-year annual average
Sept 30, 2016	Implementation: Year 9	0% of Baseline Waste Load Allocations for the Municipal permittees; and Caltrans	Compliance is 0% of the baseline load calculated as a rolling 3-year annual average

[1] "Notwithstanding the zero trash target and the baseline waste load allocations shown in Table 5, a Permittee will be deemed in compliance with the Trash TMDL in areas served by a Full Capture System within the Los Angeles River Watershed."

[2] As specified in Section VI.A., the Regional Board will review and reconsider the final Waste Load Allocations once a reduction of 50% has been achieved and sustained in the watershed.

14-483

Appendix B

Los Angeles River Trash TMDL Full Compliance
Full Capture Catch Basin Retrofit - Phase 3

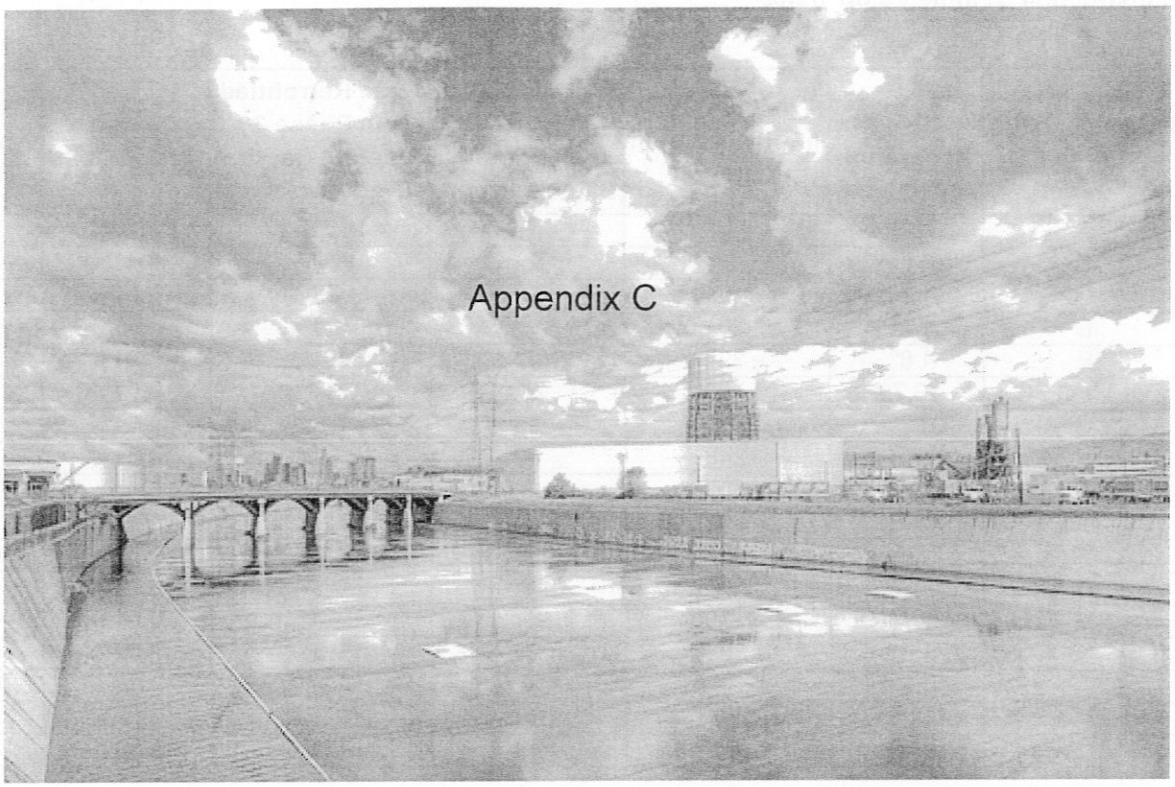
Compliance Calculation - Percent Reduction of the Trash Baseline

Construction Completed on 1/9/09

Implementation Area	% Trash Generation	Total basins in Implementation Area	Phase 3 - No. of Full Capture Basin Retrofits	Area Retrofitted in Phase 3 (1st Full Capture Phase)	Trash yield/basin	Reduction of Trash Baseline
A	31.9%	40	**26**	**65.0%**	**0.80%**	20.74%
B	2.7%	24	**21**	**87.5%**	**0.11%**	2.36%
C	1.7%	25	**23**	**92.0%**	**0.07%**	1.56%
D	1.4%	0	**0**	**0.0%**	**n/a**	1.40%
E	4.8%	327	**11**	**3.4%**	**0.01%**	0.16%
F	10.7%	753	**250**	**33.2%**	**0.01%**	3.55%
G	5.2%	519	**39**	**7.5%**	**0.01%**	0.39%
H	2.3%	248	**38**	**15.3%**	**0.01%**	0.35%
I	4.8%	12	**5**	**41.7%**	**0.40%**	2.00%
J	1.1%	109	**4**	**3.7%**	**0.01%**	0.04%
K	13.4%	975	**68**	**7.0%**	**0.01%**	0.93%
L	7.7%	608	**3**	**0.5%**	**0.01%**	0.04%
M	1.6%	139	**21**	**15.1%**	**0.01%**	0.24%
N	4.9%	383	**24**	**6.3%**	**0.01%**	0.31%
O	0.2%	0	**0**	**0.0%**	**n/a**	0.20%
P	1.2%	76	**7**	**9.2%**	**0.02%**	0.11%
Q	4.5%	51	**46**	**90.2%**	**0.09%**	4.06%
Totals	**100%**	**4289**	**586**			**38.4%**

Reduction % = (No. of Full Capture Retrofits) / (Total Basins in Impl. Area) * (% Trash Generation) * Factor

*Factor = 1.0 for Full Capture Devices (i.e. CPS devices)



Appendix C

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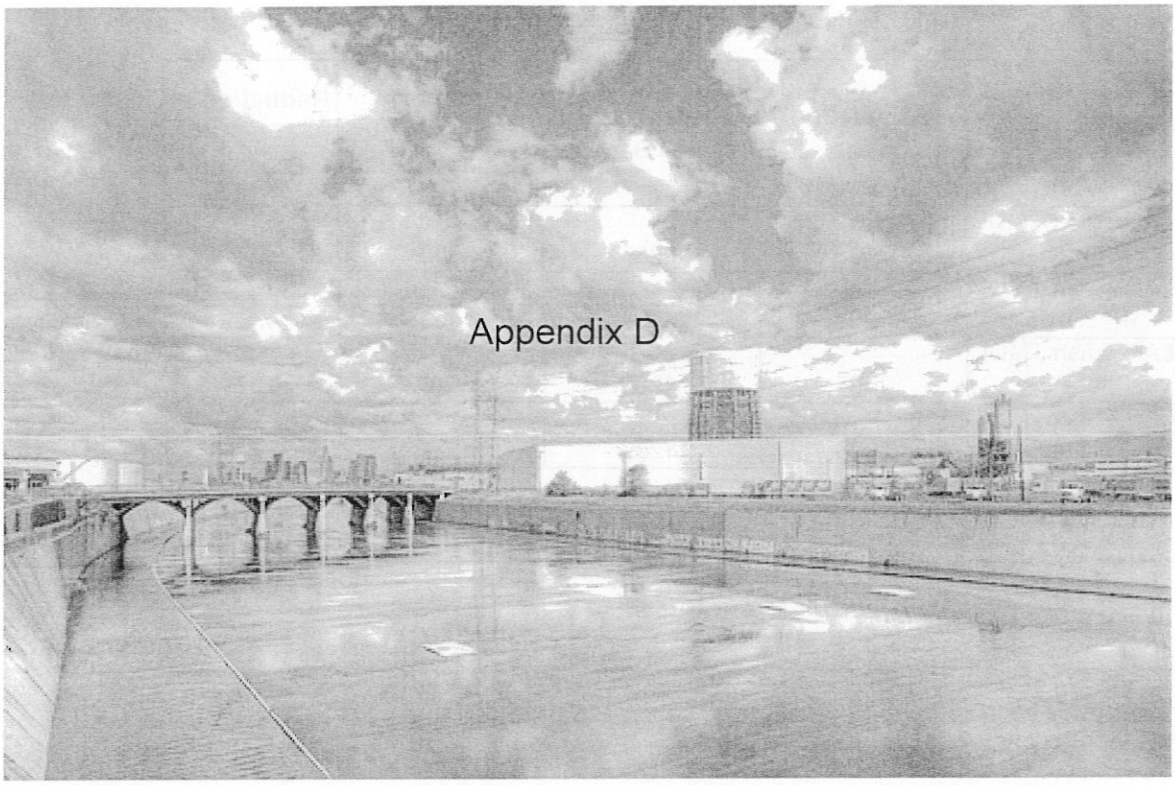
Los Angeles River Trash TMDL Full Compliance
Partial Capture Catch Basin Retrofit - Phases 1 & 2

Compliance Calculation - Percent Reduction of the Trash Baseline

Project Name	Completion Year	Total No. of Catch Basins	No. of Partial Capture Basin Retrofits	Reduction of Trash Baseline
LAR Trash TMDL Phase 1A	2003	4289	**300**	**3.5%**
LAR Trash TMDL Phase 1B	2004	4289	**353**	**4.1%**
LAR Trash TMDL Phase 2A	2005	4289	**576**	**6.7%**
LAR Trash TMDL Phase 2B	2006	4289	**322**	**3.8%**
Totals			**1551**	**18.1%**

Reduction % = (No. of Partial Capture Retrofits) / (Total No. Basins)* Factor

*Factor = 0.5 for Partial Capture Devices



Appendix D

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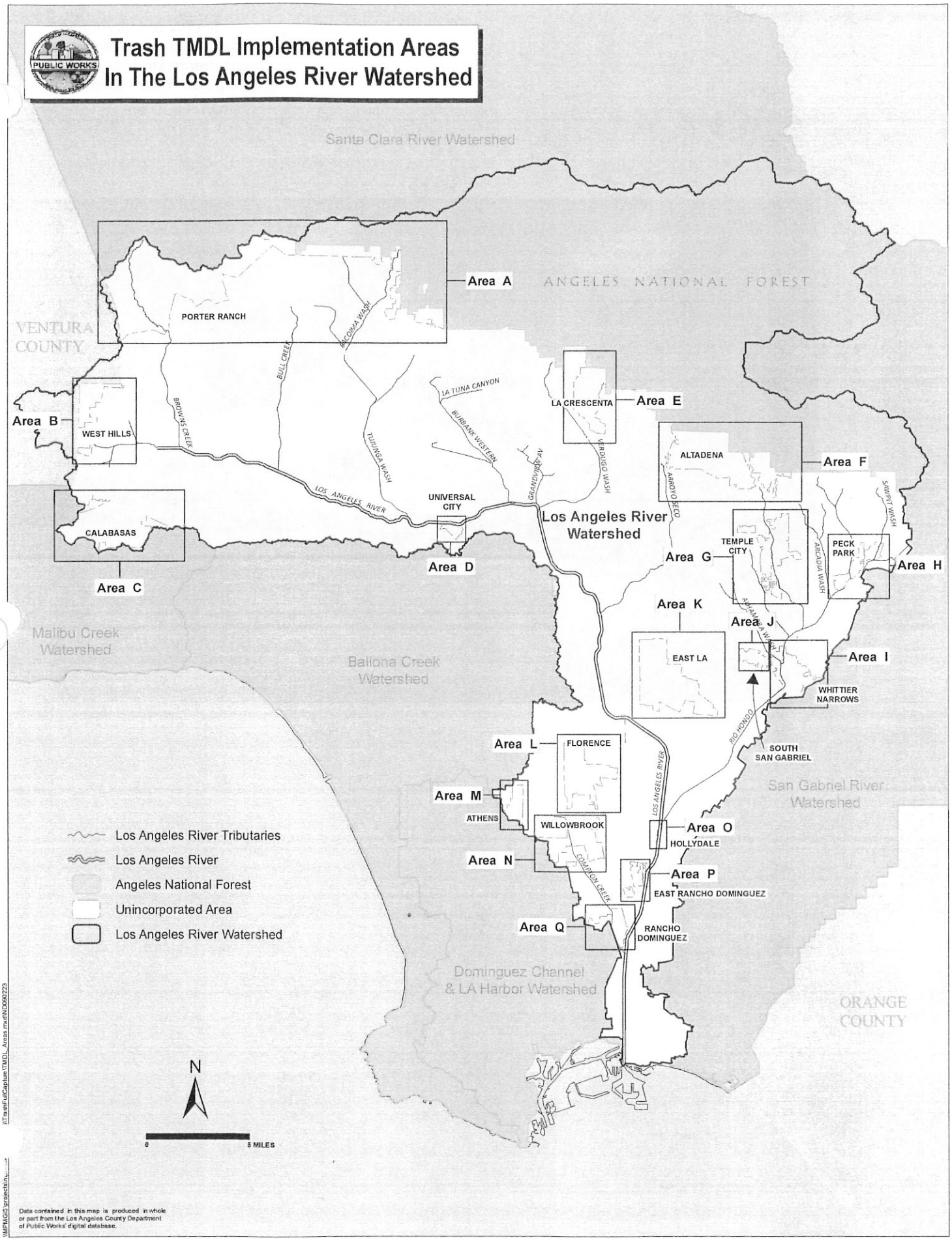
Trash TMDL Implementation Areas In The Los Angeles River Watershed



Data contained in this map is produced in whole or part from the Los Angeles County Department of Public Works' digital database.

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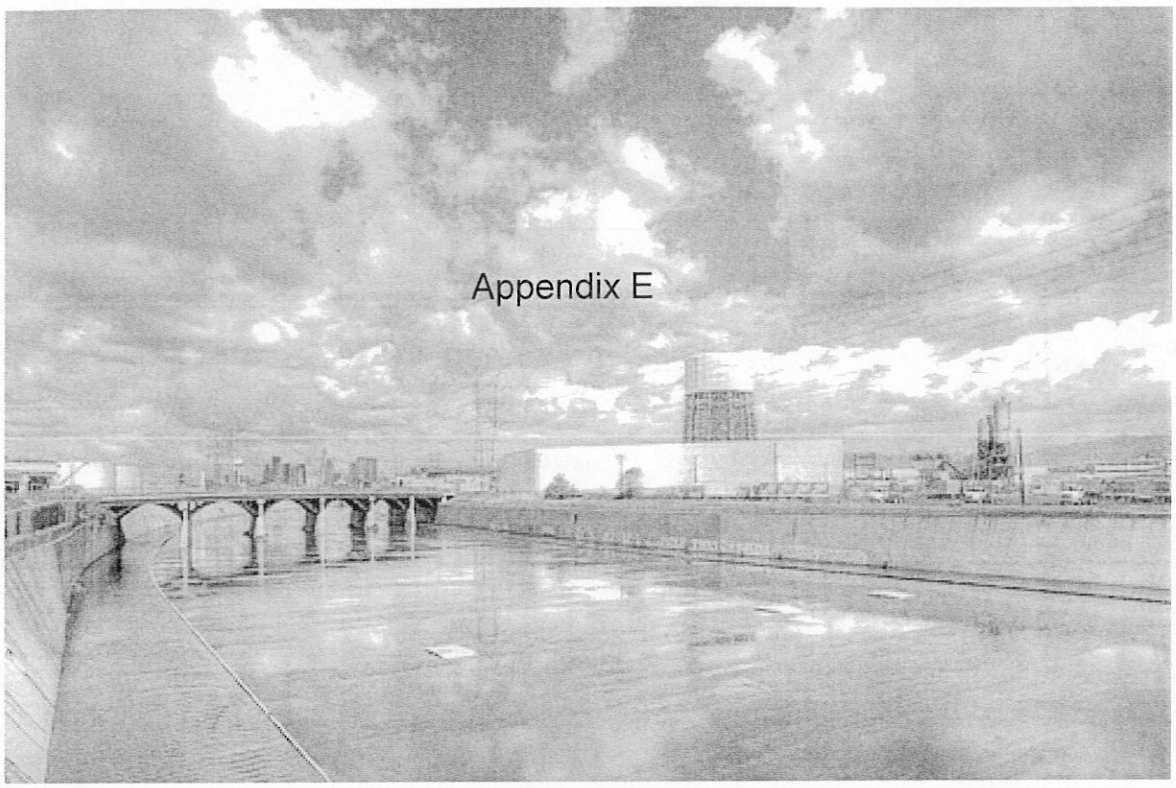

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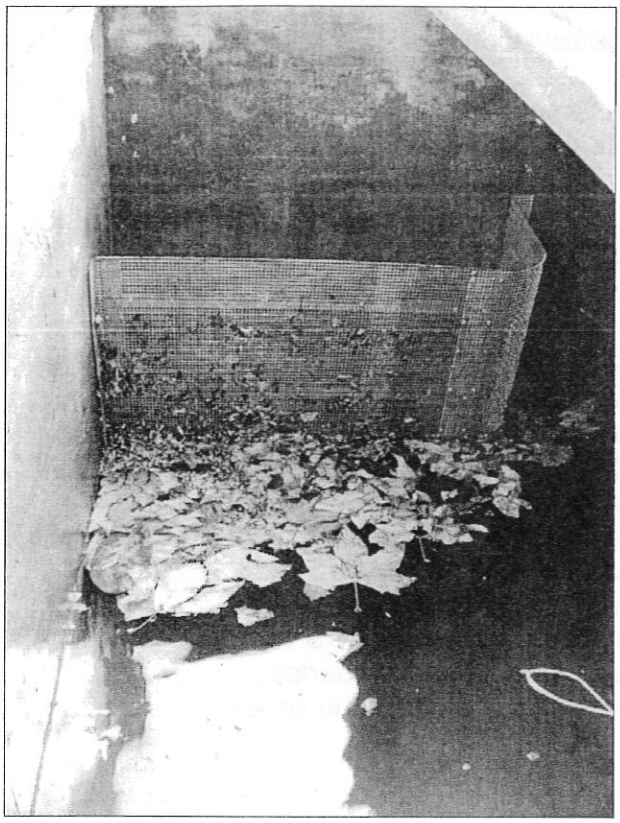
TECHNICAL REPORT

CONNECTOR PIPE SCREEN DESIGN

FULL CAPTURE TMDL COMPLIANCE
SCREEN AND BYPASS SIZING REQUIREMENTS



April 2007

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS

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I. Purpose and Scope

The intent of this report is to establish a conservative sizing criterion for connector pipe screens (CPS) to comply with the Ballona Creek and Los Angeles River Trash Total Maximum Daily Load (Trash TMDL) full capture standard while maintaining the existing level of flood protection for Los Angeles County Flood Control District (LACFCD) facilities.

II. Abstract

CPS devices are vertically oriented screens installed inside a catch basin (CB), directly upstream of the connector pipe as shown in Figure 1. Connector Pipe Screens are fabricated from 5mm mesh screen and are designed to comply with the Regional Water Quality Control Board's (RWQCB) definition of a full capture system.

Engineers from the County of Los Angeles Department of Public Works (Public Works) performed hydrologic analysis to establish a method of calculating the maximum treatment flow resulting from a one-year, one-hour storm. Using this information, they performed hydraulic analyses to establish minimum sizing requirements for the CPS screen. Public Works engineers also established minimum sizes for the bypass opening, which provides flood protection during large storm events.

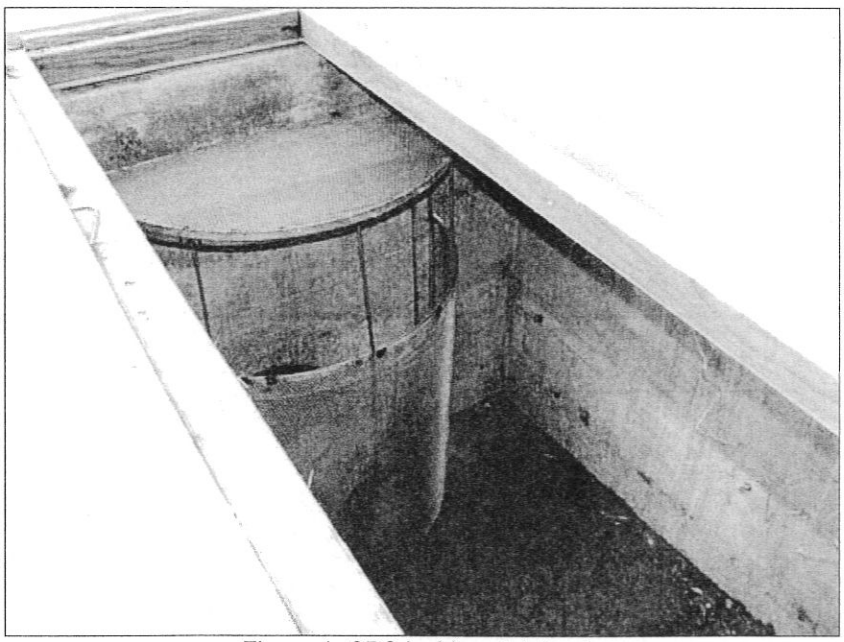

Figure 1: CPS inside catch basin

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III. Background

Public Works has been given the responsibility to bring its flood control facilities into compliance with the TMDLs established by the RWQCB. Public Works has undertaken an aggressive testing program to find devices that may be used to retrofit existing flood control infrastructure. Potential devices are tested for their ability to meet the TMDL requirements and to ensure that they do not reduce flood control protection. As defined by the RWQCB, the standard for full-capture status is the following:

> *Compliance with the final Waste Load Allocation may be achieved through a full capture system; which is defined as any device or series of devices that traps all particles retained by a 5mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour storm in the sub-drainage area.*
> (CA RWQCB TENTATIVE RESOLUTION NO. 07-0XX, Sec. 12, page 3, July 12, 2007)

A CPS is a vertical screen with 5 mm openings, installed inside a catch basin directly upstream of the connector pipe in such a manner that all water entering the basin must pass through the device. A vertical opening is provided around the perimeter of the screen to allow storm water to bypass in the event of a large storm or if the screen becomes clogged. Connector Pipe Screens are currently manufactured and installed by Advanced Solutions (Stormtek) and American Storm Water (Debris Dam).

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IV. Hydrology Study

Since the majority of LACFCD facilities are designed for a 10-year design storm frequency (Q_{10}), the calculations in this report will design the CPS for a CB designed with a 10-year storm frequency.

In order to determine the 1-year 1-hour TMDL flow, we need to establish a conservative conversion factor, k, from a 10-year storm, Q_{10}, to a TMDL flow ($Q_{1\text{-}1}$) as shown in Equation 1.

Equation 1:

$$Q_{1\text{-}1} \leq k \cdot Q_{10}$$

To develop this conversion factor (k), we first compared storm frequency ratios. This involved comparing the magnitude of one 24-hour storm frequency with another 24-hour storm frequency. The results of this analysis are shown in Table 1 as a ratio used to convert one storm frequency to another based only on the 24-hour isohyetal values for different storm frequencies. The ratios are consistent with the ratios provided in the Los Angeles County 2006 Hydrology Manual[1] for scaling storm frequencies.

Storm Frequency Conversion Factor ($Q_X \cdot k = Q_{1\text{-}1}$)					
	2-yr	**5-yr**	**10-yr**	**25-yr**	**50-yr**
k	0.413	0.274	0.224	0.182	0.160

Table 1: Storm frequency conversion factors based on rainfall frequencies

Based on the conversion of storm frequencies, a value of k = 0.224 would be appropriate for use in the conversion. However, this value does not take into account the changes to runoff that occur due to changes in infiltration rates and times of concentration.

To better quantify these hydrologic effects, we used the Time of Concentration Calculator[2] to model over 360,000 different hydrologic scenarios of varying storm frequencies and watershed characteristics. Table 2 shows the values used for the 1-year vs. 10-year flow comparisons.

Watershed Parameter	Values Used
Lengths	1000, 1500, 2000
Area	1 and 10 acres
Soils	2 through 180
Slope	0.01, 0.05, 0.08, 0.10, 0.15, 0.20
Imperviousness	0.15, 0.45, 0.95
10-yr Isohyets	1, 2, 4, 6, 8, 10, 12
Possible Combinations	90,216

Table 2: Runoff analyses variables for 1-yr vs. 10-yr

[1] Available from the Public Works website at http://www.ladpw.org/wrd/publication/
[2] An Excel spreadsheet available from the Public Works website at http://www.ladpw.org/wrd/publication/

14-495

Hydrologic modeling using the modified rational method provided insight into the combined effects of watershed characteristics on the runoff ratios. The maximum runoff ratio measured in the extensive testing is being used for the *k* factor. Table 3 contains the maximum value selected for *k* based on these studies.

Statistics	1-yr/2-yr	1-yr/5-yr	1-yr/10-yr	1-yr/25-yr	1-yr/50-yr
Maximum	0.3023	0.2021	0.1646	0.1345	0.1167
Count	67,662	67,662	90,216	67,662	67,662

Table 3. Statistics of Runoff Frequency Ratios Based on Modified Rational Modeling

Figure 2 is provided to show the probability distributions of the runoff ratios generated during the testing.

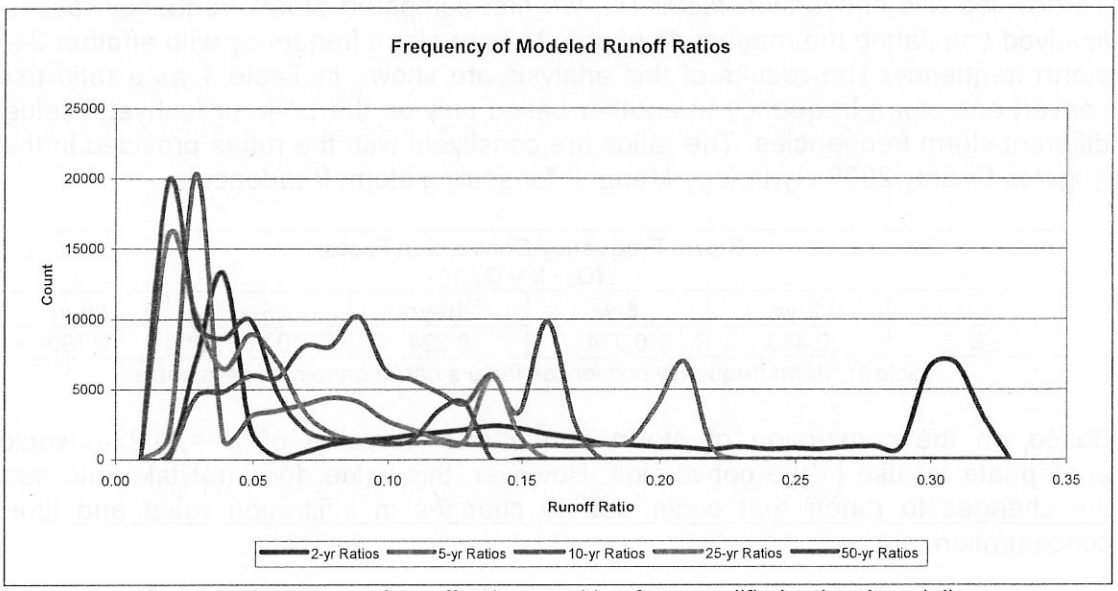

Figure 2. Frequency of runoff ratios resulting from modified rational modeling

Based on a comparison of Table 1 and 3, *k* values from Table 1 have been verified to be a very conservative values for converting an n-year frequency storm to a 1-year frequency storm. A 10-year frequency storm conversion is shown in Equation 2.

Equation 2: $$Q_{1-1} \leq 0.22 \cdot Q_{10}$$

This *k* value will be a conservative assumption that compensates for different land uses, soil types, areas, slopes, isohyets, and travel path lengths.

In most cases of the CPS design, the bypass flow requirements will govern the design, and the screen capacity will be more than adequate to pass the Q_{1-1} flow. Currently, LACFCD is not installing BMP devices on deficient systems (5 year frequency capacity and less) due to uncertainty of flooding risk and maintenance liability.

14-435

V. Catch Basin Flow

A conservative (i.e. maximum) estimate of catch basin flows based on curb opening widths must be determined in order to calculate the $Q_{1\text{-}1}$. The bypass structure must also be able to pass the maximum catch basin flow in order to provide proper flood protection.

Two parameters of catch basin flow (curb flow depth and street slope) must be conservatively assumed in order to calculate the design flow into a catch basin. Based on the LACFCD Hydraulic Manual[3] (Chart D-10D), the street slope does not have a large impact on side-opening catch basin flow, as shown in Table 4 and Figure 3.

	Street Slope (ft/ft)			
Street Width (ft)	**0.005**	**0.01**	**0.03**	**0.05**
3.5	3.7	4	4.3	4.6
7	7.3	7.8	8.4	9
10	10.1	11	11.9	12.7
14	13.7	14.9	16	17.2
21	18.7	20.7	22.6	24.3
28	23	25.5	27.8	30.1

Table 4: Catch basin flow (cfs) for various street slopes
(depth of flow = 8", local depression=2")

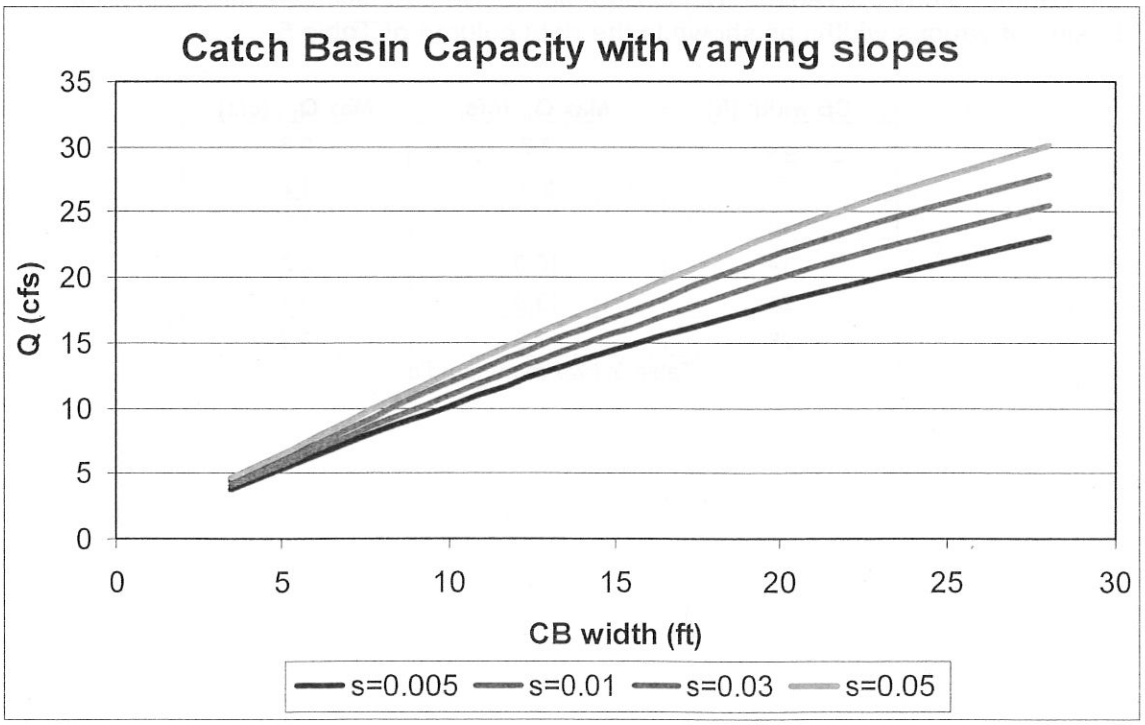

Figure 3: Catch basin flow for various street slopes

[3] Available for download at http://www.ladpw.org/wrd/publication/Engineering/design_manual.pdf

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Street Slope

Although street slope does not to have a major impact on CB flows, flows do increase slightly as the slope increases. Curb opening catch basins are not installed on slopes larger than 0.04, so a slope of 0.04 can be assumed to be the maximum slope

Local Depression

The local depression will also impact the flow to the catch basin up to 25%. However, the vast majority of Public Works catch basins have a local depression of 2 inches, so 2 inches will be used in this study.

Curb Flow Depth

A depth of 6-inches can be assumed to be a conservative value for the depth of flow. A depth of flow of 8-inches (up to the curb height) would be very unlikely, especially on a steeply inclined street (slope >= 0.04).

Analysis Parameters

In summary, the criteria used for the hydraulic analysis of catch basins was:

Basin type: Side Opening Catch Basin (SPPWC Standard Plan 300)
Depth of flow: 6"
Street slope: 0.04 ft/ft
Local depression: 2"

Results for the maximum flow for different catch basins of various widths are shown in the center column of Table 5. Using Equation 2, we can calculate the $Q_{1\text{-}1}$ for catch basins of various widths as shown in the right column of Table 5.

CB width (ft)	Max Q_{10} (cfs)	Max $Q_{1\text{-}1}$ (cfs)
3.5	2.8	0.6
7	5.3	1.2
10	7.5	1.7
14	10.0	2.2
21	13.9	3.1
28	17.3	3.8

Table 5: Maximum $Q_{1\text{-}1}$ flow

14-498

VI. Screen Flow Calculations

To calculate the loss in hydraulic head and flow through the CPS screen, we used an orifice equation to determine the theoretic flow rate. See Figure 4.

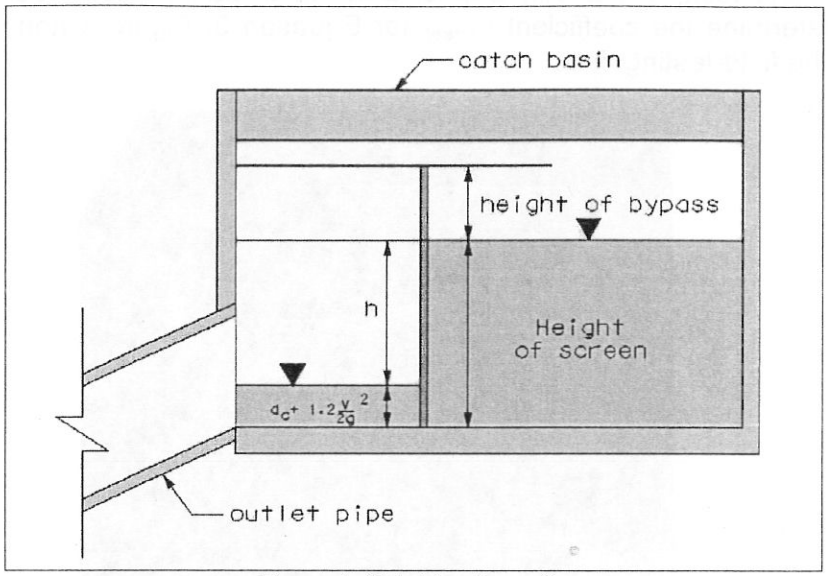

Figure 4: Catch basin profile

Equation 3: $$Q_{screen} = cA_{screen}\sqrt{2gh}$$

The flow through the screen is a function of the open area (A) of the screen and the differential head between the upstream and downstream side of the screen, *h*. The orifice coefficient, *c*, is an empirically determined constant which accounts for friction and turbulence at the orifice. This coefficient is unique to each orifice geometry, and was established in our hydraulic laboratory at the San Gabriel Dam (See Section VII).

Since $Q_{1\text{-}1}$ flows are small relative to design flows and most connector pipes have steep slopes (>0.10) and therefore supercritical flow, critical depth and critical velocity losses can be assumed to be a conservative approximation of the water depth on the downstream face of the screen. The velocity head multiplier (1.2) in Equation 4 is the loss encountered at the entrance of the connector pipe per the LACFCD hydraulic manual.

Equation 4: $$\text{Downstream depth } (D_d) = d_c + 1.2\frac{V^2}{2g}$$

To find the flow through the screen, Equations 3 and 4 must be solved simultaneously using an iterative process since the critical depth is a function of the flow passing through the screen.

VII. Field Testing

Due to the fact that orifice conditions for the screen holes differ substantially from the conditions used to determine the standard orifice coefficients, Design Division performed field tests at the San Gabriel Dam catch basin testing facility (Figure 5) in order to determine the coefficient c_{screen} for Equation 3. Figure 6 and Table 6 present results of the field-testing data.

Figure 5: CPS Testing

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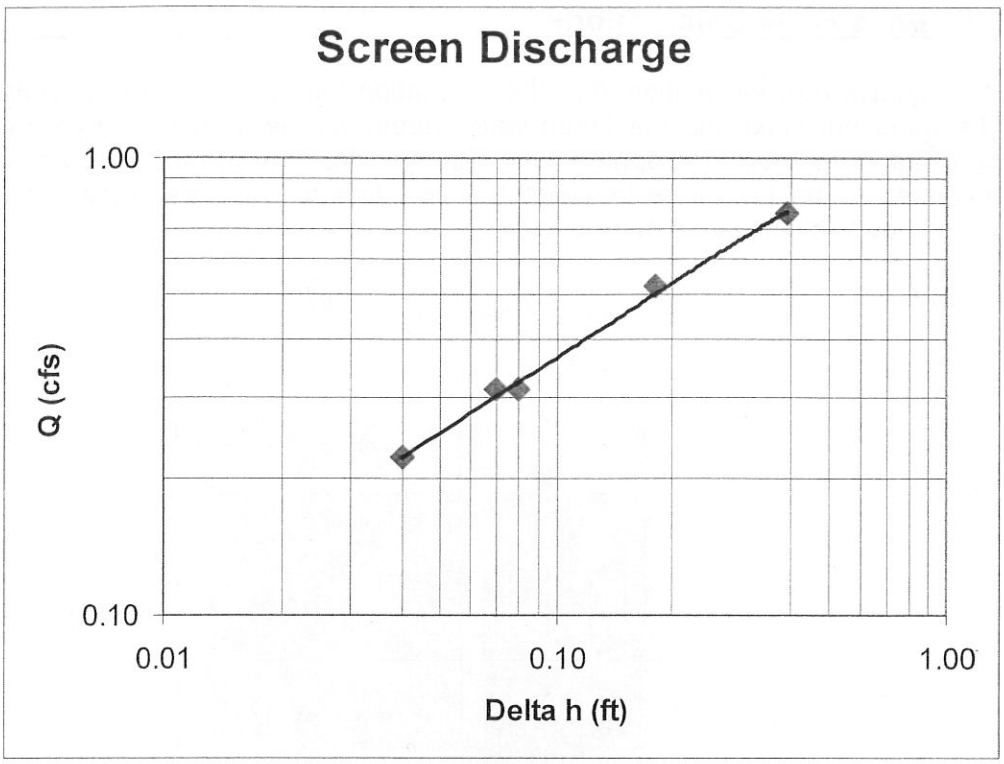


Figure 6: Field test data

Run	Q (cfs)	U/S screen depth (ft)	D/S screen depth (ft)	h (ft)	Area (ft^2)	Orifice coefficient, c
1	0.31	1.62	1.55	0.07	0.228	0.640
2	0.52	1.80	1.62	0.18	0.253	0.603
3	0.75	2.00	1.61	0.39	0.282	0.532
4	0.22	1.61	1.57	0.04	0.248	0.553
5	0.31	1.67	1.59	0.08	0.257	0.531
				Average c_{screen}		**0.572**

Table 6: Field test data

Figure 6 shows that there is clearly a relationship between Q and h, which confirms that Equation 3 is applicable. The varying values for c_{screen} in Table 6 can be attributed to debris lodged in the screen, which is difficult to measure. Even the slightest change in area can drastically impact the c_{screen} coefficient. We will use the smallest, most conservative value, c_{screen} =0.53, in our calculations.

14-501

VIII. Bypass Flow Calculations

For the bypass flow calculation, an orifice equation can also be used. A weir equation can be used but since the maximum water depth will be above the bypass area, an orifice equation is more appropriate (See Equation 5). The maximum depth of flow can be assumed to be anywhere between the flow line or 6-inches below the flow line. Figure 7 shows this situation more clearly.

Equation 5:

$$Q_{bypass} = c_{bypass} A_{bypoass} \sqrt{2gH}$$

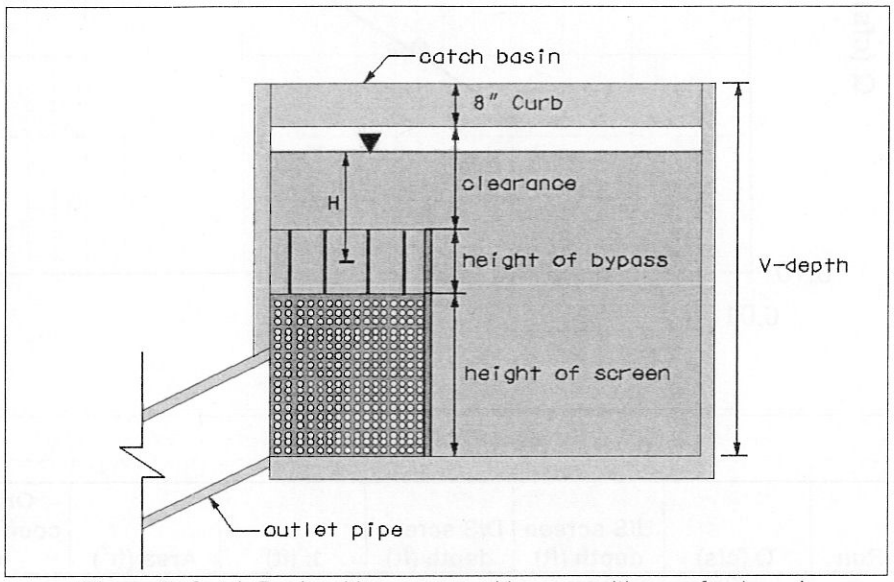


Figure 7. Catch Basin with screen and bypass with zero freeboard.

As part of our retrofit program, Public Works is also intending to use automatic retractable screens (ARS) to further limit trash entering the catch basin. A minimum clearance of 4-inches is required between the top of the bypass and the flow line due to physical restrictions from the ARS See Figure 8.

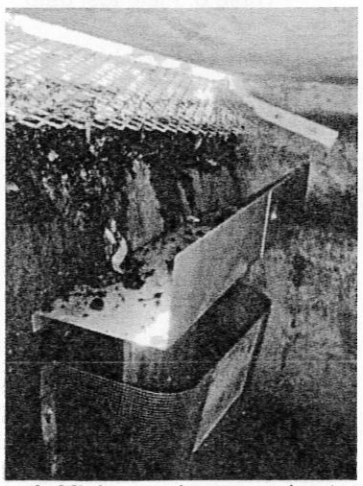


Figure 8. Minimum clearance due to ARS

14-502

IX. Results

The bypass height (H_{bypass}) and length (L) requirements to pass the design flow were first established. With a given bypass height, a height for the screen can be calculated using the remaining depth of the catch basin while ensuring the minimum 6-inch clearance between the flow line and top of the bypass structure. The required length (as shown in Figure 9) of the bypass will be the same length for the screen. The screen capacity was calculated to ensure that the height and length of the screen will pass the Q_{1-1} flow. The freeboard was encroached when necessary.

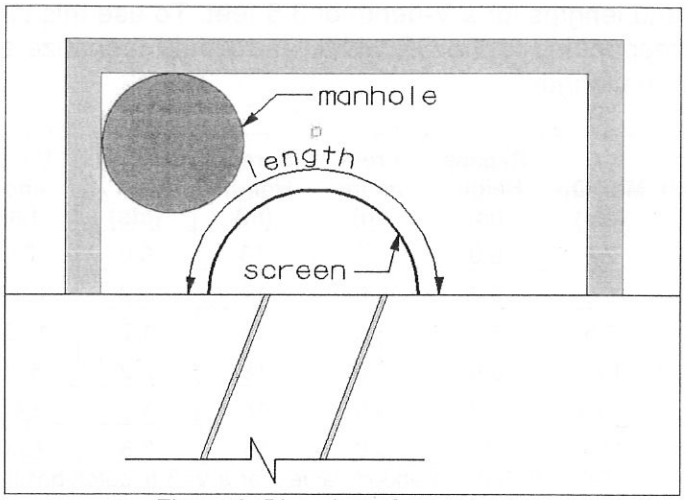


Figure 9: Plan view of catch basin

The following assumptions are made in these calculations:

Screen Clogged % = 50% (conservative assumption from observation)
Open area of screen = 44% (area open for a Stormwater screen, min. area open)

Example Calculation

For V depth = 3.5', CB Width = 3.5', Q_{10} = 2.8 cfs, Q_{1-1} = 0.6 cfs, assume H_{bypass} = 6", H_{screen}=18"

Check Clearance:

= V-depth – H_{screen}– H_{bypass} -curb height
=3.5' – 1.5'-0.5'–8/12'= 10 inches clearance to flow line > min. 4"

Size Bypass Using Equation 5, $Q_{bypass} = c_{bypass} A_{bypoass} \sqrt{2gH} = c_{bypass} H_{bypass} L \sqrt{2gH}$

H_{bypass} = 6 inches, with c_{bypass}=0.6, g=32.2,

$H = \frac{H_{bypass}}{2} + 10" - 6"$ freeboard

$= \frac{6"}{2} + 10" - 6" = 7"$

14-503

$$Q_{bypass} = c_{bypass} H_{bypass} L\sqrt{2gH}$$

$$2.8 = 0.6x0.5' xL\sqrt{2x32.2x7/12}$$

L = 1.52 feet

Then using Equation 3, the screen area can be checked to see if it can pass the $Q_{1\text{-}1}$. Based on a L=1.53 feet and a height of 1.5 feet, the screen can pass 1.5 cfs which is greater than the 0.6 cfs it needs to pass, thus the dimensions are satisfactory.

The following Table 7 provides an example of sizing recommendations for screen and bypass heights and lengths for a V-depth of 3.5 feet. To use this table, a designer would find the row corresponding to the CB width, and would then size a screen that met the minimum height and length.

"V-depth" (ft)	CB Width (ft)	Max Q_{10} (cfs)	Bypass Height (in)	Free-board (in)	Screen Height (in)	$Q_{1\text{-}1}$ (cfs)	Clear-ance (in)	Screen Length (ft)	Screen Capacity (cfs)
3.5	3.5	2.8	6.0	6.0	18	0.6	10.00	1.5	1.5
3.5	7	5.3	6.0	6.0	18	1.2	10.00	2.9	2.9
3.5	10	7.5	6.0	5.0	18	1.7	10.00	3.8	3.8
3.5	14	10.0	8.0	0.0	18	2.2	8.00	3.1	3.1
3.5	21	13.9	8.0	0.0	18	3.1	8.00	4.3	4.3
3.5	28	17.3	12.0	0.0	18	3.8	4.00	3.9	3.9

Table 7: Recommended values for a V=3.5' catch basin

Note that these are only recommended values. Different values may have capacity to pass the design and TMDL flows. Please see the attached appendix for CPS sizing recommendations for most common catch basin sizes.

Some combinations of V-depths and connector pipe sizes made installation of a practically sized CPS impossible, thus the height of the screen had to be reduced below our recommended standards (the total area and therefore treatment capacity of the screen is still adequate even in these unusual scenarios).

A size recommendation was made based on the most practical size. For example, a 15" radius screen, with a 180-degree angle will result in a length of 3.9 feet, or a 15" radius screen with a 90-degree angle will result in a length of 1.96 feet. Thus, the bypass height, screen height were calculated with the goal to calculate a length close to 3.9 feet or 1.9 feet. Increasing the radius or installing rectangular screens to increase the lengths can accommodate any lengths larger than the recommended value.

The screen does not have to be a semi-circular arc, as long as the minimum length and height requirements are satisfied, it will pass the TMDL and design flow regardless of shape. Figure 10 shows an example of a non-circular screen.

14-504

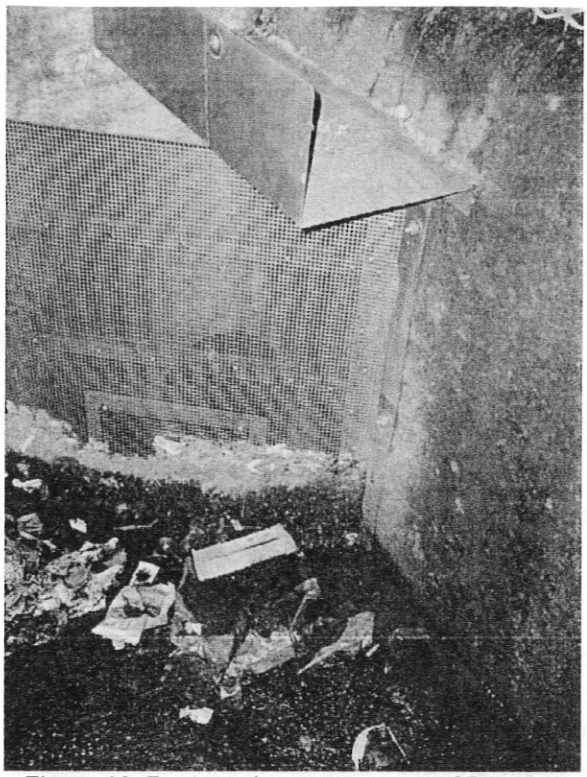


Figure 10. Rectangular screen across CB corner

X. Catch Basins in Series

For parallel catch basins in series (See Figure 10A), only the upstream catch basin shall have a CPS, since the low flow will only enter the upstream basin. The upstream CPS can be sized just like an individual basin.

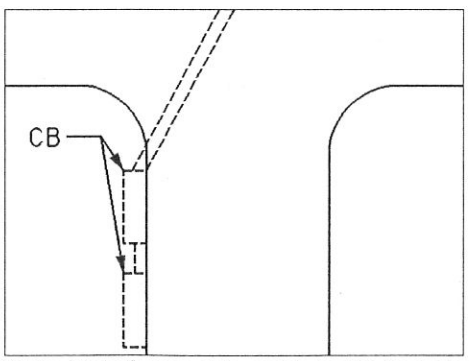


Figure 10A: Same side catch basin in series

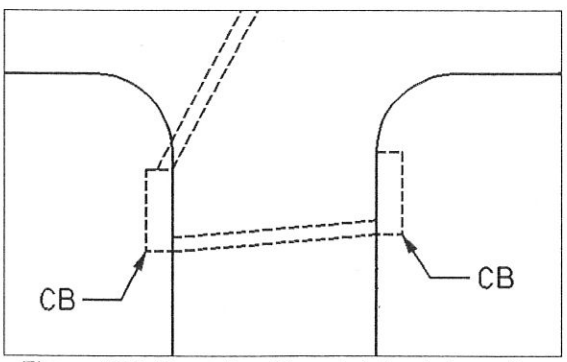


Figure 10B: Opposite side catch basin in series

For catch basins in series across from each other (See figure 10B), the upstream and downstream CB CPS shall be designed as individual basins. However, the downstream basin will need to bypass its design flow and the upstream design flow. The downstream basin shall be designed such that the width of the basin is the sum of the downstream and upstream basin. For example, for two seven-foot basins, the downstream basin shall be designed as a 14-foot basin.

14-505

XI. Maintenance Requirements

The purpose of a Connector Pipe Screen (CPS) is to contain trash within a catch basin, excluding it from the storm drain system. Routine maintenance will be necessary to remove trash from the catch basin to prevent it from accumulating to a point that would affect the performance of the CPS or the catch basin itself.

Proposed Maintenance Approach

- Inspect and clean each catch basin between May 1 and September 30 of each year.
- Inspect and provide additional cleaning of any catch basin that is at least 40% full of trash and/or debris.

Based on field testing at the San Gabriel Dam catch basin testing facility, visual observation of City of Los Angeles Vertical screens, and recommendations from the City of Los Angeles, the following physical requirements were established.

- Minimum V-depth = 3.5
- Minimum screen height = diameter of connector pipe
- 6" spacing for vertical bars for bypass
- 6" minimum bypass height
- 4" minimum clearance from flow line to top of bypass structure.
- When low flows have the potential to fall from the curb to behind the CPS, a deflector or screen must be installed on the top of the structure.
- Where manhole access is impeded due to the internal screen, a new manhole shall be constructed.

14-506

Full Capture CPS Hydraulic Analysis and Sizing

"V-depth" (ft)	CB Width (ft)	No. Grates	Max Q_{10} (cfs)	Bypass Height (in)	Free-board (in)	Screen Height (in)	Q_{1-1} (cfs)	Clearance (in)	Curb Height (in)	Head (ft)	Screen Length (ft)	Screen Capacity (cfs)
CB 300	18" connector pipe											
3.5	3.5	–	2.8	6.0	6.0	18	0.6	10.00	8.00	0.58	1.5	1.5
	7	–	5.3	6.0	6.0	18	1.2	10.00	8.00	0.58	2.9	2.9
	10	–	7.5	6.0	5.0	18	1.7	10.00	8.00	0.67	3.8	3.8
	14	–	10.0	8.0	0.0	18	2.2	8.00	8.00	1.00	3.1	3.1
	21	–	13.9	8.0	0.0	18	3.1	8.00	8.00	1.00	4.3	4.3
	28	–	17.3	12.0	0.0	18	3.8	4.00	8.00	0.83	3.9	3.9
CB 300	24" connector pipe											
3.5	3.5	–	2.8	6.0	0.0	24	0.6	4.00	8.00	0.58	1.5	2.0
	7	–	5.3	6.0	0.0	24	1.2	4.00	8.00	0.58	2.9	3.8
	10	–	7.5	6.0	0.0	24	1.7	4.00	8.00	0.58	4.1	5.4
	14	–	10.0	6.0	0.0	18	2.2	10.00	8.00	1.08	4.0	4.0
	21	–	13.9	9.0	0.0	18	3.1	7.00	8.00	0.96	3.9	3.9
	28	–	17.3	12.0	0.0	18	3.8	4.00	8.00	0.83	3.9	3.9
CB 300	18" or 24" connector pipe											
4.0	3.5	–	2.8	6.0	6.0	24	0.6	10.00	8.00	0.58	1.5	2.0
	7	–	5.3	6.0	6.0	24	1.2	10.00	8.00	0.58	2.9	3.8
	10	–	7.5	8.0	6.0	24	1.7	8.00	8.00	0.50	3.3	4.4
	14	–	10.0	10.0	6.0	24	2.2	6.00	8.00	0.42	3.9	5.1
	21	–	13.9	12.0	3.0	24	3.1	4.00	8.00	0.58	3.8	5.0
	28	–	17.3	12.0	0.0	24	3.8	4.00	8.00	0.83	3.9	5.2
4.5	3.5	–	2.8	6.0	6.0	24	0.6	16.00	8.00	1.08	1.1	1.5
	7	–	5.3	6.0	6.0	24	1.2	16.00	8.00	1.08	2.1	2.8
	10	–	7.5	6.0	6.0	24	1.7	16.00	8.00	1.08	3.0	4.0
	14	–	10.0	8.0	6.0	24	2.2	16.00	8.00	1.17	3.1	4.1
	21	–	13.9	10.0	6.0	24	3.1	12.00	8.00	0.92	3.6	4.8
	28	–	17.3	12.0	6.0	24	3.8	10.00	8.00	0.83	3.9	5.2

JSC-hT

"V-depth" (ft)	CB Width (ft)	No. Grates	Max Q_{10} (cfs)	Bypass Height (in)	Free-board (in)	Screen Height (in)	Q_{1-1} (cfs)	Clearance (in)	Curb Height (in)	Head (ft)	Screen Length (ft)	Screen Capacity (cfs)
CB 300	18" or 24" connector pipe											
5.0	3.5	–	2.8	6.0	6.0	30	0.6	16.00	8.00	1.08	1.1	1.8
	7	–	5.3	6.0	6.0	30	1.2	16.00	8.00	1.08	2.1	3.5
	10	–	7.5	6.0	6.0	30	1.7	16.00	8.00	1.08	3.0	5.0
	14	–	10.0	8.0	6.0	30	2.2	16.00	8.00	1.17	3.1	5.1
	21	–	13.9	10.0	6.0	30	3.1	12.00	8.00	0.92	3.6	6.0
	28	–	17.3	12.0	6.0	30	3.8	10.00	8.00	0.83	3.9	6.5
5.5	3.5	–	2.8	6.0	6.0	36	0.6	16.00	8.00	1.08	1.1	2.2
	7	–	5.3	6.0	6.0	36	1.2	16.00	8.00	1.08	2.1	4.2
	10	–	7.5	6.0	6.0	36	1.7	16.00	8.00	1.08	3.0	6.0
	14	–	10.0	8.0	6.0	36	2.2	16.00	8.00	1.17	3.1	6.2
	21	–	13.9	10.0	6.0	36	3.1	12.00	8.00	0.92	3.6	7.1
	28	–	17.3	12.0	6.0	36	3.8	10.00	8.00	0.83	3.9	7.7
6.0	3.5	–	2.8	6.0	6.0	42	0.6	16.00	8.00	1.08	1.1	2.5
	7	–	5.3	6.0	6.0	42	1.2	16.00	8.00	1.08	2.1	4.9
	10	–	7.5	6.0	6.0	42	1.7	16.00	8.00	1.08	3.0	6.9
	14	–	10.0	8.0	6.0	42	2.2	16.00	8.00	1.17	3.1	7.2
	21	–	13.9	10.0	6.0	42	3.1	12.00	8.00	0.92	3.6	8.3
	28	–	17.3	12.0	6.0	42	3.8	10.00	8.00	0.83	3.9	9.0

21-598

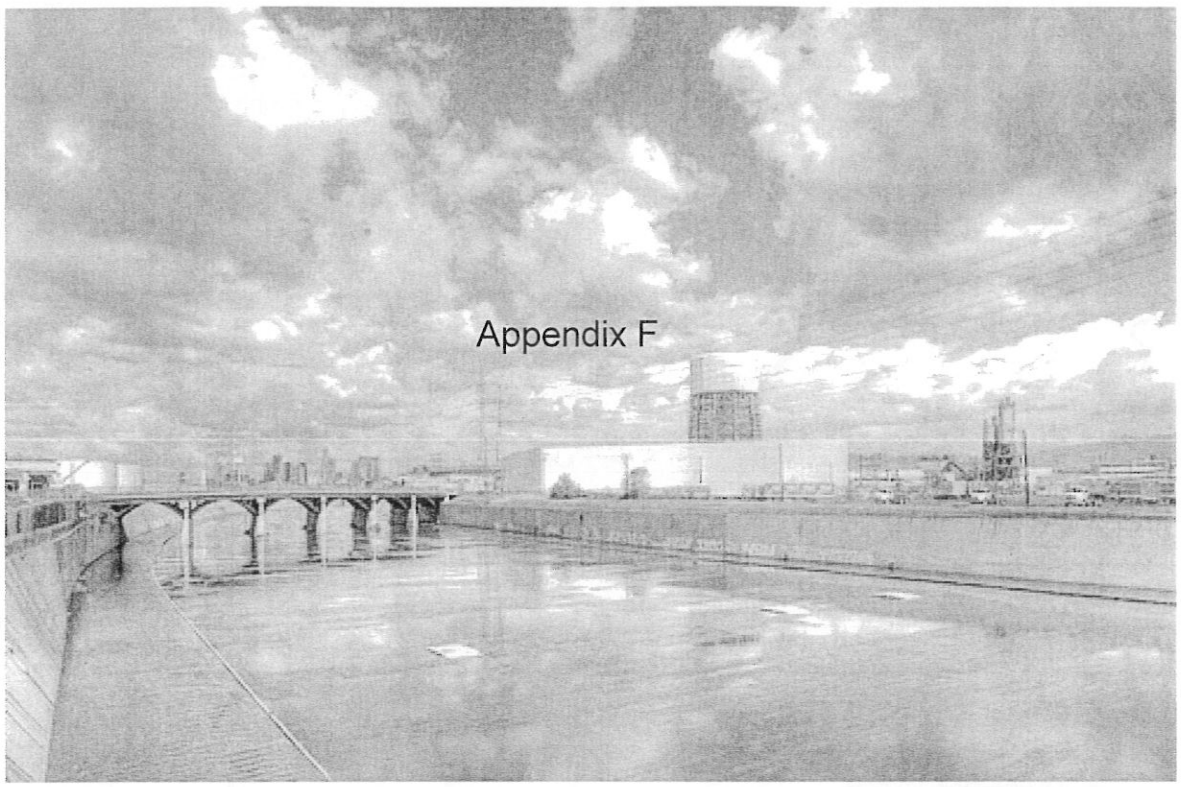
Full Capture CPS Hydraulic Analysis and Sizing

"V-depth" (ft)	CB Width (ft)	No. Grates	Max Q_{10} (cfs)	Bypass Height (in)	Free-board (in)	Screen Height (in)	Q_{1-1} (cfs)	Clearance (in)	Curb Height (in)	Head (ft)	Screen Length (ft)	Screen Capacity (cfs)
CB 301	18" connector pipe											
3.5	7	1	10.7	8	0.0	18	2.4	8.00	8.00	1.00	3.3	3.3
	10.5	2	13.0	10	0.0	18	2.9	8.00	8.00	1.08	3.4	3.4
	14	1	13.6	10	0.0	18	3.0	7.00	8.00	1.00	3.5	3.5
	17.5	2	15.3	10	0.0	18	3.4	6.00	8.00	0.92	4.0	4.0
CB 301	24" connector pipe											
3.5	7	1	10.7	8	0.0	18	2.4	8.00	8.00	1.00	3.3	3.3
	10.5	2	13.0	10	0.0	18	2.9	8.00	8.00	1.08	3.4	3.4
	14	1	13.6	10	0.0	18	3.0	7.00	8.00	1.00	3.5	3.5
	17.5	2	15.3	10	0.0	18	3.4	6.00	8.00	0.92	4.0	4.0
CB 301	18" or 24" connector pipe											
4.0	7	1	10.7	8	0.0	24	2.4	8.00	8.00	1.00	3.3	4.4
	10.5	2	13.0	10	0.0	24	2.9	6.00	8.00	0.92	3.4	4.5
	14	1	13.6	10	0.0	24	3.0	6.00	8.00	0.92	3.5	4.7
	17.5	2	15.3	10	0.0	24	3.4	6.00	8.00	0.92	4.0	5.3
4.5	7	1	10.7	8	6.0	24	2.4	8.00	8.00	0.50	3.3	4.4
	10.5	2	13.0	10	6.0	24	2.9	6.00	8.00	0.42	3.4	4.5
	14	1	13.6	10	6.0	24	3.0	6.00	8.00	0.42	3.5	4.6
	17.5	2	15.3	10	6.0	24	3.4	6.00	8.00	0.42	4.0	5.3
5.0	7	1	10.7	8	6.0	30	2.4	8.00	8.00	0.50	3.3	5.5
	10.5	2	13.0	10	6.0	30	2.9	6.00	8.00	0.42	3.4	5.6
	14	1	13.6	10	6.0	30	3.0	6.00	8.00	0.42	3.5	5.8
	17.5	2	15.3	10	6.0	30	3.4	6.00	8.00	0.42	4.0	6.6
5.5	7	1	10.7	8	6.0	36	2.4	8.00	8.00	0.50	3.3	6.6
	10.5	2	13.0	10	6.0	36	2.9	6.00	8.00	0.42	3.4	6.7
	14	1	13.6	10	6.0	36	3.0	6.00	8.00	0.42	3.5	6.9
	17.5	2	15.3	10	6.0	36	3.4	6.00	8.00	0.42	4.0	7.9
6.0	7	1	10.7	8	6.0	42	2.4	8.00	8.00	0.50	3.3	7.6
	10.5	2	13.0	10	6.0	42	2.9	6.00	8.00	0.42	3.4	7.9
	14	1	13.6	10	6.0	42	3.0	6.00	8.00	0.42	3.5	8.1
	17.5	2	15.3	10	6.0	42	3.4	6.00	8.00	0.42	4.0	9.3

14-565

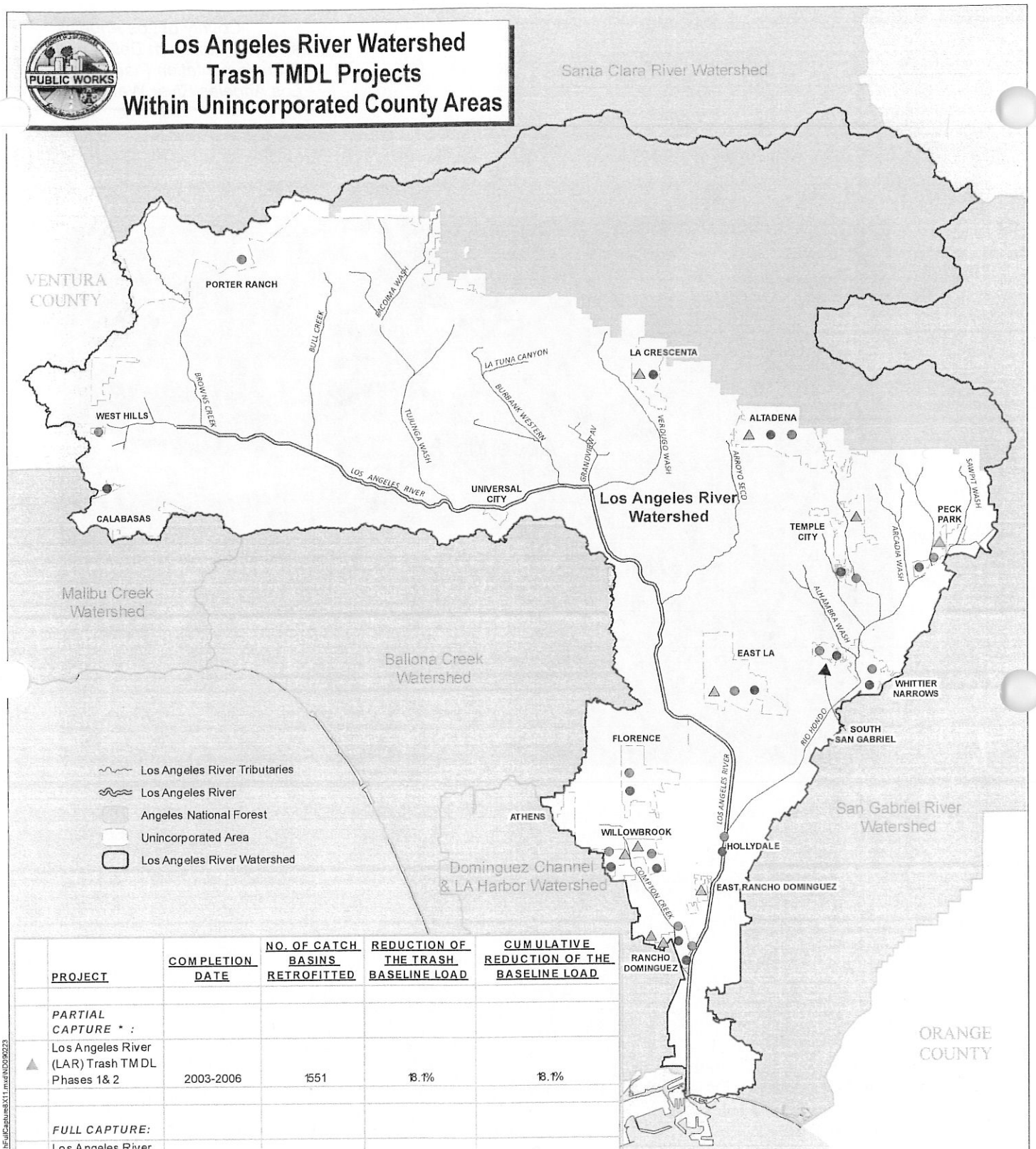
"V-depth" (ft)	CB Width (ft)	No. Grates	Max Q_{10} (cfs)	Bypass Height (in)	Free-board (in)	Screen Height (in)	Q_{1-1} (cfs)	Clearance (in)	Curb Height (in)	Head (ft)	Screen Length (ft)	Screen Capacity (cfs)
CB 303	18" connector pipe											
3.5	–	1	9.7	8	0.0	18	2.1	8.00	8.00	1.00	3.0	3.0
	–	2	10.9	8	0.0	18	2.4	8.00	8.00	1.00	3.4	3.4
	–	3	12.4	8	0.0	18	2.7	8.00	8.00	1.00	3.9	3.8
CB 303	24" connector pipe											
3.5	–	1	9.7	8	0.0	18	2.1	8.00	8.00	1.00	3.0	3.0
	–	2	10.9	8	0.0	18	2.4	8.00	8.00	1.00	3.4	3.4
	–	3	12.4	8	0.0	18	2.7	8.00	8.00	1.00	3.9	3.9
CB 303	18" or 24" connector pipe											
4.0	–	1	9.7	8	0.0	24	2.1	8.00	8.00	1.00	3.0	4.0
	–	2	10.9	8	0.0	24	2.4	8.00	8.00	1.00	3.4	4.5
	–	3	12.4	8	0.0	24	2.7	8.00	8.00	1.00	3.9	5.2
4.5	–	1	9.7	6	6.0	24	2.1	10.00	8.00	0.58	3.0	4.0
	–	2	10.9	8	6.0	24	2.4	8.00	8.00	0.50	3.4	4.5
	–	3	12.4	8	6.0	24	2.7	8.00	8.00	0.50	3.9	5.2
5.0	–	1	9.7	6	6.0	30	2.1	16.00	8.00	1.08	3.0	5.0
	–	2	10.9	6	6.0	30	2.4	16.00	8.00	1.08	3.4	5.6
	–	3	12.4	8	6.0	30	2.7	14.00	8.00	1.00	3.9	6.5
5.5	–	1	9.7	8	6.0	36	2.1	8.00	8.00	0.50	3.0	6.0
	–	2	10.9	8	6.0	36	2.4	8.00	8.00	0.50	3.4	6.7
	–	3	12.4	8	6.0	36	2.7	8.00	8.00	0.50	3.9	7.7
6.0	–	1	9.7	6	6.0	42	2.1	16.00	8.00	1.08	3.0	6.9
	–	2	10.9	6	6.0	42	2.4	16.00	8.00	1.08	3.4	7.9
	–	3	12.4	8	6.0	42	2.7	14.00	8.00	1.00	3.9	9.0

215-525



Appendix F

Los Angeles River Watershed Trash TMDL Projects Within Unincorporated County Areas



	PROJECT	COMPLETION DATE	NO. OF CATCH BASINS RETROFITTED	REDUCTION OF THE TRASH BASELINE LOAD	CUMULATIVE REDUCTION OF THE BASELINE LOAD
	*PARTIAL CAPTURE * :*				
▲	Los Angeles River (LAR) Trash TMDL Phases 1& 2	2003-2006	1551	18.1%	18.1%
	FULL CAPTURE:				
●	Los Angeles River (LAR) Trash TMDL Phase 3	January 2009	586	38.4%	56.5%
●	LAR Trash TMDL Phase 4	December 2009	1,600	6.6%	Expect a 45% reduction** of the trash baseline load by 9/30/09

* When partial capture devices are used in the compliance calculation, it is assumed that a 50 percent reduction is achieved per partial capture device. (Instead of using using the 100 percent reduction alloted per full capture CPS device)

** The 45% cumulative reduction does not include the 18.1% reduction achieved by partial capture devices. It only includes reduction of the baseline achieved by Full Capture devices only.

Data contained in this map is produced in whole or part from the Los Angeles County Department of Public Works' digital database.

\\MPMGIS\projects\mxd\trash\FullCapture\OcTrashFullCapture8X11.mxd NOV090223

State of California
Office of Administrative Law

In re: State Water Resources Control Board	NOTICE OF APPROVAL OF REGULATORY ACTION
Regulatory Action:	Government Code Section 11353
Title 23, California Code of Regulations Adopt sections: Amend sections: 3935 Repeal sections:	OAL File No. 2008-0519-02 S

This amendment of section 3935 reflects the Los Angeles Regional Water Quality Board's adoption of basin plan amendments for trash in the Los Angeles River Watershed (Resolution No. 2007-012); approved by the State Water Resources Control Board (Resolution No. 2008-0024). This action was precipitated by the setting aside of the Los Angeles Regional Board Resolution 01-013 by the Regional Board pursuant to an appellate decision in *City of Arcadia v. State Water Resources Control Board* (2006) 135 Cal.App.4th 1392, for failure to perform an EIR level of analysis through an EIR or its functional equivalent as required under the California Environmental Quality Act (CEQA).

OAL approves this regulatory action pursuant to section 11353 of the Government Code.

Date: 7/1/2008

Elizabeth A. Heidig
Staff Counsel

For: SUSAN LAPSLEY
Director

Original: Dorothy Rice
Copy: Nick Martorano

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of CITIZENS FOR A BETTER ENVIRONMENT, SAVE SAN FRANCISCO BAY ASSOCIATION, AND SANTA CLARA VALLEY AUDUBON SOCIETY For Review of Waste Discharge Requirements Order No. 90-094 of the California Regional Water Quality Control Board, San Francisco Bay Region. Our File No. A-695.	ORDER NO. WQ 91-03

BY THE BOARD:

On July 23, 1990, the State Water Resources Control Board (State Board) received a petition from Citizens for a Better Environment, Save San Francisco Bay Association and Santa Clara Valley Audubon Society (petitioners). The petition sought review of waste discharge requirements adopted by the Regional Water Quality Control Board, San Francisco Bay Region (Regional Board) in Order No. 90-094, regulating discharges of storm water[1] from municipal separate storm sewers throughout the Santa Clara Valley. The storm drains discharge to creeks and streams which are tributary to South San Francisco Bay (South Bay).

The issues raised in the petition are complex, and concern two major federal regulatory programs--storm water

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1 There are variant spellings of "storm water" and "stormwater" found in the relevant statutes, regulations, and case law. We will adopt "storm water", but quoted materials using "stormwater" will also appear in this Order.

regulation and regulation of water bodies which do not attain water quality standards. Given the complexity of these issues, we will review the background and requirements of these programs, and the application of these programs to municipal storm water discharges throughout the Santa Clara Valley.

We note that the Regional Water Quality Control Board, Los Angeles Region, issued a separate permit regulating storm water discharges from municipalities in the Los Angeles area, which we have also reviewed. Order No. WQ 91-04, which is also being issued today, explores many of the same issues as this Order. In preparing this Order, we have reviewed the documents submitted by persons interested in the Los Angeles petition.

I. BACKGROUND

A. The Need for a Storm Water Regulatory Program

Through the natural hydrologic cycle, precipitation condenses from clouds and falls on land surfaces where it disperses in several ways. Water may be temporarily captured in the soil so plants may use and then transpire it. Rain or snowfall may also quickly evaporate or may infiltrate the surface soil to replenish ground water. Rain water and snow melt flow over land areas and replenish creeks, streams, rivers and lakes. But this runoff accumulates a variety of pollutants including minerals, nutrients, bacteria, suspended material, heavy metals and debris as it flows through the natural environment. Surface runoff also becomes degraded as plants and animals use it. Though gravitational flow eventually returns water to the ocean

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and evaporation again transforms this water on a broad scale, the accumulation of pollutants in runoff water may substantially diminish water quality in a microcosm and thereby alter the balance of important natural cycles.

In addition to the pollutants which accumulate in storm water runoff, pollutants also enter surface waters during dry weather through storm drain systems. Pollutants may be transported by wet weather flows or even by direct discharge to the storm drains, and later released to surface waters, even during times when there is no rainfall or snow melt. Examples of these dry-weather pollutant discharges include water line flushing, landscape irrigation, diverted stream flows, rising ground waters, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, and individual residential car washing.

While there is some confusion in the terminology which is used in the regulatory documents, the former type of discharge, which occurs as a direct result of storm events, is usually referred to as "storm water discharge," while the latter form of dry weather discharge is referred to as "urban runoff." Together, we shall most commonly refer to the phenomenon as "storm water discharge."[2] Storm water discharges may be significant contributors of pollutants to surface waters.

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2 In regulations, the Environmental Protection Agency (EPA) adopted recently, "storm water" is defined as "storm water runoff, snow melt runoff, and surface runoff and drainage". 40 CFR Section 122.26(a)(13). While "storm water" thus includes urban runoff, it must be noted that discharges which are not composed of "storm water" (such as illicit discharges to the municipal system from industrial facilities) are prohibited by the regulations. Thus, many forms of urban runoff may in fact be prohibited.

B. Municipal Separate Storm Sewer Systems

Municipal separate storm sewer systems essentially act as conduits for pollutants from diffuse sources throughout the urban environment and from discrete point sources associated with industrial activities. The systems to which we shall refer in this Order are owned or operated by public agencies, are designed or used for collecting or conveying storm water, and are not a combined sewer.[3] While separate storm sewer systems are legally characterized as point sources within the meaning of the Clean Water Act, as discussed hereinafter, the waste which they discharge mostly originates as nonpoint, diffuse waste flows from urban development and activities (including residences, streets and commercial establishments). Municipal separate storm sewer systems are somewhat analogous to municipal sanitary sewer systems where those systems convey industrial wastewaters along with domestic sewage. The sanitary sewers simply transport industrial wastes to the treatment facility and then to the receiving water. However, storm water discharges, and the pollutants therein, are also highly variable, being affected greatly by such factors as storm events, land uses and receiving water conditions, and thus present even greater challenges for their regulation and control.

3 *40 CFR Section 122.26(b)(8).*

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C. Early Attempts to Regulate Storm Water Discharges

In 1972, Congress adopted the Federal Water Pollution Control Act Amendments of 1972,[4] which created a comprehensive program to protect surface waters. The Clean Water Act emphasizes the control, treatment and elimination of all pollutant sources in order to protect vital uses of the nation's waters. Because scant information about runoff existed in 1972, the Clean Water Act mandated further assessment of runoff, its constituent pollutants, the consequent water quality effects, and applicable control measures. Section 105 of the Act specified that the development and application of "waste management methods" to prevent, reduce, or eliminate pollutants from storm water runoff would be a national priority.[5]

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4 Public Law 92-500 (86 Stat. 816, enacted October 18, 1972); 33 USC Section 1151 et seq. Although characterized in the official title as "amendments", the 1972 FWPCA essentially rewrote the pre-1972 Federal Water Pollution Control Act. The 1972 amendments are commonly referred to as the Clean Water Act, and we will follow that practice. We shall use the enumeration of Clean Water Act sections, rather than the comparable United States Code designations.

5 The pertinent portions of Section 105 state:

> *"(a) The Administrator [of the Environmental Protection Agency] is authorized to conduct in the Environmental Protection Agency and to make grants to any state, municipality, or intermunicipal or interstate agency for the purpose of assisting in the development of (1) any project which will demonstrate a new or improved method of preventing, reducing, and eliminating the discharge into any waters of pollutants from sewers which carry storm water or both storm water and pollutants...."*
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> * * *
>
> *(d) In carrying out the provisions of this section, the Administrator shall conduct, on a priority basis, an accelerated effort to develop, refine, and achieve practical application of:*
> *(1) waste management methods applicable to point and nonpoint sources of pollutants to eliminate the discharge of pollutants, including, but not limited to, elimination of runoff of pollutants and the effects of pollutants from inplace or accumulated sources...."*

The Clean Water Act also included a major new regulatory program intended to implement the Act's stated goal of eliminating the discharge of pollutants into surface waters by 1985. Section 301 of the Act prohibits the discharge of any pollutant to navigable waters from a "point source"[6] unless the discharge is authorized by a national pollutant discharge elimination system (NPDES) permit. The provisions for adoption of NPDES permits are contained in Section 402 of the Clean Water Act.[7]

In 1973, EPA issued regulations which exempted certain categories of point sources of pollution from the permit requirements of Section 402.[8] One of the categories of discharges exempted by the 1973 regulations was separate storm sewers containing only storm runoff uncontaminated by any industrial or commercial activity. In Natural Resources Defense Council v. Costle (D.C.Cir. 1977) 568 F.2d 1369, the court held

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6 A "point source" is defined in Section 502(14) as "any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged." It is important to note that, while the discharge of storm water to surface waters is a discharge from a point source from a legal standpoint, these discharges have often been referred to in official documents as "nonpoint" discharges, in recognition of the manner in which they travel over land to the point of discharge.

7 Section 402 authorizes states to administer the NPDES program within their boundaries. EPA has approved California's NPDES program. Pursuant to the provisions of the Porter-Cologne Water Quality Control Act (California Water Code Section 13000 et seq.), NPDES permits are issued by the Regional Water Quality Control Boards in California.

8 See 38 Fed. Reg. 18000 (1973).

that the Clean Water Act required NPDES permits for all discharges of pollutants from point sources, specifically including the discharge of storm water. In that opinion, the court encouraged the use of general permits and "alternative" permit conditions for storm water permits. It was not until 1990, after several aborted attempts, that EPA finally issued regulations for the issuance of storm water permits.[9]

D. Basin Planning Activities by the Regional Board

In 1975, the Regional Board adopted its Water Quality Control Plan for the San Francisco Bay Region (1975 Basin Plan).[10] The 1975 Basin Plan broadly characterized suspected constituents in runoff and roughly estimated pollutant mass loadings from runoff throughout the region. These estimates were derived from several earlier, but limited runoff emission studies. In the 1975 Basin Plan, the Regional Board acknowledged the necessity to obtain further knowledge about storm water runoff and to undertake regulatory actions. Four fundamental control strategies were described for urban runoff: (1) Prevent contaminants from reaching urban land surfaces; (2) Improve street cleaning and cleansing of other public areas;

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9 40 CFR Parts 122, 123, and 124. See 55 Fed. Reg. 47990 (November 16, 1990).

10 The 1975 Basin Plan was approved by the State Board in Resolution No. 75-28.

(3) Treat runoff prior to discharge to receiving waters; and (4) New controls on land use and development.[11]

The 1975 Basin Plan concluded that until more definitive research and study about runoff control strategies was conducted, the prudent regulatory path was to adopt and maintain reasonable source control measures and comprehensive monitoring programs. In approving the 1975 Basin Plan, the State Board stipulated that various actions in the Plan, including the urban runoff strategies, constituted recommendations which the State Board, the Regional Board and other agencies should consider further.[12]

The 1975 Basin Plan identified beneficial uses for specified water bodies and listed water quality objectives to protect such uses. Among the water quality objectives listed in the 1975 Basin Plan was a narrative toxicity objective.[13] Compliance with the narrative toxicity objective was to be determined by bioassays. The Basin Plan further specified "limiting concentrations" for inorganic chemical constituents (primarily heavy metals) in waters used as domestic and municipal supply.[14]

The 1975 Basin Plan did not specify numeric water quality objectives for the South Bay. It instead prohibited

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11 1975 Basin Plan, Chapter 5, "Nonpoint Source Measures", pages 5-39 through 5-41.

12 State Board Resolution No. 75-28.

13 The objective requires that all waters be maintained free of toxic substances in toxic amounts. 1975 Basin Plan, page 4-11.

14 1975 Basin Plan, at page 4-18.

continued wastewater discharges to the South Bay, with specified exceptions to this prohibition.[15] The Basin Plan also referred to various plans and policies of the State Board, including the "Water Quality Control Policy for the Enclosed Bays and Estuaries of California."[16] However, the 1975 Basin Plan explicitly stated that this policy does not apply to wastes from "land runoff".[17]

After approval of the Basin Plan by the State Board, the beneficial uses and water quality objectives contained therein were approved by EPA as water quality standards within the meaning of the Clean Water Act. Thus, in 1976 there were no numeric water quality objectives for the South Bay, and there was a general prohibition against discharges thereto, which did not apply to storm water discharges.

In 1986, the Regional Board made substantial revisions to the Basin Plan.[18] The 1986 Basin Plan included numeric objectives for specific toxic pollutants (primarily heavy metals) in some of the surface waters in the Region. For surface waters

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15 1975 Basin Plan, pages 5-6 through 5-12 and 5-47.

16 The "Bays and Estuaries Policy", as this document is commonly known, was adopted on May 16, 1974.

17 1975 Basin Plan, "Bays and Estuaries Policy", section at page 4-11. In the Bays and Estuaries Policy, the State Board had prohibited continued wstewater discharges to the South Bay, based on limited assimilative capacity, generally shallow depth and hydrodynamic circumstances restricting free movement and wide dispersion.

18 The Regional Board amended the Basin Plan in Resolution No. 86-14, on December 17, 1986. This document will be referred to as "1986 Basin Plan". The State Board approved the revisions on May 21, 1987.

downstream from Carquinez Straits, the Regional Board adopted water quality objectives in Table III-2A, which were to be included in NPDES permits.

The 1986 Basin Plan reiterated the necessity of site-specific, numeric water quality objectives for the South Bay, and did not apply the Table III-2A objectives there. The 1986 Basin Plan explained:

> "The South Bay below the Dumbarton Bridge is a unique, water quality limited, hydrodynamic and biological environment which merits continued special attention by the Board. Site specific water quality objectives are absolutely necessary in this area for two reasons. First, its unique hydrodynamic environment dramatically affects the environmental fate of pollutants. Second, potentially costly nonpoint source pollution control measures must be implemented to attain any objectives in this area. The costs of those measures must be factored into economic impact considerations by the Board in adopting any objectives for this area. Nowhere else in the Region will nonpoint source economic considerations have such an impact on the attainability of objectives. Therefore, for this area, the objectives contained in Tables III-2A and III-2B will be considered guidance only, and should be used as part of the basis for site specific objectives. Programs described in Chapter IV will be used to develop site specific objectives for it. Ambient conditions shall be maintained until site specific objectives are developed."[19]

The 1986 Basin Plan identified existing and potential beneficial uses for the South Bay and its tributary surface waters. Uses for the South Bay include industrial service supply, navigation, body contact and non-contact recreation, commercial and sport fishing, wildlife and rare and endangered species habitat, fish migration and spawning, shellfish

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19 1986 Basin Plan, page III-5.

harvesting and estuarine habitat.[20] For the numerous surface water bodies tributary to the South Bay, the beneficial uses typically include municipal supply, agricultural supply, ground water recharge, body contact and non-contract recreation, cold and warm freshwater habitat, wildlife habitat, and fish migration and spawning.

In order to protect beneficial uses, the 1986 Basin Plan contained a four-part implementation plan. The plan included point source control measures, nonpoint source control measures, estuarine management actions, and continued planning actions. While the plan for point sources included either specific effluent limitations to be included in NPDES permits or alternative limits based on site-specific water quality objectives, the plan for nonpoint sources did not contain such specific controls. It was noted in the 1986 Basin Plan that wastes from diffuse sources such as agricultural operations, onsite treatment and disposal systems, construction activities, urban runoff, spills and dredging had not been thoroughly investigated.[21]

While the 1986 Basin Plan did not call for the immediate regulation of storm water runoff, the Plan did

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20 1986 Basin Plan, Table 2-1.

21 As was noted earlier, while storm water runoff is legally a point source and must be regulated as such, many historical documents describe such discharges as nonpoint sources. Regardless of the nomenclature, such documents must be read in context. Where, as here, the Regional Board distinguished between point sources and nonpoint sources including storm water or urban runoff, we must interpret its intent to exclude storm water runoff from the rules for other point sources. In the Basin Plan, it is obvious that the Regional Board considered both storm water and urban runoff as nonpoint sources.

summarize the findings of several local and national studies concerning urban and storm water runoff.[22] Collectively, these studies indicated that runoff varies considerably, but likely contributes significant quantities of pollutants, especially heavy metals, to the surface waters. The 1986 Basin Plan instituted actions to identify more thoroughly local runoff problems, to evaluate existing control measures, and to develop specific additional measures. Local governmental agencies and owners or operators of storm drain systems in the South Bay were required to submit detailed information and to identify and implement runoff control measures.

E. Preliminary Control Activities in the Santa Clara Valley Storm Water System

The information required by the 1986 Basin Plan provided some data regarding operation of the municipal separate storm sewer system in the Santa Clara Valley. Throughout the Valley, a relatively flat region spanning approximately 700 square miles between the Santa Cruz Mountains and the Diablo Range, a complex network of storm sewers and natural drainage courses collect and transport intermittent urban runoff and storm waters from urban, industrial, residential and undeveloped areas. The County of Santa Clara, the Santa Clara Valley Water District, and 13 cities[23] own, operate, or maintain the municipal separate

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22 1986 Basin Plan, pages IV-39 through IV-41.

23 The cities and towns are Campbell, Cupertino, Los Altos, Los Altos Hills, Los Gatos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga and Sunnyvale. They are sometimes referred to in the record as "Santa Clara Valley Nonpoint Source Agencies".

storm sewers within the system. The collected flows are conveyed and discharged into numerous creeks, streams, rivers and other surface water bodies which comprise the Santa Clara hydrologic unit of the San Francisco hydrologic basin, and which are ultimately tributary to the South Bay.[24]

In response to the 1986 Basin Plan requirements, the local agencies which discharge storm water runoff from their storm drain systems into Santa Clara Valley drainage courses developed an action plan to initiate a storm water runoff control program.[25] The program consisted of three principal phases: (1) Dry- and wet-weather investigation and monitoring of pollutants in runoff flows and in receiving waters; (2) Identification and evaluation of alternative pollutant control measures; and (3) Development of an implementation plan. The local agencies and their consultants prepared and submitted reports when they completed each phase of the program. The "Implementation Program", the final phase, was completed in March 1990. This report described numerous individual and jurisdiction-wide runoff pollutant control measures and the institutional arrangement to implement them.

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24 The eleven principal drainages or "watersheds" of the Santa Clara Valleys include: Calabazas Creek, Coyote Creek and its tributaries, Guadalupe River and its tributaries, San Tomas Aquinos Creek, Saratoga Creek, Sunnyvale East drainage, Sunnyvale West drainage, Stevens Creek, Permanente Creek, San Francisquito Creek, and Adobe, Matadro, and Barron Creeks.

25 Santa Clara Valley Nonpoint Source Discharge Evaluation Action Plan (July 1987).

F. Water Quality Act of 1987

1. Storm Water Provisions

In 1987, the federal Clean Water Act was amended[26] to add provisions specifically requiring a regulatory program for storm water discharges. Section 402 of the Clean Water Act was amended to add subsection 402(p), which establishes NPDES permit application requirements for municipal storm water discharges and for storm water discharges associated with industrial activities.[27]

Section 402(p)(1) provides that prior to October 1, 1992, NPDES permits shall not be required for discharges composed entirely of storm water. Exceptions to this prohibition include discharges from municipal separate storm sewer systems serving a population of 250,000 or more (Section 402(p)(2)(C)) and where the "stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States". Section 204(p)(2)(E). Regarding municipal discharges, Section 402(p)(3)(B) provides:

> "Permits for discharges from municipal storm sewers--(i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and

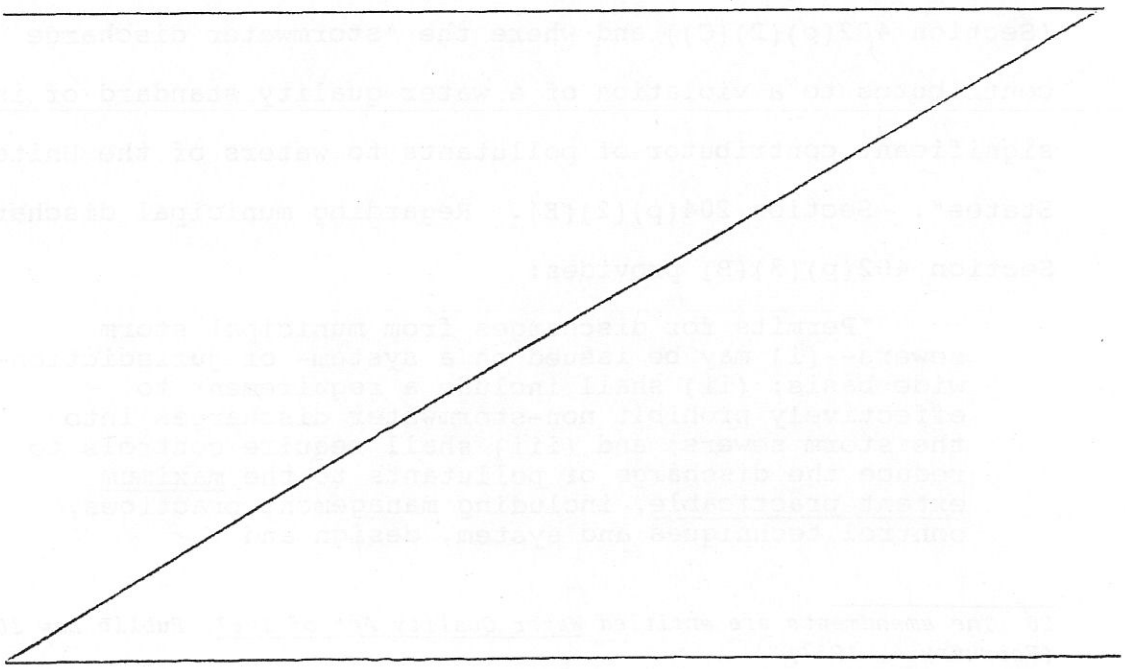
26 The amendments are entitled Water Quality Act of 1987, Public Law 100-4 (February 4, 1987).

27 Section 405(p) of the Water Quality Act of 1987.

engineering methods, and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." (Emphasis added.)

The issues raised in this petition concern the portions of Section 402(p) addressing municipal discharges, especially the meaning of the requirement that municipalities must control and reduce pollutant discharges to the "maximum extent practicable". These issues will be discussed in detail hereafter.

On December 7, 1988, EPA issued draft regulations intended to implement Section 402(p). However, despite the statutory requirement that EPA promulgate regulations by February 4, 1989, the final regulations were not promulgated until November 16, 1990,[28] after the Regional Board had issued the permit which we are reviewing.



28 *55 Fed. Reg. 47990.*

2. Section 304(l)

The Water Quality Act of 1987 also added Subsection 304(l) to the Clean Water Act.[29] Section 304(l) generally requires states to identify those surface waters which are adversely affected by toxic, conventional, and nonconventional pollutants. The surface waters may be included on any of three lists which must be prepared. The list which we shall discuss herein includes waters which are not expected to meet applicable standards, "due entirely or substantially to discharges from

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29 Section 308(a) of the Water Quality Act of 1987 added Section 304(l)(1), which states:

"Not later than 2 years after February 4, 1987, each State shall submit to the Administrator for review, approval, and implementation under this subsection--

(A) a list of those waters within the State which after the application of effluent limitations required under section 1311(b)(2) of this title cannot reasonably be anticipated to attain or maintain (i) water quality standards for such waters reviewed, revised, or adopted in accordance with section 1313(c)(2)(b) of the title, due to toxic pollutants, or (ii) that water quality which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water,

(B) a list of all navigable waters in such State for which the State does not expect the applicable standard under section 1313 of this title will be achieved after the requirements of sections 1311(b), 1316, and 1317(b) of this title are met, due entirely or substantially to discharges from point sources of any toxic pollutants listed pursuant to section 1317(a) of this title;

(C) for each segment of the navigable waters included on such lists, a determination of the specific point sources discharging any such toxic pollutant which is believed to be preventing or impairing such water quality and the amount of each such toxic pollutant discharged by each such source; and;

(D) for each such segment, an individual control strategy which the State determines will produce a reduction in the discharge of toxic pollutants from point sources identified by the State under this paragraph through the establishment of effluent limitations under section 1342 of this title and water quality standards under section 1313(c)(2)(B) of this title, which reduction is sufficient, in combination with existing controls on point and nonpoint sources of pollution, to achieve the applicable water quality standard as soon as possible, but not later than 3 years after the date of the establishment of such strategy."

point sources". Section 304(l)(1)(B). The list is commonly known as the "B list".

Section 304(l) also requires states to prepare "individual control strategies" ("ICS") to control toxic pollutant discharges. To implement Section 304(l), EPA promulgated regulations on June 2, 1989.[30] The regulations interpret an "individual control strategy" to mean "a final NPDES permit with supporting documentation showing that effluent limits are consistent with an approved wasteload allocation, or other documentation which shows that the applicable water quality standards will be met not later than three years after an individual control strategy is established."[31]

The ICS or permit must reduce toxic pollutant discharges from identified point sources "in combination with existing controls on point and nonpoint sources of pollutants".[32] The regulations require ICS's for surface waters on the B list, i.e. for waters which do not or are not expected to achieve applicable water quality standards "due

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30 54 Fed. Reg. 23896.

31 40 CFR Section 123.46(c).

32 40 CFR Section 123.46(a).

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entirely or substantially to discharges from point sources" of toxic pollutants.[33]

On February 3, 1989, the State Board sent EPA its B list of impaired waters and contributing point sources. The South Bay was included on this list because conditions violated the narrative receiving water quality objective for toxicity. Point sources which were identified as contributing to the violation of standards included three municipal wastewater treatment plants,[34] and "stormdrains." The list identified seven toxic pollutants (cadmium, copper, lead, mercury, nickel, selenium and silver) as causing the impairment.

G. Adoption of the Permit

In an attempt to fulfill the numerous requirements of the 1986 Basin Plan amendments, the provisions of state law regarding adoption of waste discharge requirements,[35] the Clean Water Act provisions regarding storm water permits and

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33 40 CFR Section 130.10(d). The regulations only require ICS's for those surface waters identified on the B list. 40 CFR Section 123.46(a). In a recent court decision, it was held that this interpretation was too narrow, and the regulations were remanded to EPA for reconsideration. Natural Resources Defenses Council v. Environmental Protection Agency (9th Cir. 1990) 915 F.2d 1314. The other lists required under Section 304(l) are the "A(i) list" of surface waters not expected to attain water quality standards due to toxic pollutants (Section 304(l)(1)(A)(i)) and the "A(ii) list" of surface waters which will not attain water quality which "assure[s] protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recretional activities in and on the water". Section 304(l)(1)(ii).

34 See our earlier order regarding these plants, Order No. WQ 90-5.

35 California Water Code Section 13000 et seq.

Section 304(l), and the federal regulations regarding Section 304(l), the Regional Board issued a draft NPDES permit for the Santa Clara Valley Nonpoint Sources Agencies' (the dischargers) storm water discharges throughout Santa Clara Valley. Public hearings were held by the Regional Board on May 16 and on June 20, 1990, and on the latter date the Regional Board adopted the NPDES permit (NPDES permit CA0029718; Regional Board Order No. 90-094). Subsequently, the petitioners filed a timely petition for review of the NPDES permit. On September 28, 1990, EPA approved the permit as an ICS.[36]

II. CONTENTIONS AND FINDINGS

The petition raises a number of contentions which all address whether the permit must include numeric, water quality-based effluent limitations. The petitioners argue that, both as an NPDES permit regulating storm water discharges and as an ICS, the permit must prescribe numeric effluent limitations for toxic pollutants (specifically cadmium, copper, lead, mercury, nickel, selenium, silver and "toxic organic pollutants") in regulated storm water discharges.

The petitioners' arguments contend that numeric effluent limitations are required both pursuant to the legal

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36 The document transmitting EPA's approval constituted EPA's final agency action and is entitled, "Decision of the United States Environmental Protection Agency on Listings under Section 304(l) of the Clean Water Act Regarding the State of California." This Decision will be referred to as "304(l) Decision." On page 20, EPA states: "EPA approves NPDES permit CA0029718 as the individual control strategy for the South San Francisco Bay Stormdrains. The permit requires attainment of water quality standards in South San Francisco Bay."

requirements for NPDES permits generally and for ICS's specifically. The petitioners generally contend that the dischargers are causing pollutants to enter the South Bay and to violate water quality standards there, and that the only acceptable means to control this impact is to place numeric limitations on the dischargers' effluent. The petitioners also contend that the permit does not comply with statutory deadlines in the Clean Water Act. Finally, the petitioners seek inclusion of specified measures to reduce pollutants from transportation facilities and practices.

In order to address the various arguments made by the petitioners, we must discuss some of the factual assumptions which the petitioners have made, along with the legal contentions. Our order of presentation varies somewhat from the petitioners', but all of the major points are covered.[37]

A. Location of the Storm Water Discharges in the Santa Clara Valley

The petitioners' arguments are based on the premise that the dischargers' municipal separate storm sewer system discharges pollutants to the South Bay and that these discharges are significantly impairing its beneficial uses. The petitioners contend that these beneficial uses are jeopardized by the failure of the permit to contain numeric effluent limitations. As we shall explain, the petitioners' broad assertions vastly oversimplify the complex nature of the dischargers' flood control

37 Any issue not specifically discussed herein is dismissed for failure to raise substantial issues appropriate for review. 23 Calif. Code of Regulations, Section 2052(a)(1).

and drainage facilities, imply that the storm sewer system discharges only into the South Bay, and misconstrue ambient water quality criteria, receiving water quality standards and effluent limitations.

The storm drains are generally point sources,[38] which discharge upstream from the South Bay.[39] While pollutants may be transported from the storm drains to the South Bay, the process of this transportation and the amounts of pollutants reaching the South Bay are unknown.

The documents and reports required by the 1986 Basin Plan, and which accompanied the permit application, describe the dischargers' municipal separate storm sewer system. This system, a vast network of catchments, street gutters, conduits, pipes and channels, collects urban runoff flows and storm water flows from eleven distinct watersheds and a land area greater than 700 square miles. Numerous outfalls (point sources) exist throughout the entire Santa Clara Valley, which discharge urban runoff and storm water flows into nearby natural surface waters. The permit

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38 The term "point source" is defined in the Clean Water Act as:

> *"...any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged..." Section 502(14).*

39 The documents prepared by the State Board and EPA pursuant to Section 304(l) speak only vaguely of "stormdrains" and do not specify to which specific stormdrains they refer. We do acknowledge that the petitioners may have read these documents to mean that a determination had been made that storm water discharges are known to contribute significant pollutants directly to the South Bay. However, as we will explain infra, the decision to list "stormdrains" as a point source on the B list was based on minimal information and a reading of Section 304(l) requiring listing under the circumstances.

covers the dischargers' entire jurisdiction. Many of the surface waters are separately identified in the Basin Plan, and water quality standards are established, as described above. The surface waters then flow into the South Bay.

While the precise location of each outfall is not apparent in the record (and may not be known at this time), the dischargers' storm sewers generally convey waste to specific, identified receiving waters other than the South Bay. The permit contains a finding regarding the point of discharge:

> "Discharge consists of the surface runoff generated from various land uses in all the hydrologic subbasins in the basin which discharge into watercourses which in turn flow into South San Francisco Bay."[40]

The natural water courses to which the storm sewers discharge are not in themselves part of the dischargers' municipal separate storm sewer system. The EPA regulations define the term "municipal separate storm sewer" as "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains)...."[41] In the Santa Clara Valley, the storm sewer outfalls discharge to the water courses upstream

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40 Permit, Finding Number 3.

41 40 CFR Section 122.26(b)(8).

from the South Bay These water courses are themselves waters of the United States.[42]

Storm water discharge, which originates as a diffuse, nonpoint source flow, becomes a "point source" addition of pollutants at the discrete intersection of the conveyance (outfall) and waters of the United States. While there may be cases where it is difficult to distinguish waters of the United States from the dischargers' conveyance systems, where the outfall leads to a natural stream with designated beneficial uses and water quality objectives, the outfall is the point source. The mouth of the river or creek at the South Bay is not a point source. The dischargers' storm sewer system conveys waste, though numerous point source outfalls, to Santa Clara Valley's creeks, streams and rivers. Few storm sewers discharge directly into South San Francisco Bay.

B. Conditions of the Receiving Waters

Both the South Bay and the water courses which receive the storm water discharges have beneficial uses. However, the uses of the streams, creeks, and rivers in the Santa Clara Valley are not the same as the uses of the South Bay. (This point is obvious since the upstream waters are fresh and the Bay is

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42 The EPA regulations provide:

> *"'Outfall' means a 'point source' as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States." 40 CFR Section 122.26(b)(9).*

estuarine.) The Valley surface waters are chiefly used for municipal supply, agricultural supply, ground water recharge, body contact and non-contact recreation, cold and warm freshwater habitat, wildlife habitat, and fish migration and spawning, and, in some cases, for freshwater replenishment, navigation, and rare and endangered species habitat.[43]

As described above, the objectives contained in Table III-2A of the 1986 Basin Plan are not applicable to the South Bay.[44] Even though the Basin Plan appears to state that these objectives may apply to the Santa Clara Valley surface waters, the marine water criteria which are enumerated in Table III-2A clearly do not. Criteria intended to protect marine or estuarine water uses, especially aquatic habitat, cannot simply be interpolated for freshwater uses such as drinking water supply, since the bases for the criteria are different.

A better reading of the 1986 Basin Plan is that EPA's ambient fresh water criteria, which are also the water quality objectives in Table III-2B, apply to the upstream water courses. Table III-2A states that EPA fresh water criteria[45] "can be applied seasonally, where appropriate."[46] It appears that the Regional Board intended that such fresh water criteria may be

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43 1986 Basin Plan.

44 In Order No. WQ 90-5, we recently directed the Regional Board to adopt numeric water quality objectives for toxic pollutants in the South Bay.

45 EPA's most recent compilation of water quality criteria is the "Gold Book", entitled Quality Criteria for Water 1986 (EPA 440/5-86-001). These criteria have not been adopted as rules or regulations.

46 1986 Basin Plan, Table III-2A, footnote b.

applied to such water courses as the Santa Clara Valley surface waters. We reach this conclusion because ambient criteria for protection of uses in freshwater are clearly more appropriate than the estuarine or marine water criteria. The record indicates that the water courses upstream of the South Bay may be impaired or threatened by a variety of pollutant sources, including storm drains and nonpoint sources, such as abandoned mines. However, none of the upstream water bodies was included on the Section 304(l) "B" list.

The petitioners argue that by including "stormdrains" as contributors to impairment of the South Bay on the B list, "[t]oxic pollutants and toxicity known to be present in the dischargers' (sic) discharges are known to violate water quality standards and impair uses."[47] We find, instead, that the decision to list storm drains as a point source on the B list was based on the available evidence at the time, and a broad reading of the types of pollutant sources to the South Bay which should be listed. In making the findings for the listing, we stated:

> "Our review of the data, therefore, concerning the relative metals loadings from point and nonpoint sources indicates that impairments of water quality in the South Bay cannot be attributed to one or the other category of source. Rather, any regulatory strategy to improve the water quality and protect beneficial uses in the South Bay must take both categories or sources into account."[48]

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47 See Exhibit 2 to Petition, page 11.

48 State Board Order No. WQ 90-5 at page 55.

On April 11, 1991, we adopted the Statewide Water Quality Control Plans for Inland Surface Waters of California (Inland Plan) and for Enclosed Bays and Estuaries of California (Bays and Estuaries Plan), which include numeric water quality objectives which will apply to the surface waters of Santa Clara Valley and to the South Bay. The plans provide five years for the Regional Board to determine what actions are appropriate to ensure that storm water discharges are in compliance with the numeric objectives. The Plans further provide: "All dischargers shall be given a maximum of 10 years from the date of adoption of this plan to come into compliance with the numerical objectives in this plan." See, March 26, 1991 Draft, at page A-28.

C. Storm Water Discharge Characteristics

Pursuant to the 1986 Basin Plan requirements, the dischargers conducted dry- and wet-weather monitoring to characterize urban runoff and storm water flows from the municipal separate storm sewer system. From these investigations, cadmium, chromium, copper, lead, nickel and zinc were found in detectable concentrations in residential, commercial and industrial land use runoff and in the Santa Clara Valley surface waters. Arsenic, mercury, selenium and silver were seldom detected.[49] Further, significant differences were recorded between dry-weather and wet-weather stream concentrations, and runoff pollutant concentrations varied

49 *Santa Clara Valley Nonpoint Source Study, Volume I: Loads Assessment Report*.

considerably between storms and between locations. The evidence suggests that storm water and urban runoff transport heavy metals which are then deposited with sediments in the Santa Clara Valley creeks and streams. The physical aspects of runoff (that is, the erosion and scour of these sediments in the receiving waters) resuspends pollutants during storm events. Wet weather flow in the natural water courses likely transports resuspended pollutants to the South Bay.

In comparing storm water runoff and receiving water concentrations to EPA's criteria, heavy metals concentrations were typically less than the chronic toxicity criteria during dry-weather periods. Copper and, to a lesser extent, zinc, lead and cadmium, exceeded the acute toxicity criteria values during wet-weather. Laboratory tests were also performed to study toxicity using undiluted, static-renewal effluent samples for both dry-and wet-weather periods. The dry-weather test results were inconsistent and inconclusive. In the dischargers' wet-weather laboratory samples, approximately 75 percent of these samples significantly affected Ceriodaphnia test organisms. Even though a few heavy metals did exceed acute toxicity criteria in the same samples, the lethal effects could not be definitively correlated to the presence of particular heavy metals alone. Test results suggest the presence of other, unmeasured chemical agents or factors.

The results of the characterization studies indicate that the nature and effects of storm water discharges are

complicated. While we are concerned about the effects of the dischargers' storm water discharges on aquatic life and other beneficial uses, we also note that the various point sources and nonpoint sources affect these uses in a complicated and little-understood fashion. In attempting to solve the problems of the South Bay we must ensure that the Regional Board uses its authority to control both point and nonpoint sources in the most effective manner possible.

D. The Regional Board's Pollution Control Strategy

As we have discussed above, the dischargers' municipal separate storm sewer system generally discharges waste into numerous receiving waters, and not directly into the South Bay. The characterization studies which have been performed do suggest that potential threats exist and warrant appropriate control. Following the requirements of the 1986 Basin Plan and Clean Water Act Section 402(p), the Regional Board adopted the NPDES permit as an initial element of its storm water control strategy for protecting the surface waters of the Santa Clara Valley.

The NPDES permit employs a two-fold strategy; it prohibits non-storm water discharges and illicit connections, and it requires a comprehensive series of regulatory, governmental, and educational control measures. The first element effectively prohibits unpermitted industrial discharges into the storm sewer

system, and should also prohibit most dry-weather "urban runoff" discharges.[50]

The second element prescribes area-wide and community-specific source reduction, hydraulic, and treatment-based control measures. For example, some of the regulatory measures include local ordinances to prohibit litter and hazardous waste disposal, regulations governing oil and grease disposal, provisions for construction site drainage, and increased use of permeable landscaping and surfaces. Public agency control measures include intensified street sweeping, bimonthly community cleanup days, illegal dumping investigations, and detention and infiltration projects. As potential contaminants in storm sewer flows substantially originate from human activities, the permit requires extensive educational and outreach programs geared toward residents and small businesses.

The method by which the specific control activities will be implemented is that the dischargers must submit a Management Plan for approval by the Regional Board, and then must implement the Plan. Thus, the permit lists some, but not all of the management practices which will be undertaken. The dischargers have already identified a list of practices from which the individual entities will select. The specific

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50 "Illicit discharge" is defined in EPA's regulation as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for dischages from the municipal separate storm sewer) and discharges resulting from fire fighting activities." 40 CFR Section 122.26(b)(2). While this regulation was adopted subsequent to issuance of the permit, it is assumed that this definition will apply.

practices will be selected over a two-year period starting with adoption of the NPDES permit.

In addition to the basin-wide and community-specific "best management practices" required by the permit and the prohibitions against discharging non-storm water, the permit also prohibits discharges of storm water which cause or contribute to violation of receiving water limitations. The receiving water limitations disallow the creation of conditions of pollution or nuisance in the receiving waters. In addition, the discharge may not cause a violation of "any applicable water quality objective for receiving waters."[51]

The permit does not include specific, numeric effluent limitations which would be measured at the outfalls. This omission is the crux of the petitioners' complaints.

E. Legal Requirements of Clean Water Act Sections 301 and 402(p)

The petitioners contend that the Clean Water Act, and regulations and court decisions interpreting the Act, require the inclusion of numeric effluent limitations in NPDES permits for the discharge of storm water from a municipal separate storm sewer system. We have reviewed these authorities, and also opinions we have received from EPA, and conclude that numeric effluent limitations are not legally required. Further, we have determined that the program of prohibitions, source control

51 *Permit, Receiving Water Limitation B.2.*

measures and "best management practices" set forth in the permit constitutes effluent limitations as required by law.

First and foremost, the petitioners contend that by virtue of the absence of numeric effluent limitations, the permit contains no "effluent limitations" or "water quality-based effluent limitations."[52] The petitioners assert that effluent limitations can only be numeric concentration values for individual constituents. Our review of the relevant law reveals that the permit's scheme of prohibitions, source control measures and best management practices constitutes valid effluent limitations consistent with requirements of "maximum extent practicable" controls and water quality standards.

Before we address the acceptability of practices as "effluent limitations" we shall review the mandate contained in the Clean Water Act that NPDES permits in general must contain effluent limitations, and we shall decide whether that mandate applies to permits regulating municipal discharges of storm water in particular.

Section 301 of the Clean Water Act prohibits the discharge of any pollutant,[53] unless pursuant to a NPDES permit

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52 Indeed, even among Regional Board staff and the dischargers there appeared to be confusion regarding the term "effluent limitation". See e.g., transcript from May 16, 1990 Regional Board hearing, at page 11. All parties to the permit appeared to be under the impression that the permit did not contain effluent limitations. As we will explain, however, our determination that best management practices may constitute effluent limitations is certainly not novel.

53 "Discharge of a pollutant" is defined to include "any addition of any pollutant to navigable waters from any point source." Clean Water Act Section 502(12).

(or other method in compliance with the Act). Section 301(b) further requires point sources to be in compliance with effluent limitations which require the application of "best practicable control technology currently available," and which are necessary to meet water quality standards established under state law, by July 1, 1977.[54] Section 301 also requires compliance with any more stringent effluent limitations which are necessary to protect water quality standards. The former effluent limitations are generally referred to as technology-based, while the latter are referred to as water quality-based.

Thus, the general rule in Section 301 is that point sources must comply with effluent limitations. These effluent limitations are contained in NPDES permits, for which standards are set out in Clean Water Act Section 402. Section 402(a)(1) provides that permits may allow the discharge of pollutants, so long as the permit requires compliance with applicable requirements including Section 301.

Subsection (p) was added to Section 402 in order to clarify the specific requirements relating to discharges of storm water. Section 402(p)(3) specifies the permit requirements for industrial and municipal discharges:

> "(A) Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 1311 [Section 301] of this title.
> "(B) Permits for discharges from municipal storm sewers--

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54 For certain pollutants, effluent limitations which require "best available technology economically achievable" must be met by March 31, 1989. As will be explained infra, the deadlines contained in Section 301(b) are clearly not applicable to municipal dischargers of storm water.

"(i) may be issued on a system-or jurisdiction-wide basis;

"(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

"(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."[55]

While the permit requirements for industrial discharges require compliance with all applicable provisions of Section 402 and with Section 301, Section 402(p)(3)(B) is ambiguous as to whether municipal storm water discharges must comply with these general requirements (including effluent limitations). The requirements specified for municipal discharges are only a prohibition against non-storm water discharges and "controls to reduce the discharge of pollutants to the maximum extent practicable."[56] Thus, the first issue which arises is whether the requirements of Section 301 and of Section 402, other than subsection 402(p), apply to municipal storm water discharges.

The petitioners claim that Section 402(p) requires the inclusion of effluent limitations in permits, and specifically effluent limitations necessary to meet water quality standards.

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55 It is clear that the time limitations in Section 301 do not apply to either type of discharge. Industrial and large municipal discharges are given three years after issuance to comply with permit terms. Section 402(p)(4)(A).

56 The third provision in the municipal requirements, issuance on a system- or jurisdiction-wide basis, is couched in permissive rather than mandatory terms.

The dischargers, along with many interested municipalities throughout the State, claim that the only standards which they must meet are the reduction of pollutants to the "maximum extent practicable" ("MEP") and the prohibition against non-storm water discharges.

In reviewing the terms of Section 402(p), we find that the meaning of the statute on its face is not clear. On the one hand, there is nothing in Section 402(p) which states that the general provisions of Sections 301 and 402 do not apply to municipal storm water discharges. This would lead us to conclude that these general provisions do apply. On the other hand, the subsection applying to industrial discharges specifies that those general provisions apply, while the subsection referring to municipal storm water discharges is silent on this point. Because the meaning of the statute is ambiguous, we will look to other sources to determine the legislative intent.[57]

The legislative history is generally silent on the meaning of the MEP standard and the distinction between industrial and municipal discharges.[58] However, we have obtained an interpretation from EPA, and that interpretation must be accepted as a valid interpretation of the federal law, unless

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57 See Cal. Jur. III, Vol. 58, Statutes, page 453.

58 1987 U.S. Code Cong. and Adm. News, pages 38-39. Senator Durenberger is quoted as saying that MEP includes such controls as "management practices, control techniques and systems, [and] design and engineering methods." Volume 132, No. 143 Congressional Record, S16443 (October 16, 1986).

it is manifestly unreasonable. National Wildlife Federation v. Gorsuch (D.C. Cir. 1982) 693 F.2d 156. In a memorandum from its Assistant Administrator and General Counsel,[59] EPA proceeds to consider two plausible interpretations: (1) Congress intended to waive all Section 301 requirements for municipal discharges in favor of the MEP standard, or (2) the MEP statutory requirement modified only the technology-based requirements contained in Section 301, and left in place the need for water quality-based requirements, even if those requirements would be more stringent than MEP. EPA concluded by adopting the latter interpretation.

EPA gave two reasons for its conclusion that municipal storm water discharges do not need to meet technology-based standards contained in Section 301, but that they must meet water quality-based standards. First, a contrary reading would require the conclusion that Congress implicitly repealed Section 301 as applied to these discharges. Such a conclusion would generally be disfavored by courts. Second, such a reading would interpret the Water Quality Act of 1987 as weakening the standards of the Clean Water Act, whereas the available legislative history indicates a desire to strengthen its provisions.

In reviewing EPA's interpretation, we cannot conclude that it is wholly unreasonable. Further, we have an interest as a state agency in supporting this rationale. It is the state-adopted water quality standards which EPA claims must be met by provisions of the permit. We must conclude that it is in the

59 Memorandum from E. Donald Elliot to Nancy J. Marvel, Regional Counsel, EPA Region IX, regarding "Compliance with Water Quality Standards in NPDES Permits Issued to Municipal Separate Storm Sewer Systems", dated January 9, 1991.

interest of the State to be able to enforce its standards in the provisions of NPDES permits. See, Clean Water Act Section 510. Further, since the State has the authority to adopt the water quality standards, we believe that we can incorporate into these standards the necessary flexibility to allow realistic opportunity for compliance.[60] We have used this flexibility in our recently-adopted Inland Plan and Bays and Estuaries Plan. These provide ten years for storm water dischargers to come into compliance with numeric water quality objectives. In addition, the Plans emphasize source reduction of toxic pollutants and development of best management practices before costly end-of-the-pipe treatment is required. See, California Inland Surface Waters Plan, at page A-24.

We therefore conclude that permits for municipal separate storm sewer systems issued pursuant to Clean Water Act Section 402(p) must contain effluent limitations based on water quality standards. As we discussed earlier, the applicable water quality standards in this matter are those established for the creeks and streams which are predominantly the receiving waters of the storm water discharges. These standards appear generally to be EPA's fresh water criteria. The Inland Plan also contains applicable water quality objectives which will be submitted to EPA for approval as water quality standards. Dischargers of storm water are given a maximum of ten years to come into

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60 The Regional Board adopts water quality objectives pursuant to its authority in Water Code Section 13240 and following. This Board may also adopt water quality objectives pursuant to Water Code Section 13170.

complaince with the numeric objectives contained in the Inland Plan. We will now consider whether "best management practices" constitute acceptable effluent limitations, or whether numeric effluent limitations based on numeric water quality standards are required.[61]

While the petitioners have correctly pointed to the absence of numeric effluent limitations, the permit prohibits non-storm water discharges, and includes receiving water limitations and a requirement that the discharge not cause the violation of any water quality objectives. The permit does, therefore require compliance with water quality standards. The major issue is whether numeric effluent limitations are also required.

As we stated above, the Regional Board and the dischargers assumed that the permit did not include effluent limitations. However, in its response to the petition, Region IX of EPA concludes that effluent limitations need not be numeric, and may instead constitute any measures to reduce pollutants in the discharge including "best management practices."[62] This response is also consistent with EPA's 304(l) Decision, in which

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61 A point which is not directly at issue here is what sort of effluent limitations are required to meet the MEP standard set forth in Section 402(p). While the question of what actions are required to achieve MEP may indeed be a source of substantial controversy, it is clear that the inclusion of best management practices in a permit (rather than numeric effluent limitations) is an acceptable means of complying with the MEP requirement. See, Vol. 132, Congressional Record, S16443 (October 16, 1986).

62 See letter from Harry Seraydarian, Director, Water Management Division, to Elizabeth Miller Jennings, Senior Staff Counsel, State Water Resources Control Board, dated October 24, 1990.

it approved the permit as an ICS pursuant to Clean Water Act Section 304(l). Because EPA undertook a final action in the 304(l) Decision, approving the permit with best management practices rather than numeric effluent limitations, we assume that EPA's formal agency position is that expressed in the response from Region IX. Therefore, we shall follow this interpretation unless it is manifestly incorrect.

The statutory definition of "effluent limitation" is broad and supports EPA's contention that a numeric limit is not required:

> "The term 'effluent limitation' means any restriction established by a State or the Administrator on quantities, rates, and concentrations of chemical, physical, biological, and other constituents which are discharged from point sources into navigable water, the waters of the contiguous zone or the ocean, including schedules of compliance." Clean Water Act Section 502(11).

The definition of "effluent limitation" contained in EPA's regulations is similarly broad:

> "Effluent limitation means any restriction imposed by the Director [or a State] on quantities, discharge rates, and concentrations of 'pollutants' which are 'discharged' from 'point sources' into 'waters of the United States,' the waters of the 'continguous zone,' or the ocean." 40 CFR Section 122.2.

In a decision by a federal court of appeals, the court stated that it did not agree with the premise that effluent limitations must be articulated "in terms of a numeric effluent standard." Natural Resources Defense Council v. Costle (D.C. Cir. 1977) 568 F.2d 1369. Rather, the court stated that

Section 402 "gives EPA considerable flexibility in framing the permit to achieve a desired reduction in pollutant discharges. The permit may proscribe industry practices that aggravate the problem of point source pollution." 586 F.2d at 1380. (Emphasis added.) Costle concerned whether specific discharges, including storm water, must be regulated by NPDES permits. EPA had assumed that numeric effluent limitations were required, and argued that these would be infeasible. Instead, the court clarified that specific practices could be required, especially in cases such as storm water regulations, where numeric permit limitations would be difficult to enforce.

Following the Costle case, and several attempts by EPA to establish a regulatory program for storm water permits, the Clean Water Act was amended to incorporate Subsection 402(p). Given this background in the development of storm water regulations, it appears reasonable to assume that in adopting subsection 402(p), Congress intended to allow EPA to regulate "practices" as suggested by the court.

In a more recent decision by the Ninth Circuit court of appeals, it was held that numeric, technology-based effluent limitations may not always be appropriate, and that EPA must include in permits it adopts whatever effluent limitations are necessary to achieve state water quality standards. Trustees for Alaska v. Environmental Protection Agency (9th Cir. 1984) 749 F.2d 549. Section 302 of the Clean Water Act describes the use of effluent limitations to protect beneficial uses of water where

the application of technology-based standards is inadequate.[63] This section states that water quality-based effluent limitations may include "alternative effluent control strategies." Clean Water Act Section 302(a). Plainly, the term "alternative effluent control strategies" encompasses the types of control measures prescribed in the NPDES permit.[64] Costle, supra, at note 21.

Finally, EPA's storm water regulations, while not specifically addressing the contents of municipal permits, clearly emphasize a "best management practices" approach. The information which municipalities must submit in their applications concerns establishment of a control program with specific structural and non-structural controls. There is nothing in the storm water regulations which would indicate an approach which mandates numeric effluent limitations.

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63 Section 302(a) provides:

> *"Whenever, in the judgment of the Administrator or as identified under section [304(l)] of this title, discharges of pollutants from a point source or group of point sources, with the application of effluent limitations required under section [301(b)(2)] of this title, would interfere with the attainment or maintenance of that water quality in a specific portion of the navigable waters which shall assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water, effluent limitation (including alternative effluent control strategies) for such point source or sources shall be established which can reasonably be expected to contribute to the attainment or maintenance of such water quality." (Emphasis added.)*

64 EPA has also adopted regulations regarding the establishment of water quality-based effluent limitations. These regulations are discussed in the next section.

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In conclusion, we agree with EPA that Sections 301 and 402 must be read to require municipal storm water discharges to meet MEP and also to achieve compliance with water quality standards. The most reasonable way of blending these two sections together is to write permits which seek implementation of water quality standards through the controls which constitute MEP. In other words, Section 402(p) should be read to require permits to include actions which constitute MEP for the first three years, and then an evaluation of further actions which must be taken if water quality standards are not protected. We do not believe this reading is inconsistent with EPA's requirement that standards be met within three years, since MEP will be the most effective method of achieving reductions in pollutants contained in storm water, as discussed below. Region IX of EPA expressed this policy well in their response to the petition:

> "Region 9 believes that it would be premature for a municipal storm water permit to include numerical effluent limitations. Storm drains raise unique problems and differ from other types of point source discharges in that only limited information is currently available concerning the sources and loadings of the pollutants and the effectiveness of many of the control measures. While NPDES permits have been issued since the mid-1970s for industrial dischargers and POTWs, permitting of municipal storm drains is still in its infancy and additional information is necessary to determine the best means for achieving compliance with water quality standards."

As a final point, we note that the provisions contained in the permit also comply with the state law requirements for

adoption of waste discharge requirements. Water Code Section 13263 provides that requirements:

> "...shall implement relevant water quality control plans, if any have been adopted, and shall take into consideration the beneficial uses to be protected, [and] the water quality objectives reasonably required for that purpose...."

We find that the permit includes a comprehensive and stringent program for reducing pollutants in storm water discharge, and that it will implement the Basin Plan, including the protection of beneficial uses.

F. Legal Requirements of Clean Water Act Section 304(l)

The NPDES permit was issued pursuant to both Clean Water Act Sections 402(p) and 304(l). Thus, the permit must be adequate not only as a NPDES permit regulating storm water under Section 402(p), but it must also meet the requirements of Section 304(l) and the regulations adopted thereunder.[65]

Section 304(l)(1)(B) required this Board to compile a list of surface waters for which we do not expect water quality standards will be achieved after requirements of Section 301 and other applicable sections are met, "due entirely or substantially to discharges from point sources" of specified toxic pollutants. In addition, for each segment of waters included on the B list, we were required to determine the "specific point sources

65 The Section 304(l) regulations concerning water quality-based effluent limitations, which we shall discuss in this section, are applicable whenever permits must require compliance with water quality standards, and not just where Section 304(l) is applicable. Therefore, these regulations would also have to be satisfied even if these storm drains had not appeared on the 304(l) B list.

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The NPDES permit was issued pursuant to both Clean Water Act Sections 402(p) and 304(l). Thus, the permit must be adequate not only as a NPDES permit regulating storm water under Section 402(p), but it must also meet the requirements of Section 304(l) and the regulations adopted thereunder.[65]

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65 The Section 304(l) regulations concerning water quality-based effluent limitations, which we shall discuss in this section, are applicable whenever permits must require compliance with water quality standards, and not just where Section 304(l) is applicable. Therefore, these regulations would also have to be satisfied even if these storm drains had not appeared on the 304(l) B list.

based limits on one or more point sources would result in the achievement of an applicable water quality standard for a toxic pollutant; or

"(ii) The discharge of a toxic pollutant from one or more point sources, regardless of any nonpoint source contribution of the same pollutant, is sufficient to cause or is expected to cause an excursion above the applicable water quality standard for the toxic pollutant." 40 CFR Section 130.10(d)(5).

It should be noted that waters must be listed where, notwithstanding the impacts of nonpoint sources, the contribution of the point source "is expected to cause" the water body to

66 54 Federal Register 23868-23899.

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exceed water quality standards. Section 130.10(d)(5)(ii). This means that waters may be put on the B list even where the nonpoint sources are the more significant contributors to the violation of water quality standards. Moreover, in its preamble to the 304(l) regulations, EPA noted two points especially relevant here. First, EPA noted the difficulty of developing ICS's for storm water outfalls. 54 Federal Register 23884 (1989). Second, EPA discussed the lack of available data to make the determinations required by Section 304(l) and the short time schedule available. Nonetheless, EPA directed the states to "rely on existing and readily available data" and discussed what it considered to be "the minimum existing and readily available water quality data and information that a state and EPA can reasonably attain." 54 Federal Register 23884 (1989).

Taking together 40 CFR 130.10(d)(5)(ii) and EPA's comments concerning storm water outfalls and scant available data, it is clear that there may be situations where point sources are included on the B list where at the time of listing, their proportionate wasteload contribution to the excursion of water quality standards is unknown, where regulation through traditional methods available for point sources is not feasible, and where any provisions requiring a reduction in the discharge of pollutants from these point sources may not be adequate to allow the receiving water to achieve water quality standards (in light of continuing contributions from nonpoint sources).

It appears that the instant matters includes all of these variables. As was discussed above, while the

dischargers' storm drains are point sources, they do not generally discharge directly to the South Bay, and their relative contribution, via riverine transport, to the South Bay's impairment is still unknown.[67] In short, given the available data, we do not believe that any restraints--that is, numeric effluent limitations--which could be imposed on the discharge of pollutants through the storm drain system would alone attain water quality standards in the South Bay.

We do note that EPA's definition of ICS may be read to require that ICS's be set so as to ensure that receiving waters will achieve water quality standards. In 40 CFR Section 123.46, EPA set forth the requirements of ICS. The term ICS is defined as: "a final NPDES permit with supporting documentation showing that effluent limits are consistent with an approved wasteload allocation, or other documentation which shows that applicable water quality standards will be met not later than three years after the [ICS] is established." Section 123.46(c). However, a recent court decision has brought this requirement into question. In Natural Resources Defense Council v. Environmental Protection Agency (9th Cir. 1990) 915 F.2d 1314, the court disapproved of one portion of EPA's Section 304(l) regulations, and remanded the

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67 In EPA's response to comments regarding its final decision regarding lists of waters, sources and pollutants under Section 304(l), it conceded the lack of scientific data available concerning South San Francisco Bay. EPA concluded "that narrative standards for toxicity are being exceeded in South San Francisco Bay and that the exceedance is due substantially to POTW and storm drain point source discharges of toxic pollutants." To support this conclusion, EPA pointed to a final Staff Report of the State Board, supporting our Order No. WQ 90-5, wherein it is stated that "the State Board agrees that the relative contribution of point and nonpoint sources to ambient water conditions has not been established." 304(l) Decision.

regulations to EPA for reconsideration. The court determined that EPA must list point sources for all water bodies which appear on any of the Section 304(l) lists, not just the B list.[68] It did not reach the question whether ICS's are required for all listed point sources, or only for those related to B lists. This is the issue which was remanded to EPA. In reading this court decision, it is apparent that it is not expected that all point sources which are designated under Section 304(l) are capable of limiting pollutants to an extent that water quality standards will be met in the receiving water. Further, it is certainly questionable whether an ICS will be able to ensure that the receiving waters will achieve water quality standards.

The regulations themselves raise questions as to whether it will always be feasible to assure compliance with water quality standards simply through adoption of an ICS. The pollutants associated with storm water discharges are apparently bound up in sediments in dry weather periods and are resuspended and transported in storm events. The Preamble to the Section 304(l) regulations states that water quality impairments due to sediments contaminated and deposited by active point sources (such as storm drains) must be included on the B list.

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68 The other two lists are known as the "(A)(i) list" and the "(A)(ii) list." Section 304(l)(1)(A)(i) requires a list of water bodies in which water quality standards are not expected to be achieved after the application of effluent limitations to point sources. The list required by Section 304(l)(1)(A)(ii) must include waters which, after application of effluent limitations to point sources, are not expected to "assure protection of public health, public water supplies, agricultural and industrial uses, and the protection and propagation of a balanced population of shellfish, fish and wildlife, and allow recreational activities in and on the water."

Nevertheless, NPDES permits do not apply to the sediments. 54 Federal Register 23883. Given the complicated and little understood process of transportation and resuspension of sediments, it is not possible to calculate numeric effluent limitations which would apply to storm drain outfalls and would be based upon water quality standards in downstream waters such as the South Bay.

Notwithstanding the ambiguities raised in interpreting Section 304(l), we must still address whether the effluent limitations contained in the permit are adequate as water quality-based effluent limitations pursuant to EPA's regulations. EPA adopted regulations at 40 CFR 122.44(d) which set forth requirements for water quality-based limitations. These regulations were adopted to comply with Section 304(l). See, 54 Federal Register 23870.

EPA's regulations concerning the establishment of limitations, standards, and other permit conditions, including effluent limitations, appear in 40 CFR 122.44. Section 122.44(d)(1) requires the inclusion of requirements in

NPDES permits necessary to achieve water quality standards.[69] That subsection requires the inclusion of effluent limitations for specific pollutants where those pollutants cause, have the reasonable potential to cause, or contribute to an in-stream excursion above narrative or numeric criteria within an ambient water quality standard.

The petitioners point to Section 122.44(d)(1) in claiming that numeric effluent limitations are required. However, the term "numeric" effluent limitation does not appear in Section 122.44(d)(1). Concededly, in most cases, the easiest and most effective chemical-specific limitation would be numeric.[70] However, there is no legal requirement that effluent limitations be numeric.

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69 Section 122.44(d)(1) provides, in relevant part, that NPDES permits must include:

> *"any requirements...necessary to...[a]chieve water quality standards....*
>
> *"(i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard....*
>
> * * *
>
> *"(iii) When the permitting authority determines...that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.*
>
> * * *
>
> *"(v) ...[W]hen the permitting authority determines...that a discharge causes, has the reasonable potential to cause, or contributes to an instream excursion above a narrative criterion within a applicable State water quality standard, the permit must contain effluent limits for whole effluent toxicity."*

70 In fact, in our order regarding discharges from POTW's to the South Bay, we found that numeric effluent limitations were appropriate and feasible.

Even in Section 122.44 there is specific provision for best management practices in lieu of numeric effluent limitations. Section 122.44(k) states that NPDES permits should include "...best management practices to control or abate the discharge of pollutants when: ...(2) Numeric effluent limitations are infeasible...." As we shall describe below, we conclude that numeric effluent limitations are infeasible as a means of reducing pollutants in municipal storm water discharges, at least at this time. EPA Guidance allows further monitoring in lieu of immediate permit limitations. In EPA's Permit Writer's Guide to Water Quality-Based Permitting for Toxic Pollutants, numeric limits are not required.[71] Additionally, the Inland Plan provides up to ten years for storm water discharges to comply with numeric objectives and specifically endorses source reduction and best management practices to reduce pollutants.[72]

Finally, EPA has formally approved the permit as an ICS. In its 304(l) Decision, EPA stated:

> "EPA approves NPDES permit CA0029718 as the individual control strategy for the South San Francisco Bay Stormdrains. The permit requires attainment of water quality standards in South San Francisco Bay." (304(l) Decision, page 20.

This final agency action is entitled to great deference, as it is a determination by the administrative agency authorized to carry

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71 EPA Office of Water, July 1987 (EPA 440/4-87-005), Section 3.1.

72 We note here that there is certainly a lack of adequate information in the record concerning the specifics of the storm water system and its impacts. We point out, however, that regardless of how Section 122.44 is interpreted, municipal storm water dischargers have three years to come into compliance with permit terms, and the Regional Board incorporated a broad reopener provision into the permit, allowing the inclusion of more stringent effluent limitations as required.

out the program, and which adopted the regulations which we are now attempting to interpret. Clearly, EPA found that the effluent limitations contained in the permit were adequate to protect water quality standards and to comply with 40 CFR Section 122.44.

As a final point, we take note of the broad authority the Regional Board possesses to regulate nonpoint sources which contribute to degradation of the South Bay. While the permit program under the Clean Water Act is limited to point sources, the Porter-Cologne Water Quality Control Act allows the Regional Board to regulate directly all discharges to state waters, including nonpoint sources and impacts from existing sediments. When this broad authority to ensure compliance with water quality standards is considered, it is clear that this permit, along with other actions the Regional Board will take (as contemplated in the 1986 Basin Plan) provides adequate protection of the impaired waters. We conclude that the permit does comply with the requirements of Section 304(l) of the Clean Water Act.

G. The Appropriateness and Propriety of the Permit

Our review of the permit does not end with the conclusion that the permit is legally defensible. Water Code Section 13320 provides that this Board must determine whether the Regional Board's action was appropriate and proper. Even though numeric effluent limitations are not legally required, we will consider whether numeric effluent limitations would result in more effective regulation of the dischargers' storm water

discharges. We note, of course, that the Regional Board clearly left open the possibility of including numeric effluent limitations at a later date. The critical question before us, then, is whether it is appropriate and proper for numeric effluent limitations to be applied at this time at each outfall to receiving waters.

In order to obtain a realistic chance of compliance with numeric effluent limitations, dischargers would have to install some kind of end-of-pipe treatment technology. However, few such technologies have been investigated or developed for discharges of storm water and urban runoff. Available treatment technologies are limited because storm waters involve high volume, intermittent flows from a large number of outfalls. Physical treatment works generally necessitate interception and transport of storm sewer flows to central locations and require extensive land area for gravitational settling basins. The pollutant removal efficiencies of wet- and dry-detention basins were briefly examined in a national study conducted by EPA. For metals (the runoff constituents of most concern here), these physical treatment works varied in effectiveness. In the best cases, wet-detention basins removed 90 percent of the lead but only about 50 percent of the copper and zinc found in influent runoff. Consequently, conventional end-of-pipe treatment technologies have limited effectiveness.

Treatment techniques such as wet-detention basins also require large land areas to contain high volume, variable storm

flows. These techniques therefore result in extremely high costs. The County of Sacramento has submitted evidence to us estimating that its capital costs to build conveyance and wet detention treatment facilities would exceed $2 billion. Clearly, the potential costs for end-of-pipe treatment would be substantial, while the benefit to the receiving water would be difficult to predict accurately and reasonably. The impacts of holding large amounts of storm water for treatment may also pose potential adverse environmental impacts.

The inherent variability of storm water discharges also make numeric effluent limitations and end-of-pipe treatment impractical. The frequency, duration and magnitude of storm events and the constituents, concentrations, mechanisms, persistence and effects of runoff are poorly understood. As the current drought exemplifies, precipitation is highly variable temporally and spatially. The specific pollutants in runoff flows and their concentrations change dramatically from storm to storm and from location to location. The dischargers' monitoring investigation studies illustrate the variability of pollutants in the dischargers' runoff and possible receiving water effects. Similar regional and national studies of storm water and urban runoff discharges also reveal wide variability. The relative contribution and bioavailability of the potentially toxic trace metals in storm water remain uncertain. The mechanisms, nature, and potential threat of pollutant accumulation in sediments must be examined further.

The intermittent, irregular discharges of storm water also make it exceedingly difficult to formulate an appropriate numeric effluent limitation which would bear a reasonable relationship to established ambient water quality standards and criteria. The regulatory authority must minimally know the effluent flow rate (or the volume and duration), the receiving water flow and available dilution in order to establish numeric limitations. Without the necessary technical tools and a fundamental understanding of runoff variability, numeric effluent limitations cannot be legitimately developed or applied at this time.

In considering the anticipated effectiveness of the permit's best management practices approach, we consider that the discharges, while conveyed through point sources, are by nature more comparable to nonpoint sources. They derive from a vast variety of sources, including streets, residences, commercial areas, construction sites and industrial facilities. Source reduction and pollution prevention measures are, presently, the only practical means of controlling the truly nonpoint, diffuse waste flows from urban development. It is therefore apparent to us that a comprehensive and coordinated basin-wide approach, which stresses source reduction and elimination, will be most effective. This strategy focuses on the preventable causes rather than quantifying the tolerable effects of pollutants in runoff discharges.

At least at this preliminary point in the regulatory program for storm water discharges, it appears that an approach which implements "best management practices" to reduce sources and control pollutants is desirable. The Regional Board has taken this approach, but also has not foreclosed adding numeric, water quality-based effluent limits to the permit if it determines such limits are also necessary after receiving further monitoring data or after completion of a wasteload allocation for the South Bay.

We note also the probable impacts on the South Bay of mine drainage and resuspension of sediments. Just as we will rely on practices to reduce pollutants from storm water discharges, impacts from mine drainage and sediment resuspension must also be addressed if the South Bay is to achieve water quality standards and protection of beneficial uses. As we have stated, our interpretation of Section 304(l) of the Clean Water Act implies a coordination of activities intended to reduce impacts from all sources. The activities which the Regional Board has undertaken since 1986 are consistent with that approach. This is also the direction given this Board by the court in United States of America v. State Water Resources Control Board (1986) 182 Cal.App.3d 82, that we must assume a "global perspective" in water quality planning activities. In establishing objectives, we must consider all available remedial activities, and not just those which may be more readily regulated, such as point sources.

In summary, given the lack of clear evidence linking discharges of storm water in the Santa Clara Valley drainage courses to actual impacts in the South Bay, the difficulty of establishing numeric effluent limitations which have a rational basis, the lack of technology available to treat storm water discharges at the end of the pipe, the huge expenses such treatment would entail, and the level of pollutant reduction which we anticipate from the Regional Board's regulatory program, we conclude that the permit is proper and appropriate.

H. Transportation Control Measures

The petitioners contend that the permit must include specified transportation system control measures, or alternatively must name state and federal transportation entities as co-permittees, in order to regulate effectively runoff from streets, roads and highways. In support of these arguments, the petitioners contend that automobiles are the largest source of toxic pollutants in urban runoff and storm water discharges to the surface waters of the Santa Clara Valley. The specific control measures sought include extending regional transit systems, establishing inter-regional rail service, limiting further highway expansion, and enactment of "balanced growth" ordinances.

While runoff from highways and other transportation facilities undoubtedly contributes pollutants to the dischargers' municipal separate storm sewer system, for a number of reasons we decline to comply with the petitioners' requests.

First, while the permit was issued prior to promulgation of EPA's storm water regulations, the Regional Board proceeded in a manner consistent with those regulations in issuing the permit to municipalities with control over the municipal separate sewer system. Permits for municipal systems are to name only those municipal entities. Industrial discharges (and other discharges which contain other than storm water) are to be regulated both through the permits issued to the municipalities and through separate permits issued to industrial facilities.[73] Thus, it was not improper for the Regional Board to fail to name transportation authorities as dischargers.

Regarding the specified transportation measures requested by the petitioners, we find that the Regional Board's approach of requiring the municipalities to prepare a plan with proposed control measures for approval by the Regional Board preferable to specifying all such measures in the permit.[74] The permit does specifically require the dischargers to implement control measures focussing on transportation-related runoff.[75]

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73 In Finding 5, the permit states the Regional Board's intent to issue separate NPDES permits to state or federal agencies including the California Department of Transportation.

74 We note that this approach is consistent with EPA's regulations, even though the procedure differs. The regulations require submission of a plan containing control measures as part of the application process. The final permit envisioned in the permit will presumably contain the specified control measures. In contrast, the instant permit was issued long before permits will be issued to large municipal dischargers under EPA's regulations, but development of the control program is a part of the permit's provisions. The result in both cases will be that a mandatory control program will be developed after review of the municipality's proposal. The final program will be developed at an earlier date under the instant permit than under EPA's regulations.

75 See Provision C.9. of the permit.

I. Time Schedule for Compliance

The petitioners contend that the permit violates the Clean Water Act by not requiring timely compliance with water quality standards. Both Clean Water Act Sections 304(l) and 402(p) require compliance with permit conditions within three years of issuance of the permit. We find that the permit contains provisions requiring such compliance.

Clean Water Act Section 304(l)(1)(D) provides that an ICS must "produce a reduction in the discharges of toxic pollutants from point sources identified," in order "to achieve the applicable water quality standard as soon as possible, but not later than 3 years after the date of the establishment of such strategy." EPA has interpreted this provision to mean "that Congress recognized that permittees will need a reasonable amount of time, not to exceed three years, to comply with new effluent limits that are necessary to achieve new water quality standards, or re-interpretations of existing water quality standards."[76]

Similarly, Clean Water Act Section 402(p)(4) requires compliance with all permit conditions by large and medium municipal storm water dischargers no later than three years from the date of issuance. EPA has interpreted this provision similarly to its interpretation of Section 304(l)(1)(D), as applying to all permit conditions, including the requirement of water quality-based effluent limitations.[77]

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76 54 Federal Register 23889 (June 2, 1989).

77 General Counsel Memorandum.

In reviewing the permit, we find that its provisions do require compliance with water quality standards and that all practices necessary to achieve such compliance must be in place within three years of adoption of the permit. Therefore, the permit complies with the time schedule requirements of the Clean Water Act. We note further that the permit specifically provides that it may be reopened for the inclusion of more stringent effluent limitations, including numeric effluent limitations if necessary. If it appears within the three-year period after issuance that new permit limitations are required, the Regional Board may proceed under the reopener provisions.[78]

III. CONCLUSIONS

After review of the record and consideration of the contentions of the petitioners, and for the reasons discussed above, we conclude:

1. Impacts of storm water discharges on South San Francisco Bay are complicated and, at this time, it would be infeasible to establish numeric effluent limitations on discharges to storm drains in the Santa Clara Valley which are validly associated with impacts on the South Bay.

2. Pollutants associated with these storm water discharges alone do not substantially impair or threaten the beneficial uses of South San Francisco Bay.

3. The permit adopted by the Regional Board requires implementation of specific source control measures and contains

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78 See Permit, Finding 17 and Provision 12.

general prohibitions against discharge of non-storm water and violation of water quality standards.

4. The provisions in the Clean Water Act regulating municipal storm water discharges require effluent limitations and achievement of water quality standards, but the limitations may consist of source control measures, rather than numeric effluent limitations.

5. The provisions in the Clean Water Act concerning impaired water bodies also allow the inclusion of source control measures rather than numeric effluent limitations in permits for point sources.

6. It is appropriate and proper to issue a permit regulating municipal separate storm sewer systems which requires specific practices, rather than containing numeric effluent limitations.

7. The specific transportation control measures requested by petitioners should be considered by the Regional Board when approval of the dischargers' control plan is sought, rather than by this Board.

8. The permit complies with the time schedule requirements of the Clean Water Act.

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IV. ORDER

IT IS ORDERED that the petition is denied.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 16, 1991.

AYE: W. Don Maughan
Edwin H. Finster
Eliseo M. Samaniego
John Caffrey

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché
Administrative Assistant to the Board

14-573

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

In the Matter of the Petition of NATURAL RESOURCES DEFENSE COUNCIL, INC. For Review of Waste Discharge Requirements Order No. 90-079 of the California Regional Water Quality Control Board, Los Angeles Region for Los Angeles County and Co-Permittees. NPDES Permit No. CA0061654. Our File No. A-693.	ORDER NO. WQ 91-04

BY THE BOARD:

On July 18, 1990, the State Water Resources Control Board (State Board) received a petition from Natural Resources Defense Council, Inc. (petitioner), seeking review of waste discharge requirements which the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) adopted in Order No. 90-079, regulating discharges of storm water from municipal separate storm sewers throughout Los Angeles County.

Many of the issues raised by the petitioner are discussed in great detail in Order No. WQ 91-03, which we are also issuing today, and which concerns a permit issued by the Regional Water Quality Control Board, San Francisco Bay Region (San Francisco Bay Regional Board) regulating discharges of storm water from municipalities in the Santa Clara Valley. Given the similarity of these issues, we will discuss most of the

petitioner's contentions in only a summary manner, and will refer to our determinations in Order No. WQ 91-03.[1] In adopting that Order, we did consider the petitioner's arguments, and also those of the Regional Board, the dischargers, and interested persons.

I. BACKGROUND

As we discussed in Order No. WQ 91-03, over the last twenty years, the Environmental Protection Agency (EPA), has developed a program to regulate discharges of storm water and urban runoff through the National Pollutant Discharge Elimination System (NPDES) of permits. The requirements for this program are contained in Clean Water Act Section 402(p). In this case, as in the case of the San Francisco Bay Regional Board, the Regional Board adopted its permit regulating discharges from municipal separate storm sewer systems prior to EPA's promulgation of regulations implementing Section 402(p).

As did the San Francisco Bay Regional Board, the Los Angeles Regional Board also proceeded to take earlier steps to study and control storm water discharges while EPA's program development was delayed. In 1975, the Regional Board adopted its Water Quality Control Plan (Basin Plan).[2] The Basin Plan characterized constituents commonly found in runoff and roughly estimated runoff wasteloads through the Los Angeles River and

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1 A major portion of our other Order involved discussion of Clean Water Act Section 304(l). That section does not apply here. However, the discussion concerning the regulations which EPA adopted to implement Section 304(l), i.e. 40 CFR Section 122.44(d), is also relevant to this matter.

2 Water Quality Plan Report, Santa Clara River Basin (4A) and Los Angeles River Basin (4B) (March 1975). The Basin Plan was approved by the State Board in Resolution No. 75-21.

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Santa Clara River sub-basins.[3] The Basin Plan also compared local runoff data with the results of several investigations conducted elsewhere in the nation.

The Basin Plan identified beneficial uses of the surface waters within the region, established water quality objectives to protect and enhance these uses, and described a detailed "Implementation Plan" to achieve those objectives. The beneficial uses of the surfaces waters typically include ground water recharge (replenishment), contact and non-contact recreation and wildlife habitat.[4] A few creeks also support warm and cold water habitat, fish migration and fish spawning uses. Some reservoirs also provide municipal, industrial supply and industrial process water uses.[5] Rare and endangered habitat and agricultural supply were identified as existing beneficial uses of several surface waters also.[6] The Basin Plan listed marine habitat, contact and non-contact recreation, commercial and sport fishing, navigation, and shellfish harvesting as the beneficial uses of the Pacific Ocean.

The Basin Plan also established water quality objectives. First, it referred to several state policies for water quality control and statewide plans. These include the "Water Quality Control Policy for the Enclosed Bays and Estuaries

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3 The 1975 Basin Plan divided its region into two sub-basins: the Santa Clara River Basin ("4A") and the Los Angeles River Basin ("4B").

4 1975 Basin Plan, Table 2-3.

5 Id.

6 Id.

of California"[7] and the "Water Quality Control Plan for Ocean Waters of California".[8] The Basin Plan stated that the Ocean Plan and the Bays and Estuaries Policies established effluent quality requirements for certain discharges. "Land runoff", however, was specifically excluded from the effluent requirements.[9]

The receiving water quality objectives set forth in the Basin Plan included several general requirements and narrative objectives. For inland surface waters, enclosed bays, and estuaries in the Los Angeles River sub-basin, narrative receiving water quality objectives were specified for tastes and odors, floating material, suspended material, settleable material, oil and grease, sediment, turbidity, bacteria, and several other pollutants.[10] The narrative toxicity objective required that all waters be maintained free of "toxic substances in concentrations that are toxic to, or produce detrimental physiological responses in human, plant, animal, or aquatic life."[11] The Basin Plan

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7 The "Bays and Estuaries Policy", as this document is know, was adopted on May 16, 1974.

8 The State Board first adopted this plan, commonly known as the "Ocean Plan", on July 6, 1972. The State Board approved amendments to the Ocean Plan on March 22, 1990 by Resolution No. 90-27.

9 The 1975 Basin Plan states:

> *"This policy does not apply to wastes from vessels or land runoff except as specifically indicated for siltation and combined sewer flows." See page I-4-5.*

10 1975 Basin Plan, pages I-4-6 through I-4-8.

11 Ibid., at page I-4-8.

further specified "limiting concentrations" for inorganic chemical constituents (primarily heavy metals) in waters used as domestic and municipal supply.[12] It also prescribed "mean mineral quality objectives" for the Los Angeles River, the San Gabriel River and their "tributaries".[13]

The Basin Plan also contained an "Implementation Plan" to reduce wasteloads from various pollutant sources and their effects on the basin's waters. For urban runoff and storm water discharges, the Basin Plan indicated that the pollutants found in runoff discharges varied considerably and exhibited a seasonal nature. More specifically, the Plan stated that the "bulk of these mass emissions is normally experienced in only a few days of wet weather during the rainy season."[14] Although certain beneficial uses, such as groundwater recharge and recreational uses, may be temporarily impaired during storm flow conditions, the Basin Plan noted few traditional "end-of-pipe" controls existed for runoff flows. It explained:

> "...there is little, if anything, that can be done to mitigate the effects of such runoff except for improved air pollution control practices, improved urban housekeeping, and improved environmental levels of performance for automotive equipment."[15]

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12 *Ibid., at page I-4-9.*

13 *Ibid., at Table 4-1 and pages 1-4-11 and I-4-12.*

14 *1975 Basin Plan, "Impact of Runoff Waste Loads", page II-15-94.*

15 *Id.*

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Although much runoff data was included in the Basin Plan, limited information about the significance or effects of runoff discharges on receiving water quality existed.

The Basin Plan specified requirements and controls for "traditional" point sources,[16] but storm water discharges were not covered, based on the difficulty of their regulation:

> "...no practical and economical means has yet been developed for containment and treatment of urban runoff wastes for reduction of pollutants prior to downstream release, nor are standards for such measures presently in existence or contemplated for the foreseeable future, at least on a widespread basis....There are presently no generally applicable effluent limits nor water pollution control facilities in connection with urban runoff that appear practical or economical. The emphasis for water quality control from this standpoint should be public education, public cooperation in improved (outdoor) housekeeping, and continued search of solutions to the air pollution problems."[17] (Emphasis added)

The Regional Board has not amended the portions of its Basin Plan relating to storm water and urban runoff since 1975. Therefore, we conclude that the Basin Plan does not address controls on such discharges, except for the few practices listed above. Clearly, the effluent limitations listed for other point sources are not meant to apply. In addition, there are no

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16 As was explained in Order No. WQ 91-03, throughout the years many documents have treated storm water discharge as a nonpoint source, even though it is legally a point source. This has led to some confusion in terminology. However, it is often obvious from statements in the document that decision makers have sought to exclude storm water from requirements otherwise applicable to point sources.

17 Ibid., at pages I-5-87 and I-5-88.

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numeric water quality standards which have yet been developed.[18] On April 11, 1991, the State Board adopted the Water Quality Control Plan for Inland Surface Waters (Inland Plan) which is applicable here. The Inland Plan establishes numeric water quality objectives but allows dischargers of storm water a maximum of ten years to achieve compliance.

As was discussed in Order No. WQ 91-03, in 1987 the federal Clean Water Act was amended[19] to add provisions specifically requiring a regulatory program for storm water discharges. Section 402 of the Clean Water Act was amended to add subsection 402(p), which establishes NPDES permit application requirements for municipal storm water discharges and for storm water discharges associated with industrial activities.[20]

Section 402(p) includes the following requirements for municipal discharges of storm water:

> "Permits for discharges from municipal storm sewers--(i) may be issued on a system- or jurisdiction-wide basis; (ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." (Emphasis added.)

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18 The petitioner contends that numerical objectives contained in the Ocean Plan apply to discharges of storm water. We shall discuss that contention infra.

19 The amendments are entitled, Water Quality Act of 1987, Public Law 100-4 (February 4, 1987).

20 Section 405(p) of the Water Quality Act of 1987.

The Water Quality Act of 1987 also added Section 320 to the Clean Water Act. This amendment created the National Estuaries Program, an effort to develop and implement comprehensive conservation and management plans for estuaries of national importance. In December 1987, a federal appropriations act formally included Santa Monica Bay in EPA's National Estuaries Program.[21] The State of California then organized the Santa Monica Bay Restoration Project to coordinate local, state, and federal activities to develop the required plan which would improve the condition of Santa Monica Bay. The nomination document for this project indicated that urban runoff and storm water discharges may contain heavy metals, organic constituents, pathogens, and other pollutants that threaten or may impair the beneficial uses of Santa Monica Bay.[22] As a part of this project, the Los Angeles Regional Board--and the numerous local and regional governments and environmental interest groups that also participate in the project--began a more thorough investigation of runoff discharges to Santa Monica Bay. Because existing runoff data was incomplete or inconsistent, the Santa Monica Bay Restoration Project initiated detailed monitoring studies to identify pollutants in runoff flow, especially pathogens, and to assess their effects on the bay. This monitoring work is now in progress.

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21 National Estuary Program, The Nomination of Santa Monica Bay, Environmental Affairs Agency, May 1988.

22 Ibid., see "Executive Summary", page viii, and "Storm Drains and Runoff", page 41.

The permit which we are reviewing here was the result of a cooperative effort of the "Storm Water Permit Work Group," which was established to fulfill part of the objectives of the Santa Monica Bay Restoration Project. The Work Group assisted in drafting the permit.

In order to implement the Basin Plan, the provisions of state law regarding adoption of waste discharge requirements,[23] and the Clean Water Act provisions regarding storm water permits, the Regional Board issued a draft NPDES permit to regulate urban runoff and storm water discharged throughout Los Angeles County. The revised draft permit designated the County of Los Angeles as the "Principal Permittee" and 16 cities as "Co-permittees" (the dischargers). A workshop was held by the Regional Board on April 23, 1990, and a public hearing was held on June 18, 1990, and on the latter date the Regional Board adopted the NPDES permit (NPDES permit CA-0061654; Regional Board Order No. 90-079). Subsequently, the petitioner filed a timely petition for review of the NPDES permit.

II. CONTENTIONS AND FINDINGS

The petition raises a number of contentions which all address whether the permit must include numeric, water quality-based effluent limitations. The petitioner argues that the Clean Water Act requires permits regulating municipal discharges of storm water to prescribe numeric effluent limitations for toxic pollutants. The petitioner also contends that the permit does

23 California Water Code Section 13000 et seq.

not require controls which reduce pollutants to the "maximum extent practicable". Finally, the petitioner argues that the permit does not comply with the three-year time schedule required in Clean Water Act Section 402(p).

A. The Need for Numeric Effluent Limitations

The petitioners' arguments are based on the premise that the dischargers' municipal separate storm sewer system discharges pollutants to Santa Monica Bay, and that these discharges violate numeric water quality standards in the bay. The numeric standards which the petitioner relies upon are found in the Ocean Plan. As we shall explain, the petitioner's broad assertions vastly oversimplify the complex nature of the dischargers' flood control and drainage facilities, imply that the storm sewer system discharges only into Santa Monica Bay, and misconstrue ambient water quality criteria, receiving water quality standards and effluent limitations.

The County of Los Angeles, Department of Public Works' municipal separate storm sewer system serves a geographic area greater than 4,000 square miles[24] and includes more than 87 overlapping local governmental jurisdictions. This system, a vast network of catchments, street gutters, conduits, pipes, and channels that were designed for drainage and flood control purposes, collects urban runoff flows and storm water flows from throughout Los Angeles County. The County's Department of Public Works and 87 cities own, operate, or maintain this enormous

24 *See Regional Board's Response to Petition, page 10.*

municipal separate storm sewer system. More than 5,000 outfalls or "point sources" discharge these runoff flows into both constructed works and the natural streams, rivers, and other surface water bodies that comprise the Los Angeles River hydrologic unit.

As we discussed in Order No. WQ 91-03, the specific location at which the storm water outfall intersects receiving waters is where the "point source" discharge occurs. While the precise location of each of the several thousand outfalls in Los Angeles County is understandably omitted from the record, the substantial majority of these outfalls discharge urban runoff and storm water flows to surface waters--such as Ballona Creek, Coyote Creek, and San Antonia Creek, the Los Angeles River and the San Gabriel River, Rio Hondo, and other water bodies--throughout the hydrologic basin.[25]

Obviously, not all of the dischargers' 5,000 municipal separate storm sewer system outfalls actually discharge directly to Santa Monica Bay. Although the numerous natural water courses which receive storm water generally are ultimately tributary to Santa Monica Bay, they are the receiving waters. As such, these natural water courses cannot be considered elements of the dischargers' municipal separate storm sewer system. In fact, many of these surface waters are clearly identified in the Los Angeles Regional Board's Basin Plan.

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25 The nomination document for the Santa Monica Bay Restoration Project stated that "over 60 storm drains" empty into the Bay.

In the Los Angeles Basin, the storm sewer outfalls generally discharge to the water courses upstream from Santa Monica Bay. Both Santa Monica Bay and the water courses which receive the storm water discharges have beneficial uses. However, the uses of the streams, creeks, reservoirs and rivers in the Los Angeles River Basin are not the same as the uses of Santa Monica Bay. The upstream waters support fresh water uses, while Santa Monica Bay sustains marine water uses.

As was described above, while the Basin Plan does include narrative water quality objectives for the upstream surface waters, the Regional Board has not yet developed numeric objectives for all of the pollutants the petitioner enumerates. Although the Inland Plan does contain numeric objectives, up to ten years is allowed for compliance. The Ocean Plan also includes numeric standards, but these do not apply to discharges of storm water.

The Ocean Plan states that all parts are applicable to point source discharges to the ocean. Narrative water quality objectives and toxic materials limitations (Table B) do apply to nonpoint sources, but compliance is determined by direct measurement in receiving waters. The petitioner requests that the storm water discharges be subject to Table B, and also to Table A (which is meant only to apply to publicly-owned treatment works).

While on its face, Table B may appear to apply to storm water discharges, it is clear from reading the Functional

Equivalent Document,[26] which was adopted by the State Board at the same time as the Ocean Plan, that neither Table A nor Table B are meant to apply to storm water discharges:

> "The attainability analysis did not include stormwater discharges because there are few data available on pollutant concentrations in stormdrains. EPA's proposed regulations for stormwater discharges do not use water quality-based effluent limits for stormdrains.[27] Instead, an approach based on Best Management Practices is proposed, following an initial period of characterization.
>
> "We do not propose to apply water quality-based effluent limits such as Table B to stormdrains at this time. Technology-based standards will not be based on Table A, but on Best Management Practices. Since the Table B objectives represent levels of pollutants that are protective of beneficial uses they may be applied to stormdrains at some future date. We do not anticipate that this would occur until adequate characterization data are available so that attainability can be assessed and implementation measures established."

Following the above statement, the Functional Equivalent Document states that the Plan explains how to apply Table B objectives to nonpoint sources. From this statement, it is clear that in drafting the Ocean Plan the State Board was viewing storm water discharges as nonpoint sources. This characterization is understandable. Storm water discharges,

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26 Functional Equivalent Document, Amendment of the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (March 1990), at pages 33 and 34.

27 It appears that the reference here was to numeric water quality-based limitations, since such limitations are required in Table B. As we explained in Order No. WQ 91-03, water quality-based limitations need not always be numeric.

while ultimately flowing through a point source to receiving waters, are by nature more akin to nonpoint sources as they flow from diffuse sources over land surfaces. This point is discussed in the Preamble to EPA's storm water regulations:

> "For the purpose of [national assessments of water quality], urban runoff was considered to be a diffuse source or nonpoint source pollution. From a legal standpoint, however, most urban runoff is discharged through conveyances such as separate storm sewers or other conveyances which are point sources under the [Clean Water Act]." 55 Federal Register 47991.

We therefore conclude that the petitioner has misinterpreted appropriate criteria and the applicability of Ocean Plan provisions to storm water. There are no numeric objectives or numeric effluent limits required at this time, either in the Basin Plan or in any statewide plan that apply to storm water discharges. This absence, however, will not in any way diminish the permit's enforceability or its ability to reduce pollutants in storm water discharges substantially. While numeric objectives are contained in the Inland Plan, these need not be achieved for up to ten years. In addition, the Plan endorses the application of "best management practices" rather than numeric limitations as a means of reducing the level of pollutants in storm water discharges.

The permit which the Regional Board adopted is very similar to that reviewed in Order No. WQ 91-03. The NPDES permit employs a two-fold strategy: It effectively prohibits non-storm

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water discharges and illicit connections; and, it requires a comprehensive series of regulatory, governmental, and educational control measures.

As in the case of the permit issued by the San Francisco Bay Regional Board, the method by which the specific control activities will be implemented is that the dischargers must submit an Implementation Plan for approval by the Regional Board's Executive Officer, and then must implement the Plan. Thus, the permit lists some, but certainly not all of the management practices which will be undertaken. The remaining specific practices will be developed over a two-year period starting with adoption of the NPDES permit. In addition, the "co-participant" cities, which have not yet been added to the permit, are also being required to select appropriate control measures.

Although the permit does not make specific reference to violation of water quality standards, the permit will be read so as to require the implementation of practices which will achieve compliance with applicable standards. Such a requirement is implicit in the issuance of an NPDES permit, since that is a minimum requirement of a permit, as we discussed in Order No. WQ 91-03. The requirement is also a part of the California Water Code. Water Code Section 13263. The permit does provide that the Regional Board may, in the future adopt numeric water quality objectives and limitations.[28]

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28 Permit, Finding 19.

We concluded in Order No. WQ 91-03 that permits for municipal separate storm sewer systems issued pursuant to Clean Water Act Section 402(p) must contain effluent limitations based on water quality standards. In addition, the applicable water quality standards are those established for the receiving waters of the storm water discharges. We further concluded there that even if such effluent limitations are intended to require compliance with water quality standards, "best management practices" constitute legally acceptable effluent limitations. We find here, as we did in Order No. WQ 91-03, that the permit includes a comprehensive and stringent program for reducing pollutants in storm water discharge, and that it will implement the Basin Plan, including the protection of beneficial uses.

We note that the dischargers argued in their response that the fact that the permit was derived from a cooperative effort, prior to the promulgation of regulations by EPA, had relevance to its enforceability. While we are certainly pleased that the dischargers and the Regional Board have been able to work together in a cooperative and positive manner, the permit which was adopted is a lawfully adopted NPDES permit, and is fully enforceable as such. The fact that it was adopted prior to the deadline for adoption of such permits, and prior to promulgation of the regulations, has no relevance to its enforceability. The prohibitions and practices contained in the

permit must be obeyed, and those prohibitions and practices must result in compliance with any applicable water quality standards.

Just as in our review of the San Francisco Bay Regional Board's permit, we have reviewed the appropriateness and propriety of this permit. We find here also that the approach of the Regional Board, requiring the dischargers to implement a program of best management practices which will reduce pollutants in runoff, and prohibiting non-storm water discharges, is appropriate and proper. We base our conclusion on the difficulty of establishing numeric effluent limitations which have a rational basis, the lack of technology available to treat storm water discharges at the end of the pipe, the huge expense such treatment would entail, and the level of pollutant reduction which we anticipate from the Regional Board's regulatory program. We feel compelled to note here our agreement with the Regional Board that this permit does truly represent a massive undertaking. No other permit in the State, and perhaps in the nation, will control the number of outfalls in a metropolitan area as this permit undertakes to regulate.

B. The Maximum Extent Practicable Standard

The petitioners contend that the permit must include specified management practices in order to comply with the requirement in Clean Water Act Section 402(p) of reducing pollutants in municipal separate storm sewer discharges to the maximum extent practicable (MEP). The petitioner states that MEP means, "what can be done now, must be done now." As we stated in

Order No. WQ 91-03, however, we find that the Regional Board's approach of requiring the dischargers to prepare a plan with proposed control measures for approval by the Regional Board is preferable to specifying all such measures in the permit. The petitioner gives as an example a requirement for catch basin cleaning, which it claims would reduce pollutants. However, an effective and cost-effective storm water program requires an analysis of the specific area subject to regulation, and should not involve a simple listing of practices that all municipalities must follow. As EPA stated in its Preamble to the draft storm water regulations:

> "A wide variety of control measures to reduce the discharge of pollutants from municipal storm sewer systems are currently available. The performance of appropriate control measures is highly dependent on site-specific factors. It is therefore not practicable to define one standard set of controls which will control all pollutants in all municipalities." 53 Federal Register 49456[29]

We also note that, while we share the petitioner's goal of rapid achievement of an effective practices program, the Clean Water Act does not require implementation of all measures now, but rather has set forth a three-year time schedule for compliance. We shall discuss this point further in the next section.

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29 This point was also made in the preamble to EPA's final regulations. 55 Fed. Reg. 48038. There a reference to the legislative history of Clean Water Act Section 402(p) makes clear that Congress' intent was not to dictate specific practices.

C. Time Schedule for Compliance

The petitioner contends that the permit violates the Clean Water Act by not requiring timely compliance with water quality standards. We addressed this point in Order No. WQ 91-03. Here, also, we find that the permit contains provisions requiring such compliance.

The permit includes a very aggressive and comprehensive program of developing and implementing best management practices over a three-year period. The permit does require a program aimed at compliance with applicable water quality standards and all practices necessary to achieve such compliance must be in place within three years of adoption of the permit. Therefore, the permit complies with the time schedule requirements of the Clean Water Act. The permit also specifically provides that the Regional Board may include more stringent effluent limitations, including numeric effluent limitations if necessary.

III. CONCLUSIONS

After review of the record and consideration of the contentions of the petitioners, and for the reasons discussed above, and in Order No. WQ 91-03, we conclude:

1. Impacts of storm water discharges on receiving waters and Santa Monica Bay are complicated, and at this time, it would be infeasible to establish numeric effluent limitations on

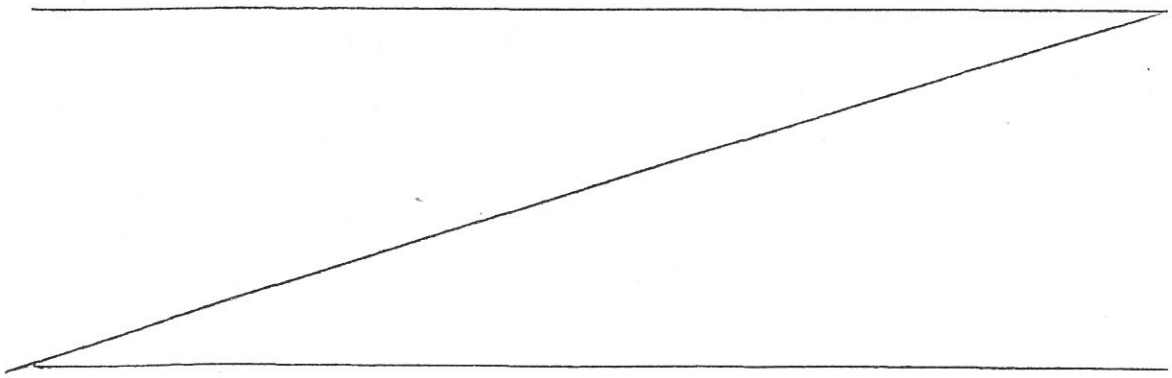
discharges to storm drains in the Los Angeles River Basin, which are validly associated with impacts in Santa Monica Bay.

2. The permit adopted by the Regional Board requires implementation of specific source control measures and effectively prohibits discharges of non-storm water and violation of water quality standards.

3. The provisions in the Clean Water Act regulating municipal storm water discharges require effluent limitations and achievement of water quality standards, but the limitations may consist of source control measures, rather than numeric effluent limitations.

4. It is appropriate and proper to issue a permit regulating municipal separate storm sewer systems which requires specific practices, rather than containing numeric effluent limitations.

5. The specific control measures requested by the petitioner should be considered by the Regional Board when approval of the dischargers' control plan is sought, rather than by this Board.



6. The permit complies with the time schedule requirements of the Clean Water Act.

IV. ORDER

IT IS ORDERED that the petition is denied.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on May 16, 1991.

AYE: W. Don Maughan
Edwin H. Finster
Eliseo M. Samaniego
John Caffrey

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché
Administrative Assistant to the Board

1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	B	CHANNEL ISLANDS HARBOR	403.11							
				Lead		Low	220	Acres		
				Elevated levels of lead in sediment.						
					Nonpoint Source					
				Zinc		Low	220	Acres		
				Elevated levels of zinc in sediment.						
					Nonpoint Source					
4	B	LA FISH HARBOR	405.12							
				DDT		High	50	Acres		
					Nonpoint/Point Source					
				PAHs		High	50	Acres		
					Nonpoint/Point Source					
				PCBs		High	50	Acres		
					Nonpoint/Point Source					
				Tributyltin		Low	0	Acres		
					Nonpoint/Point Source					
4	B	LA HARBOR CONSOLIDATED SLIP	405.12							
				Benthic Comm. Effects		High	37.13	Acres		
					Nonpoint Source					
				Chlordane		Medium	37.13	Acres		
				Elevated levels of chlordane in tissue and sediment.						
					Nonpoint Source					
				Chromium		Medium	37.13	Acres		
				Elevated levels of chromium in sediment.						
					Nonpoint Source					
				DDT		High	37.13	Acres		
				Elevated levels of DDT in tissue and sediment. Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				Lead		Low	37.13	Acres		
				Elevated levels of lead in sediment.						
					Nonpoint Source					

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				PAHs		**High**	**37.13**	**Acres**		
				Elevated levels of PAHs in sediment.	**Nonpoint Source**					
				PCBs		**High**	**37.13**	**Acres**		
				Elevated levels of PCBs in tissue and sediment. Fish Consumption Advisory for PCBs.	**Nonpoint Source**					
				Sediment Toxicity		**High**	**37.13**	**Acres**		
					Nonpoint Source					
				Tributyltin		**Low**	**37.13**	**Acres**		
				Elevated levels of tributyltin in tissue.	**Nonpoint Source**					
				Zinc		**Medium**	**37.13**	**Acres**		
				Elevated levels of zinc in tissue and sediment.	**Nonpoint Source**					
4	B	LA HARBOR INNER BREAKWATER	405.12							
				DDT		**High**	**1.5**	**Miles**		
					Nonpoint/Point Source					
				PAHs		**High**	**1.5**	**Miles**		
					Nonpoint/Point Source					
				PCBs		**High**	**1.5**	**Miles**		
					Nonpoint/Point Source					
				Tributyltin		**Low**	**1.5**	**Miles**		
					Nonpoint/Point Source					
4	B	LA HARBOR MAIN CHANNEL	405.12							
				Beach Closures		**Low**	**3785**	**Acres**		
					Nonpoint/Point Source					
				Copper		**Low**	**3785**	**Acres**		
				Elevated levels of copper in tissue and sediment.	**Nonpoint/Point Source**					
				DDT		**High**	**3785**	**Acres**		
				Elevated levels of DDT in tissue and sediment. Fish Consumption Advisory for DDT.	**Nonpoint/Point Source**					
				PAHs		**High**	**3785**	**Acres**		
				Elevated levels of PAHs in tissue and sediment.	**Nonpoint/Point Source**					
				PCBs		**High**	**3785**	**Acres**		
				Elevated levels of PCBs in tissue and sediment. Fish Consumption Advisory for PCBs.	**Nonpoint/Point Source**					
				Sediment Toxicity		**Low**	**3785**	**Acres**		
					Nonpoint/Point Source					
				Tributyltin		**Low**	**3785**	**Acres**		
				Elevated levels of tributyltin in sediment.	**Nonpoint/Point Source**					

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Zinc *Elevated levels of zinc in tissue and sediment.*	**Nonpoint/Point Source**	**Low**	**3785**	**Acres**		
4	**B**	**LA HARBOR SOUTHWEST SLIP**	**405.12**							
				DDT *Fish Consumption Advisory for DDT.*	**Nonpoint Source**	**High**	**30**	**Acres**		
				PCBs *Fish Consumption Advisory for PCBs.*	**Nonpoint Source**	**High**	**30**	**Acres**		
				Sediment Toxicity	**Nonpoint Source**	**Medium**	**30**	**Acres**		
4	**B**	**LONG BEACH HARBOR MAIN CHANNEL, SE,W BASIN, PIER J, BREAKWTR**	**405.12**							
				Benthic Comm. Effects	**Nonpoint Source**	**Medium**	**3594**	**Acres**		
				DDT *Elevated levels of DDT in tissue. Fish Consumption Advisory for DDT.*	**Nonpoint Source**	**High**	**3594**	**Acres**		
				PAHs *Elevated levels of PAHs in sediment.*	**Nonpoint Source**	**High**	**3594**	**Acres**		
				PCBs *Elevated levels of PCBs in tissue. Fish Consumption Advisory for PCBs.*	**Nonpoint Source**	**High**	**3594**	**Acres**		
				Sediment Toxicity	**Nonpoint Source**	**Medium**	**3594**	**Acres**		
4	**B**	**MARINA DEL REY HARBOR-BACK BASINS**	**405.13**							
				Benthic Comm. Effects	**Nonpoint Source**	**Low**	**413**	**Acres**		
				Chlordane *Elevated levels of chlordane in tissue and sediment.*	**Nonpoint Source**	**High**	**413**	**Acres**		
				Copper *Elevated levels of copper in tissue and sediment.*	**Nonpoint Source**	**Medium**	**413**	**Acres**		
				DDT *Elevated levels of DDT in tissue and sediment. Shellfish Harvesting Advisory for DDT.*	**Nonpoint Source**	**High**	**413**	**Acres**		
				Dieldrin *Elevated levels of dieldrin in tissue.*	**Nonpoint Source**	**Low**	**413**	**Acres**		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Fish Consumption Adviso		**High**	**413**	**Acres**		
					Nonpoint Source					
				High Coliform Count		**High**	**413**	**Acres**		
					Nonpoint Source					
				Lead		**Low**	**413**	**Acres**		
				Elevated levels of lead in tissue and sediment.						
					Nonpoint Source					
				PCBs		**High**	**413**	**Acres**		
				Elevated levels of PCBs in tissue. Shellfish Harvesting Advisory for PCBs.						
					Nonpoint Source					
				Sediment Toxicity		**Medium**	**413**	**Acres**		
					Nonpoint Source					
				Tributyltin		**Low**	**413**	**Acres**		
				Elevated levels of tributyltin in tissue.						
					Nonpoint Source					
				Zinc		**Medium**	**413**	**Acres**		
				Elevated levels of zinc in tissue and sediment.						
					Nonpoint Source					
4	**B**	**PORT HUENEME HARBOR (BACK BASINS)**	**403.11**							
				DDT		**High**	**50**	**Acres**		
				Elevated levels of DDT in tissue.						
					Nonpoint Source					
				PAHs		**High**	**59**	**Acres**		
				Elevated levels of PAHs in sediment.						
					Nonpoint Source					
				PCBs		**High**	**50**	**Acres**		
				Elevated levels of PCBs in tissue.						
					Nonpoint Source					
				Tributyltin		**Low**	**50**	**Acres**		
				Elevated levels of tributyltin in tissue.						
					Nonpoint Source					
				Zinc		**Low**	**50**	**Acres**		
				Elevated levels of zinc in tissue.						
					Nonpoint Source					
4	**B**	**SAN PEDRO BAY NEARS/OFF SHORE ZONES- CABRILLO PIER AREA**	**405.12**							
				Chromium		**Low**	**10700**	**Acres**		
				Elevated levels of chromium in sediment.						
					Nonpoint/Point Source					
				Copper		**Low**	**10700**	**Acres**		
				Elevated levels of copper in sediment.						
					Nonpoint/Point Source					

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				DDT		**High**	**10700**	**Acres**		
				Elevated levels of DDT in tissue and sediment. Fish Consumption Advisory for DDT.	**Nonpoint/Point Source**					
				PAHs		**High**	**10700**	**Acres**		
				Elevated levels of PAHs in sediment.	**Nonpoint/Point Source**					
				PCBs		**High**	**10700**	**Acres**		
				Fish Consumption Advisory for PCBs.	**Nonpoint/Point Source**					
				Sediment Toxicity		**Medium**	**10700**	**Acres**		
					Nonpoint/Point Source					
				Zinc		**Low**	**10700**	**Acres**		
				Elevated levels of zinc in sediment.	**Nonpoint/Point Source**					
4	B	SANTA MONICA BAY OFFSHORE AND NEARSHORE	413.00							
				Cadmium		**Low**	**16640**	**Acres**		
				Elevated levels of cadmium in sediment.	**Nonpoint/Point Source**					
				Chlordane		**Low**	**16640**	**Acres**		
				Elevated levels of chlordane in sediment.	**Nonpoint/Point Source**					
				Copper		**Low**	**16640**	**Acres**		
				Elevated levels of copper in sediment.	**Nonpoint/Point Source**					
				DDT		**High**	**16640**	**Acres**		
				Elevated levels of DDT in tissue and sediment.	**Nonpoint/Point Source**					
				Debris		**Low**	**16640**	**Acres**		
					Nonpoint/Point Source					
				Fish Consumption Adviso		**High**	**16640**	**Acres**		
					Nonpoint/Point Source					
				Lead		**Low**	**16640**	**Acres**		
				Elevated levels of lead in tissue and sediment.	**Nonpoint/Point Source**					
				Mercury		**Medium**	**16640**	**Acres**		
				Elevated levels of mercury in sediment.	**Nonpoint/Point Source**					
				Nickel		**Low**	**16640**	**Acres**		
				Elevated levels of nickel in sediment.	**Nonpoint/Point Source**					
				PAHs		**High**	**16640**	**Acres**		
				Elevated levels of PAHs in sediment.	**Nonpoint/Point Source**					

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				PCBs *Elevated levels of PCBs in tissue and sediment.*	**Nonpoint/Point Source**	**High**	**16640**	**Acres**		
				Sediment Toxicity	**Nonpoint/Point Source**	**Medium**	**16640**	**Acres**		
				Silver *Elevated levels of silver in tissue.*	**Nonpoint/Point Source**	**Low**	**16640**	**Acres**		
				Zinc *Elevated levels of zinc in sediment.*	**Nonpoint/Point Source**	**Low**	**16640**	**Acres**		
4	B	VENTURA HARBOR: VENTURA KEYES	403.11							
				High Coliform Count	**Nonpoint Source**	**High**	**40**	**Acres**		
4	C	ABALONE COVE BEACH	405.11							
				Beach Closures	**Nonpoint Source**	**Medium**	**0.94**	**Miles**		
				DDT *Elevated levels of DDT in sediment.*	**Nonpoint Source**	**High**	**0.94**	**Miles**		
				PCBs *Fish Consumption Advisory for PCBs.*	**Nonpoint Source**	**High**	**0.94**	**Miles**		
4	C	AMARILLO BEACH	404.21							
				DDT *Fish Consumption Advisory for DDT.*	**Nonpoint Source**	**High**	**0.3**	**Miles**		
				PCBs *Fish Consumption Advisory for PCBs.*	**Nonpoint Source**	**High**	**0.3**	**Miles**		
4	C	BIG ROCK BEACH	404.16							
				Beach Closures	**Nonpoint Source**	**Medium**	**1.09**	**Miles**		
				DDT *Fish Consumption Advisory for DDT.*	**Nonpoint Source**	**High**	**1.09**	**Miles**		
				High Coliform Count	**Nonpoint Source**	**High**	**1.09**	**Miles**		
				PCBs *Fish Consumption Advisory for PCBs.*	**Nonpoint Source**	**High**	**1.09**	**Miles**		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	C	BLUFF COVE BEACH	405.11							
				Beach Closures		Medium	0.61	Miles		
					Nonpoint Source					
				DDT		High	0.61	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				PCBs		High	0.61	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					
4	C	CABRILLO BEACH (INNER) LA HARBOR AREA	405.12							
				Beach Closures (Coliform)		Low	0.79	Miles		
					Nonpoint Source					
				DDT		High	0.79	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				PCBs		High	0.79	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					
4	C	CABRILLO BEACH OUTER	405.12							
				Beach Closures		Medium	0.51	Miles		
					Nonpoint Source					
				DDT		High	0.51	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				High Coliform Count		High	0.51	Miles		
					Nonpoint Source					
				PCBs		High	0.51	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					
4	C	CARBON BEACH	404.16							
				Beach Closures		Medium	1.48	Miles		
					Nonpoint Source					
				DDT		High	1.48	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				PCBs		High	1.48	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					
4	C	CASTLEROCK BEACH	405.13							
				Beach Closures		Medium	0.81	Miles		
					Nonpoint Source					

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	0.81	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	0.81	Miles		
4	C	DAN BLOCKER MEMORIAL (CORAL) BEACH	404.31							
				High Coliform Count	Nonpoint Source	High	1.04	Miles		
4	C	DOCKWEILER BEACH	405.12							
				Beach Closures	Nonpoint Source	Medium	5.4	Miles		
				High Coliform Count	Nonpoint Source	High	5.4	Miles		
4	C	ESCONDIDO BEACH	404.34							
				Beach Closures	Nonpoint Source	Medium	2.05	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	2.05	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	2.05	Miles		
4	C	FLAT ROCK POINT BEACH AREA	405.11							
				Beach Closures	Nonpoint Source	Medium	0.3	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	0.3	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	0.3	Miles		
4	C	HERMOSA BEACH	405.12							
				Beach Closures	Nonpoint Source	Medium	1.88	Miles		
4	C	INSPIRATION POINT BEACH	405.11							
				Beach Closures	Nonpoint Source	Medium	0.3	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	0.3	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				PCBs *Fish Consumption Advisory for PCBs.*	**Nonpoint Source**	**High**	**0.3**	**Miles**		
4	**C**	**LA COSTA BEACH**	**404.16**							
				Beach Closures	**Nonpoint Source**	**Medium**	**0.74**	**Miles**		
				DDT *Fish Consumption Advisory for DDT.*	**Nonpoint Source**	**High**	**0.74**	**Miles**		
				PCBs *Fish Consumption Advisory for PCBs.*	**Nonpoint Source**	**High**	**0.74**	**Miles**		
4	**C**	**LAS FLORES BEACH**	**404.15**							
				DDT *Fish Consumption Advisory for DDT.*	**Nonpoint Source**	**High**	**0.76**	**Miles**		
				High Coliform Count	**Nonpoint Source**	**High**	**0.76**	**Miles**		
				PCBs *Fish Consumption Advisory for PCBs.*	**Nonpoint Source**	**High**	**0.76**	**Miles**		
4	**C**	**LAS TUNAS BEACH**	**404.12**							
				Beach Closures	**Nonpoint Source**	**Medium**	**1.25**	**Miles**		
				DDT *Fish Consumption Advisory for DDT.*	**Nonpoint Source**	**High**	**1.25**	**Miles**		
				PCBs *Fish Consumption Advisory for PCBs.*	**Nonpoint Source**	**High**	**1.25**	**Miles**		
4	**C**	**LEO CARILLO BEACH (SOUTH OF COUNTY LINE)**	**404.44**							
				Beach Closures	**Nonpoint Source**	**Medium**	**1.15**	**Miles**		
				High Coliform Count	**Nonpoint Source**	**High**	**1.15**	**Miles**		
4	**C**	**LONG POINT BEACH**	**405.11**							
				DDT *Fish Consumption Advisory for DDT.*	**Nonpoint Source**	**High**	**0.45**	**Miles**		
				High Coliform Count	**Nonpoint Source**	**High**	**0.45**	**Miles**		

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				PCBs		High	0.45	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					
4	C	LUNADA BAY BEACH	405.11							
				Beach Closures		Medium	0.35	Miles		
					Nonpoint Source					
4	C	MALAGA COVE BEACH	405.11							
				Beach Closures		Medium	1.13	Miles		
					Nonpoint Source					
				DDT		High	1.13	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				PCBs		High	1.13	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					
4	C	MALIBU BEACH	404.21							
				Beach Closures		Medium	0.53	Miles		
					Nonpoint Source					
				DDT		High	0.53	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
4	C	MALIBU LAGOON BEACH (SURFRIDER)	404.21							
				Beach Closures		Medium	0.66	Miles		
					Nonpoint Source					
				DDT		High	0.66	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				High Coliform Count		High	0.66	Miles		
					Nonpoint Source					
				PCBs		High	0.66	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					
4	C	MANDALAY BEACH	403.11							
				Beach Closures		Low	1.55	Miles		
					Nonpoint Source					
4	C	MANHATTAN BEACH	405.12							
				Beach Closures		Medium	2.08	Miles		
					Nonpoint Source					
4	C	MARINA DEL REY HARBOR BEACH	405.13							
				Beach Closures		Medium	0.65	Miles		
					Nonpoint Source					

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				High Coliform Count	Nonpoint Source	High	0.65	Miles		
4	C	MCGRATH BEACH	403.11							
				Beach Closures	Nonpoint Source	Low	1.35	Miles		
				High Coliform Count	Nonpoint Source	Medium	1.35	Miles		
4	C	NICHOLAS CANYON BEACH	404.43							
				Beach Closures	Nonpoint Source	Medium	1.94	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	1.94	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	1.94	Miles		
4	C	PALO VERDE SHORELINE PARK BEACH	413.057							
				Pathogens	Source Unknown	Low	0.12	Miles		
				Pesticides	Source Unknown	Low	0.12	Miles		
4	C	PARADISE COVE BEACH	404.35							
				Beach Closures	Nonpoint Source	Medium	1.33	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	1.33	Miles		
				High Coliform Count	Nonpoint Source	High	1.33	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	1.33	Miles		
4	C	POINT DUME BEACH	404.36							
				Beach Closures	Nonpoint Source	Medium	0.95	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	0.95	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	0.95	Miles		

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	C	POINT FERMIN PARK BEACH	405.11							
				Beach Closures	Nonpoint Source	Medium	1.5	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	1.5	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	1.5	Miles		
4	C	POINT VICENTE BEACH	405.11							
				Beach Closures	Nonpoint Source	Medium	2.13	Miles		
4	C	PORTUGESE BEND BEACH	405.11							
				Beach Closures	Nonpoint Source	Medium	2.2	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	2.2	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	2.2	Miles		
4	C	PUERCO BEACH	404.31							
				Beach Closures	Nonpoint Source	Medium	1.68	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	1.68	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	1.68	Miles		
4	C	REDONDO BEACH	405.12							
				Beach Closures	Nonpoint Source	Medium	1.37	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	1.37	Miles		
				High Coliform Count	Nonpoint Source	High	1.37	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	1.37	Miles		

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	C	RESORT POINT BEACH	405.11							
				Beach Closures		Medium	0.49	Miles		
					Nonpoint Source					
4	C	ROBERT H MEYER MEMORIAL BEACH	404.42							
				Beach Closures		Medium	1.23	Miles		
					Nonpoint Source					
				DDT		High	1.23	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				PCBs		High	1.23	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					
4	C	ROCKY POINT BEACH	405.11							
				Beach Closures		Medium	0.52	Miles		
					Nonpoint Source					
4	C	ROYAL PALMS BEACH	405.11							
				Beach Closures		Medium	1.06	Miles		
					Nonpoint Source					
				DDT		High	1.06	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				PCBs		High	1.06	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					
4	C	SANTA CLARA RIVER ESTUARY BEACH/SURFERS KNOLL	403.11							
				High Coliform Count		Low	0.56	Miles		
					Nonpoint Source					
4	C	SANTA MONICA BEACH	405.13							
				Beach Closures		Medium	2.95	Miles		
					Nonpoint Source					
				High Coliform Count		High	2.95	Miles		
					Nonpoint Source					
4	C	SEA LEVEL BEACH	404.41							
				Beach Closures		Medium	0.67	Miles		
					Nonpoint Source					
				DDT		High	0.67	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				PCBs		High	0.67	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	C	TOPANGA BEACH	404.11							
				Beach Closures	Nonpoint Source	Medium	1.01	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	1.01	Miles		
				High Coliform Count	Nonpoint Source	High	1.01	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	1.01	Miles		
4	C	TORRANCE BEACH	405.12							
				Beach Closures	Nonpoint Source	Medium	0.58	Miles		
				High Coliform Count	Nonpoint Source	High	0.58	Miles		
4	C	TRANCAS BEACH (BROAD BEACH)	404.37							
				Beach Closures	Nonpoint Source	Medium	2.02	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	2.02	Miles		
				High Coliform Count	Nonpoint Source	High	2.02	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	2.02	Miles		
4	C	VENICE BEACH	405.13							
				Beach Closures	Nonpoint Source	Medium	1.5	Miles		
				High Coliform Count	Nonpoint Source	High	1.5	Miles		
4	C	WHITES POINT BEACH	405.11							
				Beach Closures	Nonpoint Source	Medium	0.7	Miles		
				DDT *Fish Consumption Advisory for DDT.*	Nonpoint Source	High	0.7	Miles		
				PCBs *Fish Consumption Advisory for PCBs.*	Nonpoint Source	High	0.7	Miles		

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	C	WILL ROGERS BEACH	405.13							
				Beach Closures		Medium	2.2	Miles		
					Nonpoint Source					
				High Coliform Count		High	2.2	Miles		
					Nonpoint Source					
4	C	ZUMA (WESTWARD BEACH)	404.36							
				Beach Closures		Medium	1.65	Miles		
					Nonpoint Source					
				DDT		High	1.65	Miles		
				Fish Consumption Advisory for DDT.						
					Nonpoint Source					
				PCBs		High	1.65	Miles		
				Fish Consumption Advisory for PCBs.						
					Nonpoint Source					
4	E	MALIBU LAGOON	404.21							
				Benthic Comm. Effects		Medium	32.5	Acres		
					Nonpoint/Point Source					
				Enteric Viruses		High	32.5	Acres		
					Nonpoint/Point Source					
				Eutrophic		Medium	32.5	Acres	0193	1202
					Nonpoint/Point Source					
				High Coliform Count		High	32.5	Acres		
					Nonpoint/Point Source					
				Shellfish Harvesting Adv.		Medium	32.5	Acres		
					Nonpoint/Point Source					
				Swimming Restrictions		High	32.5	Acres		
					Nonpoint/Point Source					
4	E	MUGU LAGOON	403.11							
				Chlordane		High	2000	Acres	1298	
				Elevated levels of chlordane in tissue.						
					Nonpoint Source					
				Copper		Medium	2000	Acres		
					Nonpoint/Point Source					
				Dacthal		High	2000	Acres	1298	
				Elevated levels of dacthal in tissue.						
					Nonpoint Source					
				DDT		High	2000	Acres	1298	
				Elevated levels of DDT in tissue and sediment. Effects on bird reproductivity from DDT.						
					Nonpoint Source					
				Endosulfan		High	2000	Acres	1298	
				Elevated levels of endosulfan in tissue.						
					Nonpoint Source					
				Mercury		High	2000	Acres		
					Nonpoint/Point Source					

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Nickel	Nonpoint/Point Source	Medium	2000	Acres		
				Nitrogen	Nonpoint/Point Source	Low	2000	Acres	1298	
				PCBs *Elevated levels of PCBs in tissue.*	Nonpoint/Point Source	High	2000	Acres		
				Sediment Toxicity	Nonpoint/Point Source	High	2000	Acres		
				Sedimentation/Siltation	Nonpoint/Point Source	High	2000	Acres		
				Zinc	Nonpoint/Point Source	Medium	2000	Acres		
4	L	CRYSTAL LAKE	405.43							
				Org. enrichment/Low D.O.	Nonpoint Source	Low	5.8	Acres		
4	L	ECHO PARK LAKE	405.15							
				Algae	Nonpoint Source	Low	23	Acres		
				Ammonia	Nonpoint Source	Low	23	Acres	0194	1299
				Copper	Nonpoint Source	Low	23	Acres		
				Eutrophic	Nonpoint Source	Low	23	Acres		
				Lead	Nonpoint Source	Low	23	Acres		
				Odors	Nonpoint Source	Low	23	Acres		
				PCBs *Elevated levels of PCBs in tissue.*	Nonpoint Source	Medium	23	Acres		
				pH	Nonpoint Source	Medium	23	Acres		
				Trash	Nonpoint Source	High	23	Acres		
4	L	EL DORADO LAKES	405.15							
				Algae	Nonpoint Source	Low	220	Acres		
				Ammonia	Nonpoint Source	Low	220	Acres	0194	1299
				Copper	Nonpoint Source	Low	220	Acres		

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Eutrophic	Nonpoint Source	Low	220	Acres		
				Lead	Nonpoint Source	Low	220	Acres		
				Mercury *Elevated levels of mercury in tissue.*	Nonpoint Source	Medium	220	Acres		
				pH	Nonpoint Source	Medium	220	Acres		
4	L	ELIZABETH LAKE	403.51							
				Eutrophic	Nonpoint Source	Low	194	Acres		
				Org. enrichment/Low D.O.	Nonpoint Source	Medium	194	Acres		
				pH	Nonpoint Source	Medium	194	Acres		
				Trash	Nonpoint Source	Low	194	Acres		
4	L	LAKE CALABASAS	405.21							
				Ammonia	Nonpoint Source	Low	28	Acres		
				Copper *Elevated levels of copper in tissue.*	Nonpoint Source	Medium	28	Acres		
				DDT *Elevated levels of DDT in tissue.*	Nonpoint Source	High	28	Acres		
				Eutrophic	Nonpoint Source	Medium	28	Acres		
				Odors	Nonpoint Source	Low	28	Acres		
				Org. enrichment/Low D.O.	Nonpoint Source	Medium	28	Acres		
				pH	Nonpoint Source	Medium	28	Acres		
				Zinc *Elevated levels of zinc in tissue.*	Nonpoint Source	Low	28	Acres		
4	L	LAKE HUGHES	403.51							
				Algae	Nonpoint Source	Low	34	Acres		
				Eutrophic	Nonpoint Source	Medium	34	Acres		

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Fish Kills	Nonpoint Source	Medium	34	Acres		
				Odors	Nonpoint Source	Low	34	Acres		
				Trash	Nonpoint Source	Low	34	Acres		
4	L	LAKE LINDERO	404.23							
				Algae	Nonpoint Source	Medium	13.56	Acres		
				Chloride	Nonpoint Source	Low	13.56	Acres		
				Eutrophic	Nonpoint Source	Medium	13.56	Acres	0193	1202
				Odors	Nonpoint Source	Low	13.56	Acres		
				Selenium *Elevated levels of selenium in tissue.*	Nonpoint Source	Low	13.56	Acres		
				Specific conductivity	Nonpoint Source	Low	13.56	Acres		
				Trash	Nonpoint Source	Low	13.56	Acres		
4	L	LAKE SHERWOOD	404.26							
				Algae	Nonpoint Source	Medium	213	Acres		
				Ammonia	Nonpoint Source	Low	213	Acres		
				Eutrophic	Nonpoint Source	Medium	213	Acres	0193	1202
				Mercury *Elevated levels of mercury in tissue.*	Nonpoint Source	Medium	213	Acres		
				Org. enrichment/Low D.O.	Nonpoint Source	Medium	213	Acres		
4	L	LEGG LAKE	405.41							
				Ammonia	Nonpoint Source	Low	70	Acres		
				Copper	Nonpoint Source	Low	70	Acres		
				Lead	Nonpoint Source	Low	70	Acres		
				Odors	Nonpoint Source	Low	70	Acres		

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				pH	Nonpoint Source	Medium	70	Acres		
				Trash	Nonpoint Source	High	70	Acres		
4	L	LINCOLN PARK LAKE	405.15							
				Ammonia	Nonpoint Source	Low	7	Acres	0194	1299
				Eutrophic	Nonpoint Source	Medium	7	Acres		
				Lead	Nonpoint Source	Low	7	Acres		
				Odors	Nonpoint Source	Low	7	Acres		
				Org. enrichment/Low D.O.	Nonpoint Source	Medium	7	Acres		
				Trash	Nonpoint Source	High	7	Acres		
4	L	MACHADO LAKE (HARBOR PARK LAKE)	405.12							
				Algae	Nonpoint Source	Low	45.2	Acres		
				Ammonia	Nonpoint Source	Low	45.2	Acres		
				ChemA *Elevated levels of chemA pesticides in tissue.*	Nonpoint Source	High	45.2	Acres		
				Chlordane *Elevated levels of chlordane in tissue. Fish Consumption Advisory for chlordane.*	Nonpoint Source	High	45.2	Acres		
				DDT *Elevated levels of DDT in tissue. Fish Consumption Advisory for DDT.*	Nonpoint Source	High	45.2	Acres		
				Dieldrin *Elevated levels of dieldrin in tissue.*	Nonpoint Source	High	45.2	Acres		
				Eutrophic	Nonpoint Source	Low	45.2	Acres		
				Odors	Nonpoint Source	Low	45.2	Acres		
				PCBs *Elevated levels of PCBs in tissue.*	Nonpoint Source	High	45.2	Acres		
				Trash	Nonpoint Source	Low	45.2	Acres		

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	L	MALIBOU LAKE	404.24							
				Algae		Medium	69	Acres		
					Nonpoint Source					
				Chlordane		Low	69	Acres		
				Elevated levels of chlordane in tissue.						
					Nonpoint/Point Source					
				Copper		Medium	69	Acres		
				Elevated levels of copper in tissue.						
					Nonpoint Source					
				Eutrophic		Medium	69	Acres	0193	1202
					Nonpoint Source					
				Org. enrichment/Low D.O.		Medium	69	Acres		
					Nonpoint Source					
				PCBs		Low	69	Acres		
				Elevated levels of PCBs in tissue.						
					Nonpoint Source					
4	L	MATILIJA RESERVOIR	402.20							
				Fish barriers		Low	198	Acres		
					Dam Construction/Operation					
4	L	MCGRATH LAKE (ESTUARY)	403.11							
				Chlordane		High	1.35	Acres		
				Elevated levels of chlordane in sediment.						
					Nonpoint Source					
				DDT		High	1.35	Acres		
				Elevated levels of DDT in sediment.						
					Nonpoint Source					
				Pesticides		High	1.35	Acres		
				Elevated levels of pesticides (total) in sediment.						
					Nonpoint Source					
				Sediment Toxicity		Medium	1.35	Acres		
					Nonpoint Source					
4	L	MUNZ LAKE	403.51							
				Eutrophic		Low	15	Acres		
					Nonpoint Source					
				Trash		Low	15	Acres		
					Nonpoint Source					
4	L	PECK ROAD PARK LAKE	405.41							
				Chlordane		Medium	166	Acres		
				Elevated levels of chlordane in tissue.						
					Nonpoint Source					
				DDT		Medium	166	Acres		
				Elevated levels of DDT in tissue.						
					Nonpoint Source					

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REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Lead	Nonpoint Source	Low	166	Acres		
				Odors	Nonpoint Source	Low	166	Acres		
				Org. enrichment/Low D.O.	Nonpoint Source	Medium	166	Acres		
				Trash	Nonpoint Source	High	166	Acres		
4	L	PUDDINGSTONE RESERVOIR	405.52							
				Chlordane *Elevated levels of chlordane in tissue.*	Nonpoint Source	Medium	382	Acres		
				DDT *Elevated levels of DDT in tissue.*	Nonpoint Source	Medium	382	Acres		
				Mercury *Elevated levels of mercury in tissue.*	Nonpoint Source	Medium	382	Acres		
				Org. enrichment/Low D.O.	Nonpoint Source	Medium	382	Acres		
				PCBs *Elevated levels of PCBs in tissue.*	Nonpoint Source	Medium	382	Acres		
4	L	SANTA FE DAM PARK LAKE	405.41							
				Copper	Nonpoint Source	Low	70	Acres		
				Lead	Nonpoint Source	Low	70	Acres		
				pH	Nonpoint Source	Low	70	Acres		
4	L	WESTLAKE LAKE	404.25							
				Algae	Nonpoint Source	Medium	186	Acres		
				Ammonia	Nonpoint Source	Low	186	Acres		
				Chlordane *Elevated levels of chlordane in tissue.*	Nonpoint Source	Low	186	Acres		
				Copper *Elevated levels of copper in tissue.*	Nonpoint Source	Medium	186	Acres		
				Eutrophic	Nonpoint Source	Medium	186	Acres	0193	1202

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				Lead	Nonpoint Source	Low	186	Acres		
				Org. enrichment/Low D.O.	Nonpoint Source	Medium	186	Acres		
4	R	ALISO CANYON WASH	405.21	Selenium	Nonpoint Source	Low	10.13	Miles		
4	R	ARROYO LAS POSAS REACH 1 (LEWIS SOMIS RD TO FOX BARRANCA)	403.12							
				Ammonia	Nonpoint/Point Source	High	1.99	Miles	1298	
				Chloride	Nonpoint/Point Source	Medium	1.99	Miles	0197	1200
				DDT *Elevated levels of DDT in sediment.*	Nonpoint Source	High	1.99	Miles	1298	
				Nitrate and Nitrite	Nonpoint/Point Source	Medium	1.99	Miles	1298	
				Sulfates	Nonpoint/Point Source	Medium	1.99	Miles		
				Total Dissolved Solids	Nonpoint/Point Source	Medium	1.99	Miles	1298	
4	R	ARROYO LAS POSAS REACH 2 (FOX BARRANCA TO MOORPARK FWY (23))	403.62							
				Ammonia	Nonpoint/Point Source	High	9.62	Miles	1298	
				Chloride	Nonpoint/Point Source	Medium	9.62	Miles	0197	1200
				DDT *Elevated levels of DDT in sediment.*	Nonpoint Source	High	9.62	Miles	1298	
				Nitrate and Nitrite	Nonpoint/Point Source	Medium	9.62	Miles	1298	
				Sulfates	Nonpoint/Point Source	Medium	9.62	Miles		
				Total Dissolved Solids	Nonpoint/Point Source	Medium	9.62	Miles		
4	R	ARROYO SECO REACH 1 (LA RIVER TO WEST HOLLY AVE)	405.15							
				Algae	Nonpoint Source	Low	7.02	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				High Coliform Count	Nonpoint Source	Medium	7.02	Miles		
				Trash	Nonpoint Source	High	7.02	Miles		
4	R	ARROYO SECO REACH 2 (WEST HOLLY AVE. TO DEVILS GATE DAM)	405.31							
				Algae	Nonpoint Source	Low	2.53	Miles		
				High Coliform Count	Nonpoint Source	Medium	2.53	Miles		
				Trash	Nonpoint Source	High	2.53	Miles		
4	R	ARROYO SIMI REACH 1 (MOORPARK FRWY (23) TO BREA CYN)	403.62							
				Ammonia	Nonpoint/Point Source	High	7.58	Miles	1298	
				Boron	Nonpoint Source	Medium	7.58	Miles		
				Chloride	Nonpoint Source	Medium	7.58	Miles	0197	1200
				Chromium *Elevated levels of chromium in tissue.*	Nonpoint/Point Source	Low	7.58	Miles		
				Nickel *Elevated levels of nickel in tissue.*	Nonpoint/Point Source	Low	7.58	Miles		
				Selenium *Elevated levels of selenium in tissue.*	Nonpoint/Point Source	Low	7.58	Miles		
				Silver *Elevated levels of silver in tissue.*	Nonpoint/Point Source	Low	7.58	Miles		
				Sulfates	Nonpoint Source	Medium	7.58	Miles		
				Total Dissolved Solids	Nonpoint Source	Medium	7.58	Miles		
				Zinc *Elevated levels of zinc in tissue.*	Nonpoint/Point Source	Low	7.58	Miles		
4	R	ARROYO SIMI REACH 2 (ABOVE BREA CANYON)	403.67							
				Boron	Nonpoint Source	Medium	11.12	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Sulfates	**Nonpoint Source**	**Medium**	**11.12**	**Miles**		
				Total Dissolved Solids	**Nonpoint Source**	**Medium**	**11.12**	**Miles**		
4	**R**	**ASHLAND AVENUE DRAIN**	**405.13**							
				High Coliform Count	**Nonpoint Source**	**High**	**0.57**	**Miles**		
				Org. enrichment/Low D.O.	**Nonpoint Source**	**Low**	**0.57**	**Miles**		
				Toxicity	**Nonpoint Source**	**Low**	**0.57**	**Miles**		
4	**R**	**BALLONA CREEK**	**405.13**							
				Arsenic *Elevated levels of arsenic in tissue.*	**Nonpoint/Point Source**	**Medium**	**4.3**	**Miles**		
				Cadmium *Elevated levels of cadmium in sediment.*	**Nonpoint/Point Source**	**Medium**	**4.3**	**Miles**		
				ChemA *Elevated levels of chemA pesticides in tissue.*	**Nonpoint/Point Source**	**High**	**4.3**	**Miles**		
				Chlordane *Elevated levels of chlordane in tissue.*	**Nonpoint/Point Source**	**High**	**4.3**	**Miles**		
				Copper *Elevated levels of copper in tissue and sediment.*	**Nonpoint/Point Source**	**Medium**	**4.3**	**Miles**		
				DDT *Elevated levels of DDT in tissue.*	**Nonpoint/Point Source**	**High**	**4.3**	**Miles**		
				Dieldrin *Elevated levels of dieldrin in tissue.*	**Nonpoint/Point Source**	**High**	**4.3**	**Miles**		
				Enteric Viruses	**Nonpoint/Point Source**	**High**	**4.3**	**Miles**		
				High Coliform Count	**Nonpoint/Point Source**	**High**	**4.3**	**Miles**		
				Lead *Elevated levels of lead in tissue and sediment.*	**Nonpoint/Point Source**	**Low**	**4.3**	**Miles**		
				PCBs *Elevated levels of PCBs in tissue.*	**Nonpoint/Point Source**	**High**	**4.3**	**Miles**		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Sediment Toxicity	**Nonpoint/Point Source**	**Medium**	**4.3**	**Miles**		
				Silver *Elevated levels of silver in tissue and sediment.*	**Nonpoint/Point Source**	**Low**	**4.3**	**Miles**		
				Toxicity	**Nonpoint/Point Source**	**Medium**	**4.3**	**Miles**		
				Trash	**Nonpoint/Point Source**	**High**	**4.3**	**Miles**		
				Tributyltin *Elevated levels of tributyltin in sediment.*	**Nonpoint/Point Source**	**Low**	**4.3**	**Miles**		
4	**R**	**BALLONA CREEK ESTUARY**	**405.13**							
				Arochlor *Elevated levels of arochlor in sediment.*	**Nonpoint/Point Source**	**High**	**2.5**	**Miles**		
				Chlordane *Elevated levels of chlordane in tissue and sediment.*	**Nonpoint/Point Source**	**High**	**2.5**	**Miles**		
				DDT *Elevated levels of DDT in sediment.*	**Nonpoint/Point Source**	**High**	**2.5**	**Miles**		
				High Coliform Count	**Nonpoint/Point Source**	**High**	**2.5**	**Miles**		
				Lead *Elevated levels of lead in sediment.*	**Nonpoint/Point Source**	**Low**	**2.5**	**Miles**		
				PAHs *Elevated levels of PAHs in sediment.*	**Nonpoint/Point Source**	**High**	**2.5**	**Miles**		
				PCBs *Elevated levels of PCBs in tissue and sediment.*	**Nonpoint/Point Source**	**High**	**2.5**	**Miles**		
				Sediment Toxicity	**Nonpoint/Point Source**	**Medium**	**2.5**	**Miles**		
				Shellfish Harvesting Adv.	**Nonpoint/Point Source**	**Medium**	**2.5**	**Miles**		
				Zinc *Elevated levels of zinc in sediment.*	**Nonpoint/Point Source**	**Low**	**2.5**	**Miles**		
4	**R**	**BEARDSLEY CHANNEL (ABOVE CENTRAL AVENUE)**	**403.61**							
				Algae	**Nonpoint Source**	**Low**	**6.16**	**Miles**	**1298**	

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				ChemA		**High**	**6.16**	**Miles**	**1298**	
				Elevated levels of chemA pesticides in tissue.	**Nonpoint Source**					
				Chlordane		**High**	**6.16**	**Miles**	**1298**	
				Elevated levels of chlordane in tissue and sediment.	**Nonpoint Source**					
				Chlorpyrifos		**High**	**6.16**	**Miles**	**1298**	
				Elevated levels of chlorpyrifos in tissue.	**Nonpoint Source**					
				Dacthal		**High**	**6.16**	**Miles**	**1298**	
				Elevated levels of dacthal in sediment.	**Nonpoint Source**					
				DDT		**High**	**6.16**	**Miles**	**1298**	
				Elevated levels of DDT in tissue and sediment.	**Nonpoint Source**					
				Dieldrin		**High**	**6.16**	**Miles**	**1298**	
				Elevated levels of dieldrin in tissue.	**Nonpoint Source**					
				Endosulfan		**High**	**6.16**	**Miles**	**1298**	
				Elevated levels of endosulfan in tissue and sediment.	**Nonpoint Source**					
				Nitrogen		**Medium**	**6.16**	**Miles**	**1298**	
					Nonpoint Source					
				PCBs		**High**	**6.16**	**Miles**		
				Elevated levels of PCBs in tissue.	**Nonpoint Source**					
				Toxaphene		**High**	**6.16**	**Miles**	**1298**	
				Elevated levels of toxaphene in tissue and sediment.	**Nonpoint Source**					
				Toxicity		**High**	**6.16**	**Miles**		
					Nonpoint Source					
				Trash		**Low**	**6.16**	**Miles**		
					Nonpoint Source					
4	**R**	**BELL CREEK**	**405.21**							
				High Coliform Count		**Low**	**9.81**	**Miles**		
					Nonpoint/Point Source					
4	**R**	**BROWN BARRANCA / LONG CANYON**	**403.11**							
				Nitrate and Nitrite		**Medium**	**3.79**	**Miles**		
					Nonpoint Source					
4	**R**	**BURBANK WESTERN CHANNEL**	**405.21**							
				Algae		**Low**	**6.35**	**Miles**		
					Nonpoint/Point Source					

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Ammonia	Nonpoint/Point Source	High	6.35	Miles	0194	1299
				Cadmium	Nonpoint/Point Source	Low	6.35	Miles		
				Odors	Nonpoint/Point Source	Low	6.35	Miles		
				Scum/Foam-unnatural	Nonpoint/Point Source	Low	6.35	Miles		
				Trash	Nonpoint/Point Source	High	6.35	Miles		
4	R	CALLEGUAS CREEK REACH 1 (ESTUARY TO 0.5MI S OF BROOME RD)	403.11							
				Ammonia	Nonpoint/Point Source	High	2.2	Miles	1298	
				ChemA *Elevated levels of chemA in tissue.*	Nonpoint Source	High	2.2	Miles	1298	
				Chlordane *Elevated levels of chlordane in tissue.*	Nonpoint Source	High	2.2	Miles	1298	
				DDT *Elevated levels of DDT in tissue and sediment.*	Nonpoint Source	High	2.2	Miles	1298	
				Endosulfan *Elevated levels of endosulfan in tissue.*	Nonpoint Source	High	2.2	Miles	1298	
				Nitrogen	Nonpoint/Point Source	Medium	2.2	Miles	1298	
				PCBs *Elevated levels of PCBs in tissue.*	Nonpoint/Point Source	High	2.2	Miles		
				Sediment Toxicity	Nonpoint/Point Source	Medium	2.2	Miles		
				Toxaphene *Elevated levels of toxaphene in tissue and sediment.*	Nonpoint Source	High	2.2	Miles	1298	
				Toxicity	Nonpoint/Point Source	High	2.2	Miles		
4	R	CALLEGUAS CREEK REACH 2 (0.5 MI S OF BROOME RD TO POTRERO RD	403.12							
				Ammonia	Nonpoint/Point Source	High	2.3	Miles	1298	

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				ChemA *Elevated levels of chemA pesticides in tissue.*	**Nonpoint Source**	**High**	**2.3**	**Miles**	**1298**	
				Chlordane *Elevated level of chlordane in tissue.*	**Nonpoint Source**	**High**	**2.3**	**Miles**	**1298**	
				Dacthal *Elevated level of dacthal in tissue.*	**Nonpoint Source**	**High**	**2.3**	**Miles**	**1298**	
				DDT *Elevated level of DDT in tissue and sediment.*	**Nonpoint Source**	**High**	**2.3**	**Miles**	**1298**	
				Endosulfan *Elevated level of endosulfan in tissue.*	**Nonpoint Source**	**High**	**2.3**	**Miles**	**1298**	
				Nitrogen	**Nonpoint/Point Source**	**Medium**	**2.3**	**Miles**	**1298**	
				PCBs *Elevated level of PCBs in tissue.*	**Nonpoint/Point Source**	**High**	**2.3**	**Miles**		
				Sediment Toxicity	**Nonpoint/Point Source**	**Medium**	**2.3**	**Miles**		
				Toxaphene *Elevated level of toxaphene in tissue and sediment.*	**Nonpoint Source**	**High**	**2.3**	**Miles**	**1298**	
				Toxicity	**Nonpoint/Point Source**	**High**	**2.3**	**Miles**		
4	**R**	**CALLEGUAS CREEK REACH 3 (POTRERO TO SOMIS RD)**	**403.12**							
				Chloride	**Nonpoint/Point Source**	**Medium**	**7.7**	**Miles**	**0197**	**1200**
				Nitrate and Nitrite	**Nonpoint/Point Source**	**Medium**	**7.7**	**Miles**	**1298**	
				Total Dissolved Solids	**Nonpoint/Point Source**	**Medium**	**7.7**	**Miles**		
4	**R**	**COMPTON CREEK**	**405.15**							
				Copper	**Nonpoint/Point Source**	**Low**	**8.52**	**Miles**		
				High Coliform Count	**Nonpoint/Point Source**	**Medium**	**8.52**	**Miles**		
				Lead	**Nonpoint/Point Source**	**Low**	**8.52**	**Miles**		
				pH	**Nonpoint/Point Source**	**Medium**	**8.52**	**Miles**		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	R	CONEJO CREEK / ARROYO CONEJO NORTH FORK	403.64							
				Ammonia	Nonpoint/Point Source	High	6.51	Miles	1298	
				Chlordane *Elevated levels of chlordane in tissue.*	Nonpoint Source	Medium	6.51	Miles	1298	
				DDT *Elevated levels of DDT in tissue.*	Nonpoint Source	Medium	6.51	Miles	1298	
				Sulfates	Nonpoint/Point Source	Medium	6.51	Miles		
				Total Dissolved Solids	Nonpoint/Point Source	Medium	6.51	Miles		
4	R	CONEJO CREEK REACH 1 (CONFL CALL TO SANTA ROSA RD)	403.12							
				Algae	Nonpoint/Point Source	Low	5.8	Miles	1298	
				Ammonia	Nonpoint/Point Source	High	5.8	Miles	1298	
				Cadmium *Elevated levels of cadmium in tissue.*	Nonpoint/Point Source	Medium	5.8	Miles		
				ChemA *Elevated levels of chemA pesticides in tissue.*	Nonpoint Source	High	5.8	Miles	1298	
				Chromium *Elevated levels of chromium in tissue.*	Nonpoint/Point Source	Medium	5.8	Miles		
				Dacthal *Elevated levels of dacthal in tissue.*	Nonpoint Source	High	5.8	Miles	1298	
				DDT *Elevated levels of DDT in tissue.*	Nonpoint Source	High	5.8	Miles	1298	
				Endosulfan *Elevated levels of endosulfan in tissue.*	Nonpoint Source	High	5.8	Miles	1298	
				Nickel *Elevated levels of nickel in tissue.*	Nonpoint/Point Source	Medium	5.8	Miles		
				Org. enrichment/Low D.O.	Nonpoint/Point Source	Medium	5.8	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Silver		**Medium**	**5.8**	**Miles**		
				Elevated levels of silver in tissue.						
					Nonpoint/Point Source					
				Sulfates		**Medium**	**5.8**	**Miles**		
					Nonpoint/Point Source					
				Total Dissolved Solids		**Medium**	**5.8**	**Miles**		
					Nonpoint/Point Source					
				Toxaphene		**High**	**5.8**	**Miles**	**1298**	
				Elevated levels of toxaphene in tissue and sediment.						
					Nonpoint Source					
				Toxicity		**High**	**5.8**	**Miles**		
					Nonpoint/Point Source					
4	**R**	**CONEJO CREEK REACH 2 (SANTA ROSA RD TO THO. OAKS CITY LIMIT)**	**403.63**							
				Algae		**Low**	**2.67**	**Miles**	**1298**	
					Nonpoint/Point Source					
				Ammonia		**High**	**2.67**	**Miles**	**1298**	
					Nonpoint/Point Source					
				Cadmium		**Medium**	**2.67**	**Miles**		
				Elevated levels of cadmium in tissue.						
					Nonpoint/Point Source					
				ChemA		**High**	**2.67**	**Miles**	**1298**	
				Elevated levels of chemA pesticides in tissue.						
					Nonpoint Source					
				Chloride		**Medium**	**2.67**	**Miles**	**0197**	**1200**
					Nonpoint/Point Source					
				Chromium		**Medium**	**2.67**	**Miles**		
				Elevated levels of chromium in tissue.						
					Nonpoint/Point Source					
				Dacthal		**High**	**2.67**	**Miles**	**1298**	
				Elevated levels of dacthal in tissue.						
					Nonpoint Source					
				DDT		**High**	**2.67**	**Miles**	**1298**	
				Elevated levels of DDT in tissue.						
					Nonpoint Source					
				Endosulfan		**High**	**2.67**	**Miles**	**1298**	
				Elevated levels of endosulfan in tissue.						
					Nonpoint Source					
				Nickel		**Medium**	**2.67**	**Miles**		
				Elevated levels of nickel in tissue.						
					Nonpoint/Point Source					
				Org. enrichment/Low D.O.		**Medium**	**2.67**	**Miles**		
					Nonpoint/Point Source					

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Silver *Elevated levels of silver in tissue.*	**Nonpoint/Point Source**	**Medium**	**2.67**	**Miles**		
				Sulfates	**Nonpoint/Point Source**	**Medium**	**2.67**	**Miles**		
				Total Dissolved Solids	**Nonpoint/Point Source**	**Medium**	**2.67**	**Miles**		
				Toxaphene *Elevated levels of toxaphene in tissue and sediment.*	**Nonpoint Source**	**High**	**2.67**	**Miles**	**1298**	
				Toxicity	**Nonpoint/Point Source**	**High**	**2.67**	**Miles**		
4	**R**	**CONEJO CREEK REACH 3 (THOUSAND OAKS CITY LIMIT TO LYNN RD.)**	**403.64**							
				Algae	**Nonpoint/Point Source**	**Low**	**5.6**	**Miles**	**1298**	
				Ammonia	**Nonpoint/Point Source**	**High**	**5.6**	**Miles**	**1298**	
				Cadmium *Elevated levels of cadmium in tissue.*	**Nonpoint/Point Source**	**Medium**	**5.6**	**Miles**		
				ChemA *Elevated levels of chemA pesticides in tissue.*	**Nonpoint Source**	**High**	**5.6**	**Miles**	**1298**	
				Chromium *Elevated levels of chromium in tissue.*	**Nonpoint/Point Source**	**Medium**	**5.6**	**Miles**		
				Dacthal *Elevated levels of dacthal in tissue.*	**Nonpoint Source**	**High**	**5.6**	**Miles**	**1298**	
				DDT *Elevated levels of DDT in tissue.*	**Nonpoint Source**	**High**	**5.6**	**Miles**	**1298**	
				Endosulfan *Elevated levels of endosulfan in tissue.*	**Nonpoint Source**	**High**	**5.6**	**Miles**	**1298**	
				Nickel *Elevated levels of nickel in tissue.*	**Nonpoint/Point Source**	**Medium**	**5.6**	**Miles**		
				Org. enrichment/Low D.O.	**Nonpoint/Point Source**	**Medium**	**5.6**	**Miles**		
				Silver *Elevated levels of silver in tissue.*	**Nonpoint/Point Source**	**Medium**	**5.6**	**Miles**		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Sulfates	**Nonpoint/Point Source**	**Medium**	**5.6**	**Miles**		
				Total Dissolved Solids	**Nonpoint/Point Source**	**Medium**	**5.6**	**Miles**		
				Toxaphene *Elevated levels of toxaphene in tissue and sediment.*	**Nonpoint Source**	**High**	**5.6**	**Miles**	**1298**	
				Toxicity	**Nonpoint/Point Source**	**High**	**5.6**	**Miles**		
4	**R**	**CONEJO CREEK REACH 4 (ABOVE LYNN RD.)**	**403.68**							
				Algae	**Nonpoint/Point Source**	**Low**	**4.98**	**Miles**		
				Ammonia	**Nonpoint/Point Source**	**High**	**4.98**	**Miles**	**1298**	
				ChemA *Elevated levels of chemA pesticides in tissue.*	**Nonpoint Source**	**High**	**4.98**	**Miles**	**1298**	
				Chloride	**Nonpoint/Point Source**	**Medium**	**4.98**	**Miles**	**0197**	**1200**
				Dacthal *Elevated levels of dacthal in tissue.*	**Nonpoint Source**	**High**	**4.98**	**Miles**	**1298**	
				DDT *Elevated levels of DDT in tissue.*	**Nonpoint Source**	**High**	**4.98**	**Miles**	**1298**	
				Endosulfan *Elevated levels of endosulfan in tissue.*	**Nonpoint Source**	**High**	**4.98**	**Miles**	**1298**	
				Org. enrichment/Low D.O.	**Nonpoint/Point Source**	**Medium**	**4.98**	**Miles**		
				Sulfates	**Nonpoint/Point Source**	**Medium**	**4.98**	**Miles**		
				Total Dissolved Solids	**Nonpoint/Point Source**	**Medium**	**4.98**	**Miles**		
				Toxaphene *Elevated levels of toxaphene in tissue and sediment.*	**Nonpoint Source**	**High**	**4.98**	**Miles**	**1298**	
				Toxicity	**Nonpoint/Point Source**	**High**	**4.98**	**Miles**		
4	**R**	**COYOTE CREEK**	**405.15**							
				Abnormal Fish Histology	**Nonpoint/Point Source**	**Medium**	**13.45**	**Miles**		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Algae	Nonpoint/Point Source	Medium	13.45	Miles		
				Ammonia	Nonpoint/Point Source	High	13.45	Miles		
				High Coliform Count	Nonpoint/Point Source	Medium	13.45	Miles		
				Silver *Elevated levels of silver in tissue.*	Nonpoint/Point Source	Medium	13.45	Miles		
4	R	DOMINGUEZ CHANNEL (ABOVE VERMONT)	405.12							
				Aldrin *Elevated levels of aldrin in tissue.*	Nonpoint/Point Source	Medium	9	Miles		
				Ammonia	Nonpoint/Point Source	Low	9	Miles		
				ChemA *Elevated levels of chemA pesticides in tissue.*	Nonpoint/Point Source	High	9	Miles		
				Chlordane *Elevated levels of chlordane in tissue.*	Nonpoint/Point Source	High	9	Miles		
				Chromium *Elevated levels of chromium in sediment.*	Nonpoint/Point Source	Medium	9	Miles		
				Copper	Nonpoint/Point Source	Low	9	Miles		
				DDT *Elevated levels of DDT in tissue and sediment.*	Nonpoint/Point Source	High	9	Miles		
				Dieldrin *Elevated levels of dieldrin in tissue.*	Nonpoint/Point Source	Medium	9	Miles		
				High Coliform Count	Nonpoint/Point Source	Low	9	Miles		
				Lead *Elevated levels of lead in tissue.*	Nonpoint/Point Source	Low	9	Miles		
				PAHs *Elevated levels of PAHs in sediment.*	Nonpoint/Point Source	High	9	Miles		
				PCBs *Elevated levels of PCBs in tissue.*	Nonpoint/Point Source	High	9	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Zinc		High	9	Miles		
				Elevated levels of zinc in sediment.						
					Nonpoint/Point Source					
4	R	DOMINGUEZ CHANNEL ESTUARY (TO VERMONT)	405.12							
				Aldrin		Medium	8.4	Miles		
				Elevated levels of aldrin in tissue.						
					Nonpoint/Point Source					
				Ammonia		Low	8.4	Miles		
					Nonpoint/Point Source					
				Benthic Comm. Effects		High	8.4	Miles		
					Nonpoint/Point Source					
				ChemA		High	8.4	Miles		
				Elevated levels of chemA pesticides in tissue.						
					Nonpoint/Point Source					
				Chlordane		High	8.4	Miles		
				Elevated levels of chlordane in tissue.						
					Nonpoint/Point Source					
				Chromium		Medium	8.4	Miles		
				Elevated levels of chromium in sediment.						
					Nonpoint/Point Source					
				Copper		Low	8.4	Miles		
					Nonpoint/Point Source					
				DDT		High	8.4	Miles		
				Elevated levels of DDT in tissue and sediment.						
					Nonpoint/Point Source					
				Dieldrin		Medium	8.4	Miles		
				Elevated levels of dieldrin in tissue.						
					Nonpoint/Point Source					
				High Coliform Count		Low	8.4	Miles		
					Nonpoint/Point Source					
				Lead		Low	8.4	Miles		
				Elevated levels of lead in tissue.						
					Nonpoint/Point Source					
				PAHs		High	8.4	Miles		
				Elevated levels of PAHs in sediment.						
					Nonpoint/Point Source					
				PCBs		High	8.4	Miles		
				Elevated levels of PCBs in tissue.						
					Nonpoint/Point Source					
				Zinc		High	8.4	Miles		
				Elevated levels of zinc in sediment.						
					Nonpoint/Point Source					

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	R	DUCK POND AGRICULTURAL DRAIN/MUGU DRAIN/OXNARD DR #2	403.11							
				ChemA *Elevated levels of chemA pesticides in tissue.*	Nonpoint Source	High	13.5	Miles	1298	
				Chlordane *Elevated levels of chlordane in tissue.*	Nonpoint Source	High	13.5	Miles	1298	
				DDT *Elevated levels of DDT in tissue and sediment.*	Nonpoint Source	High	13.5	Miles	1298	
				Nitrogen	Nonpoint Source	Medium	13.5	Miles	1298	
				Sediment Toxicity	Nonpoint Source	Medium	13.5	Miles		
				Toxaphene *Elevated levels of toxaphene in tissue.*	Nonpoint Source	High	13.5	Miles	1298	
				Toxicity	Nonpoint Source	High	13.5	Miles		
4	R	FOX BARRANCA	403.62							
				Boron	Nonpoint Source	Medium	3.03	Miles		
				Nitrate and Nitrite	Nonpoint Source	Medium	3.03	Miles	1298	
				Sulfates	Nonpoint Source	Medium	3.03	Miles		
				Total Dissolved Solids	Nonpoint Source	Medium	3.03	Miles		
4	R	LAS VIRGENES CREEK	404.22							
				High Coliform Count	Nonpoint Source	High	11.47	Miles		
				Nutrients (Algae)	Nonpoint Source	Medium	11.47	Miles	0193	1202
				Org. enrichment/Low D.O.	Nonpoint Source	Medium	11.47	Miles		
				Scum/Foam-unnatural	Nonpoint Source	Low	11.47	Miles		
				Selenium	Nonpoint Source	Low	11.47	Miles		
				Trash	Nonpoint Source	Low	11.47	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	R	LINDERO CREEK REACH 1	404.23							
				Algae	Nonpoint Source	Medium	2.2	Miles		
				High Coliform Count	Nonpoint Source	High	2.2	Miles		
				Scum/Foam-unnatural	Nonpoint Source	Low	2.2	Miles		
				Selenium	Nonpoint Source	Low	2.2	Miles		
				Trash	Nonpoint Source	Low	2.2	Miles		
4	R	LINDERO CREEK REACH 2 (ABOVE LAKE)	404.23							
				Algae	Nonpoint Source	Medium	4.8	Miles		
				High Coliform Count	Nonpoint Source	High	4.8	Miles		
				Scum/Foam-unnatural	Nonpoint Source	Low	4.8	Miles		
				Selenium	Nonpoint Source	Low	4.8	Miles		
				Trash	Nonpoint Source	Low	4.8	Miles		
4	R	LOS ANGELES RIVER REACH 1 (ESTUARY TO CARSON STREET)	405.12							
				Ammonia	Nonpoint/Point Source	High	2.01	Miles	0194	1299
				High Coliform Count	Nonpoint/Point Source	Medium	2.01	Miles		
				Lead	Nonpoint/Point Source	Low	2.01	Miles		
				Nutrients (Algae)	Nonpoint/Point Source	Medium	2.01	Miles	0194	1299
				pH	Nonpoint/Point Source	Medium	2.01	Miles		
				Scum/Foam-unnatural	Nonpoint/Point Source	Low	2.01	Miles		
				Trash	Nonpoint/Point Source	High	2.01	Miles		
4	R	LOS ANGELES RIVER REACH 2 (CARSON TO FIGUEROA STREET)	405.15							
				Ammonia	Nonpoint/Point Source	High	19.37	Miles	0194	1299

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				High Coliform Count	Nonpoint/Point Source	Medium	19.37	Miles		
				Lead	Nonpoint/Point Source	Low	19.37	Miles		
				Nutrients (Algae)	Nonpoint/Point Source	Medium	19.37	Miles	0194	1299
				Odors	Nonpoint/Point Source	Low	19.37	Miles		
				Oil	Nonpoint/Point Source	Medium	19.37	Miles		
				Scum/Foam-unnatural	Nonpoint/Point Source	Low	19.37	Miles		
				Trash	Nonpoint/Point Source	High	19.37	Miles		
4	R	LOS ANGELES RIVER REACH 3 (FIGUEROA ST TO RIVERSIDE DR.)	405.21							
				Ammonia	Nonpoint/Point Source	High	7.24	Miles	0194	1299
				Nutrients (Algae)	Nonpoint/Point Source	Medium	7.24	Miles	0194	1299
				Odors	Nonpoint/Point Source	Low	7.24	Miles		
				Scum/Foam-unnatural	Nonpoint/Point Source	Low	7.24	Miles		
				Trash	Nonpoint/Point Source	High	7.24	Miles		
4	R	LOS ANGELES RIVER REACH 4 (SEPUVEDA DR. TO SEPULVEDA DAM)	405.21							
				Ammonia	Nonpoint/Point Source	High	11.84	Miles	0194	1299
				High Coliform Count	Nonpoint/Point Source	Medium	11.84	Miles		
				Lead	Nonpoint/Point Source	Low	11.84	Miles		
				Nutrients (Algae)	Nonpoint/Point Source	Medium	11.84	Miles	0194	1299
				Odors	Nonpoint/Point Source	Low	11.84	Miles		
				Scum/Foam-unnatural	Nonpoint/Point Source	Low	11.84	Miles		
				Trash	Nonpoint/Point Source	High	11.84	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	R	LOS ANGELES RIVER REACH 5 (AT SEPULVEDA BASIN)	405.21							
				Ammonia	Nonpoint/Point Source	High	1.93	Miles	0194	1299
				ChemA	Nonpoint/Point Source	Medium	1.93	Miles		
				Chlorpyrifos *Elevated levels of chlorpyrifos in tissue.*	Nonpoint/Point Source	Medium	1.93	Miles		
				Nutrients (Algae)	Nonpoint/Point Source	Medium	1.93	Miles	0194	1299
				Odors	Nonpoint/Point Source	Low	1.93	Miles		
				Oil	Nonpoint/Point Source	Low	1.93	Miles		
				Scum/Foam-unnatural	Nonpoint/Point Source	Low	1.93	Miles		
				Trash	Nonpoint/Point Source	High	1.93	Miles		
4	R	LOS ANGELES RIVER REACH 6 (ABOVE SEPULVEDA FLD CNTRL BASIN)	405.21							
				Dichloroethylene/1,1-DCE	Nonpoint Source	Low	6.17	Miles		
				High Coliform Count	Nonpoint Source	Low	6.17	Miles		
				Tetrachloroethylene/PCE	Nonpoint Source	Low	6.17	Miles		
				Trichloroethylene/TCE	Nonpoint Source	Low	6.17	Miles		
4	R	MALIBU CREEK	404.21							
				Fish barriers	Dam Construction/Operation	Low	9.5	Miles		
				High Coliform Count	Nonpoint/Point Source	High	9.5	Miles		
				Nutrients (Algae)	Nonpoint/Point Source	Medium	9.5	Miles	0193	1202
				Scum/Foam-unnatural	Nonpoint/Point Source	Low	9.5	Miles		
				Trash	Nonpoint Source	Low	9.5	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	R	MATILIJA CREEK REACH 1 (JCT. WITH N. FORK TO RESERVOIR)	402.20							
				Fish barriers	Dam Construction/Operation	Low	1.6	Miles		
4	R	MATILIJA CREEK REACH 2 (ABOVE RESERVOIR)	402.20							
				Fish barriers	Dam Construction/Operation	Low	16.8	Miles		
4	R	MEDEA CREEK REACH 1 (LAKE TO CONFL. WITH LINDERO)	404.23							
				Algae	Nonpoint Source	Medium	3.01	Miles		
				High Coliform Count	Nonpoint Source	High	3.01	Miles		
				Selenium	Nonpoint Source	Low	3.01	Miles		
				Trash	Nonpoint Source	Low	3.01	Miles		
4	R	MEDEA CREEK REACH 2 (ABV COFL. WITH LINDERO)	404.24							
				Algae	Nonpoint Source	Medium	5.44	Miles		
				High Coliform Count	Nonpoint Source	High	5.44	Miles		
				Selenium	Nonpoint Source	Low	5.44	Miles		
				Trash	Nonpoint Source	Low	5.44	Miles		
4	R	MINT CANYON CREEK REACH 1 (CONFL TO ROWLER CYN)	403.51							
				Nitrate and Nitrite	Nonpoint Source	Medium	8.16	Miles		
4	R	MONROVIA CANYON CREEK	405.33							
				Lead	Nonpoint Source	Low	2.09	Miles		
4	R	PALO COMADO CREEK	404.23							
				High Coliform Count	Nonpoint Source	High	7.78	Miles		
4	R	PICO KENTER DRAIN	405.13							
				Ammonia	Nonpoint Source	Low	4.77	Miles		
				Copper	Nonpoint Source	Medium	4.77	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Enteric Viruses	Nonpoint Source	High	4.77	Miles		
				High Coliform Count	Nonpoint Source	High	4.77	Miles		
				Lead	Nonpoint Source	Low	4.77	Miles		
				PAHs	Nonpoint Source	High	4.77	Miles		
				Toxicity	Nonpoint Source	Medium	4.77	Miles		
				Trash	Nonpoint Source	Low	4.77	Miles		
4	R	REVOLON SLOUGH MAIN BRANCH (MUGU LAGOON TO CENTRAL AVENUE)	403.11							
				Algae	Nonpoint Source	Low	8.9	Miles	1298	
				ChemA *Elevated levels of chemA pesticides in tissue.*	Nonpoint Source	High	8.9	Miles	1298	
				Chlordane *Elevated levels of chlordane in tissue and sediment.*	Nonpoint Source	High	8.9	Miles	1298	
				Chlorpyrifos *Elevated levels of chlorpyrifos in tissue.*	Nonpoint Source	High	8.9	Miles	1298	
				Dacthal *Elevated levels of dacthal in sediment.*	Nonpoint Source	High	8.9	Miles	1298	
				DDT *Elevated levels of DDT in tissue and sediment.*	Nonpoint Source	High	8.9	Miles	1298	
				Dieldrin *Elevated levels of dieldrin in tissue.*	Nonpoint Source	High	8.9	Miles	1298	
				Endosulfan *Elevated levels of endosulfan in tissue and sediment.*	Nonpoint Source	High	8.9	Miles	1298	
				Nitrogen	Nonpoint Source	Medium	8.9	Miles	1298	
				PCBs *Elevated levels of PCBs in tissue.*	Nonpoint Source	High	8.9	Miles		
				Selenium	Nonpoint Source	Low	8.9	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				Toxaphene *Elevated levels of toxaphene in tissue and sediment.*	**Nonpoint Source**	**High**	**8.9**	**Miles**	**1298**	
				Toxicity	**Nonpoint Source**	**High**	**8.9**	**Miles**		
				Trash	**Nonpoint Source**	**Low**	**8.9**	**Miles**		
4	**R**	**RIO DE SANTA CLARA/OXNARD DRAIN #3**	**403.11**							
				ChemA *Elevated levels of chemA pesticides in tissue.*	**Nonpoint Source**	**High**	**2.48**	**Miles**	**1298**	
				Chlordane *Elevated levels of chlordane in tissue.*	**Nonpoint Source**	**High**	**2.48**	**Miles**	**1298**	
				DDT *Elevated levels of DDT in tissue.*	**Nonpoint Source**	**High**	**2.48**	**Miles**	**1298**	
				Nitrogen	**Nonpoint Source**	**Low**	**2.48**	**Miles**	**1298**	
				PCBs *Elevated levels of PCBs in tissue.*	**Nonpoint Source**	**High**	**2.48**	**Miles**		
				Sediment Toxicity	**Nonpoint Source**	**High**	**2.48**	**Miles**		
				Toxaphene *Elevated levels of toxaphene in tissue.*	**Nonpoint Source**	**High**	**2.48**	**Miles**	**1298**	
4	**R**	**RIO HONDO REACH 1 (CONFL. LA RIVER TO SNT ANA FWY)**	**405.15**							
				Ammonia	**Nonpoint/Point Source**	**Low**	**4.19**	**Miles**	**0194**	**1299**
				Copper	**Nonpoint/Point Source**	**Low**	**4.19**	**Miles**		
				High Coliform Count	**Nonpoint/Point Source**	**Low**	**4.19**	**Miles**		
				Lead	**Nonpoint/Point Source**	**Low**	**4.19**	**Miles**		
				pH	**Nonpoint/Point Source**	**Low**	**4.19**	**Miles**		
				Trash	**Nonpoint/Point Source**	**High**	**4.19**	**Miles**		
				Zinc	**Nonpoint/Point Source**	**Low**	**4.19**	**Miles**		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	R	RIO HONDO REACH 2 (AT SPREADING GROUNDS)	405.15							
				Ammonia	Nonpoint/Point Source	Medium	2.71	Miles	0194	1299
				High Coliform Count	Nonpoint/Point Source	Low	2.71	Miles		
4	R	SAN GABRIEL RIVER EAST FORK	405.43							
				Trash	Nonpoint Source	High	12	Miles		
4	R	SAN GABRIEL RIVER ESTUARY	405.15							
				Abnormal Fish Histology	Nonpoint/Point Source	Medium	2.95	Miles		
				Arsenic *Elevated levels of arsenic in tissue.*	Nonpoint/Point Source	Low	2.95	Miles		
4	R	SAN GABRIEL RIVER REACH 1 (ESTUARY TO FIRESTONE)	405.15							
				Abnormal Fish Histology	Nonpoint/Point Source	Medium	8.73	Miles		
				Algae	Nonpoint/Point Source	Medium	8.73	Miles		
				Ammonia	Nonpoint/Point Source	High	8.73	Miles		
				High Coliform Count	Nonpoint/Point Source	Low	8.73	Miles		
				Toxicity	Nonpoint/Point Source	Medium	8.73	Miles		
4	R	SAN GABRIEL RIVER REACH 2 (FIRESTONE TO WHITTIER NARROWS DAM	405.15							
				Ammonia	Nonpoint/Point Source	High	9.99	Miles		
				High Coliform Count	Nonpoint/Point Source	Low	9.99	Miles		
				Lead	Nonpoint/Point Source	Low	9.99	Miles		
4	R	SAN GABRIEL RIVER REACH 3 (WHITTIER NARROWS TO RAMONA)	405.41							
				Toxicity	Nonpoint/Point Source	Medium	3.52	Miles		

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ATTACHMENT 1

1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	R	SAN JOSE CREEK REACH 1 (SG CONFL. TO TEMPLE STREET)	405.41							
				Algae	Nonpoint/Point Source	Medium	13.12	Miles		
				Ammonia	Nonpoint/Point Source	High	13.12	Miles		
				High Coliform Count	Nonpoint/Point Source	Low	13.12	Miles		
4	R	SAN JOSE CREEK REACH 2 (TEMPLE TO I-10 AT WHITE AVE.)	405.51							
				Algae	Nonpoint/Point Source	Medium	4.93	Miles		
				Ammonia	Nonpoint/Point Source	High	4.93	Miles		
				High Coliform Count	Nonpoint/Point Source	Low	4.93	Miles		
4	R	SANTA CLARA RIVER ESTUARY	403.11							
				ChemA	Nonpoint Source	Medium	2.07	Miles		
				High Coliform Count	Nonpoint Source	Low	2.07	Miles		
				Toxaphene	Nonpoint Source	Medium	2.07	Miles		
4	R	SANTA CLARA RIVER REACH 3 (DAM TO ABV SP CRK/BLW TIMBER CYN)	403.21							
				Ammonia	Nonpoint/Point Source	Medium	13.24	Miles		
				Chloride	Nonpoint/Point Source	Medium	13.24	Miles	1297	
4	R	SANTA CLARA RIVER REACH 7 (BLUE CUT TO WEST PIER HWY 99)	403.51							
				Ammonia	Nonpoint/Point Source	Medium	9.21	Miles		
				Chloride *Chloride was relisted by USEPA*	Nonpoint/Point Source	Medium	9.21	Miles	1297	
				High Coliform Count	Nonpoint/Point Source	Low	9.21	Miles		
				Nitrate and Nitrite	Nonpoint/Point Source	Medium	9.21	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	R	SANTA CLARA RIVER REACH 8-W PIER HY 99 TO BOUQUET CYN RD BRG	403.51							
				Ammonia	Nonpoint/Point Source	Medium	3.42	Miles		
				Chloride	Nonpoint/Point Source	Medium	3.42	Miles	1297	
				Chloride was relisted by USEPA.						
				High Coliform Count	Nonpoint/Point Source	Low	3.42	Miles		
				Nitrate and Nitrite	Nonpoint/Point Source	Medium	3.42	Miles		
				Org. enrichment/Low D.O.	Nonpoint/Point Source	Medium	3.42	Miles		
4	R	SANTA CLARA RIVER REACH 9 (BOUQUET CYN RD.TO ABV LANG GAGNG)	403.51							
				High Coliform Count	Nonpoint/Point Source	Low	12.69	Miles		
4	R	SANTA MONICA CANYON	405.13							
				High Coliform Count	Nonpoint Source	High	2.9	Miles		
				Lead	Nonpoint Source	Low	2.9	Miles		
4	R	SEPULVEDA CANYON	405.13							
				Ammonia	Nonpoint Source	Low	6.8	Miles		
				High Coliform Count	Nonpoint Source	High	6.8	Miles		
				Lead	Nonpoint Source	Low	6.8	Miles		
4	R	STOKES CREEK	404.22							
				High Coliform Count	Nonpoint Source	High	5.33	Miles		
4	R	TAPO CANYON REACH 1	403.67							
				Boron	Nonpoint/Point Source	Medium	5.23	Miles		
				Chloride	Nonpoint/Point Source	Medium	5.23	Miles	0197	1200
				Sulfates	Nonpoint/Point Source	Medium	5.23	Miles		
				Total Dissolved Solids	Nonpoint/Point Source	Medium	5.23	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	R	TOPANGA CANYON CREEK	404.11							
				Lead	Nonpoint Source	Low	8.6	Miles		
4	R	TORRANCE CARSON CHANNEL	405.12							
				Copper	Nonpoint Source	Low	12.6	Miles		
				High Coliform Count	Nonpoint Source	Medium	12.6	Miles		
				Lead	Nonpoint Source	Low	12.6	Miles		
4	R	TORREY CANYON CREEK	403.41							
				Nitrate and Nitrite	Nonpoint Source	Medium	1.7	Miles		
4	R	TRIUNFO CANYON CREEK REACH 1	404.24							
				Lead	Nonpoint Source	Low	4.06	Miles		
				Mercury	Nonpoint Source	Low	4.06	Miles		
4	R	TRIUNFO CANYON CREEK REACH 2	404.25							
				Lead	Nonpoint Source	Low	1.98	Miles		
				Mercury	Nonpoint Source	Low	1.98	Miles		
4	R	TUJUNGA WASH (LA RIVER TO HANSEN DAM)	405.21							
				Ammonia	Nonpoint Source	Medium	9.68	Miles	0194	1299
				Copper	Nonpoint Source	Medium	9.68	Miles		
				High Coliform Count	Nonpoint Source	Low	9.68	Miles		
				Odors	Nonpoint Source	Low	9.68	Miles		
				Scum/Foam-unnatural	Nonpoint Source	Low	9.68	Miles		
				Trash	Nonpoint Source	High	9.68	Miles		
4	R	VENTURA RIVER ESTUARY	402.10							
				Algae	Nonpoint/Point Source	Low	0.35	Miles		

* Comments presented under each pollutant/stressor are not required under Clean Water Act Section 303(d). In a few cases, they provide necessary information.

14-538

1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				DDT *Elevated levels of DDT in tissue.*	Nonpoint/Point Source	Medium	0.35	Miles		
				Eutrophic	Nonpoint/Point Source	Low	0.35	Miles		
				Trash	Nonpoint/Point Source	Low	0.35	Miles		
4	R	VENTURA RIVER REACH 1 (ESTUARY TO MAIN STREET)	402.10							
				Algae	Nonpoint/Point Source	Low	0.18	Miles		
				Copper *Elevated levels of copper in tissue.*	Nonpoint/Point Source	Low	0.18	Miles		
				Silver *Elevated levels of silver in tissue.*	Nonpoint/Point Source	Medium	0.18	Miles		
				Zinc *Elevated levels of zinc in tissue.*	Nonpoint/Point Source	Low	0.18	Miles		
4	R	VENTURA RIVER REACH 2 (MAIN ST. TO WELDON CANYON)	402.10							
				Algae	Nonpoint/Point Source	Low	4.64	Miles		
				Copper *Elevated levels of copper in tissue.*	Nonpoint/Point Source	Low	4.64	Miles		
				Selenium *Elevated levels of selenium in tissue.*	Nonpoint/Point Source	Low	4.64	Miles		
				Silver *Elevated levels of silver in tissue.*	Nonpoint/Point Source	Medium	4.64	Miles		
				Zinc *Elevated levels of zinc in tissue.*	Nonpoint/Point Source	Low	4.64	Miles		
4	R	VENTURA RIVER REACH 3 (WELDON CANYON TO CONFL. W/ COYOTE CR)	402.10							
				Pumping	Nonpoint Source	Low	0.78	Miles		
				Water Diversion	Nonpoint Source	Low	0.78	Miles		

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1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	R	VENTURA RIVER REACH 4 (COYOTE CREEK TO CAMINO CIELO RD.	402.20							
				Pumping	Nonpoint Source	Low	14.94	Miles		
				Water Diversion	Nonpoint Source	Low	14.94	Miles		
4	R	VERDUGO WASH REACH 1 (LA RIVER TO VERDUGO RD.)	405.21							
				Algae	Nonpoint Source	Low	3.41	Miles		
				High Coliform Count	Nonpoint Source	Low	3.41	Miles		
				Trash	Nonpoint Source	High	3.41	Miles		
4	R	VERDUGO WASH REACH 2 (ABOVE VERDUGO ROAD)	405.24							
				Algae	Nonpoint Source	Low	5.55	Miles		
				High Coliform Count	Nonpoint Source	Low	5.55	Miles		
				Trash	Nonpoint Source	High	5.55	Miles		
4	R	WALNUT CREEK WASH (DRAINS FROM PUDDINGSTONE RESERVOIR	405.41							
				pH	Nonpoint/Point Source	High	13.9	Miles		
				Toxicity	Nonpoint/Point Source	Medium	13.9	Miles		
4	R	WHEELER CANYON / TODD BARRANCA	403.21							
				Nitrate and Nitrite	Nonpoint Source	Medium	4.17	Miles		
4	R	WILMINGTON DRAIN	405.12							
				Ammonia	Nonpoint Source	Medium	4.9	Miles		
				Copper	Nonpoint Source	Low	4.9	Miles		
				High Coliform Count	Nonpoint Source	Low	4.9	Miles		
				Lead	Nonpoint Source	Low	4.9	Miles		

* Comments presented under each pollutant/stressor are not required under Clean Water Act Section 303(d). In a few cases, they provide necessary information.

1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
4	T	BALLONA CREEK WETLANDS	405.13							
				Arsenic *Elevated levels of arsenic in tissue.*	Nonpoint Source	Medium	86	Acres		
				Exotic Vegetation	Nonpoint Source	Low	86	Acres		
				Habitat alterations	Nonpoint Source	Low	86	Acres		
				Hydromodification	Nonpoint Source	Low	86	Acres		
				Reduced Tidal Flushing	Nonpoint Source	Low	86	Acres		
				Trash	Nonpoint Source	High	86	Acres		
4	T	COLORADO LAGOON	405.12							
				Chlordane *Elevated levels of chlordane in tissue and sediment.*	Nonpoint Source	High	13.6	Acres		
				DDT *Elevated levels of DDT in tissue.*	Nonpoint Source	High	13.6	Acres		
				Dieldrin *Elevated levels of dieldrin in tissue.*	Nonpoint Source	Medium	13.6	Acres		
				Lead *Elevated levels of lead in tissue and sediment.*	Nonpoint Source	Medium	13.6	Acres		
				PAHs *Elevated levels of PAHs in sediment.*	Nonpoint Source	High	13.6	Acres		
				PCBs *Elevated levels of PCBs in tissue.*	Nonpoint Source	High	13.6	Acres		
				Sediment Toxicity	Nonpoint Source	Medium	13.6	Acres		
				Zinc *Elevated levels of zinc in sediment.*	Nonpoint Source	Medium	13.6	Acres		
4	T	LOS CERRITOS CHANNEL	405.15							
				Ammonia	Nonpoint Source	Low	16	Acres		
				Copper	Nonpoint Source	Low	16	Acres		

* Comments presented under each pollutant/stressor are not required under Clean Water Act Section 303(d). In a few cases, they provide necessary information.

25-512

1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE
				High Coliform Count	Nonpoint Source	Low	16	Acres		
				Lead	Nonpoint Source	Low	16	Acres		
				Zinc	Nonpoint Source	Medium	16	Acres		

* Comments presented under each pollutant/stressor are not required under Clean Water Act Section 303(d). In a few cases, they provide necessary information.

1998 CALIFORNIA 303(d) LIST AND TMDL PRIORITY SCHEDULE

Approved by USEPA: 12-May-99

REGION	TYPE	NAME	HYDRO UNIT	POLLUTANT/STRESSOR*	SOURCE	PRIORITY	SIZE AFFECTED	UNIT	START DATE	END DATE

ABBREVIATIONS

REGIONAL WATER QUALITY CONTROL BOARDS

4 Los Angeles

WATER BODY TYPE

B =	BAYS AND HARBORS	L =	LAKES / RESERVOIRS	S =	SALINE LAKES
C =	COASTAL SHORELINES	O =	OCEAN AND OPEN BAYS	T =	WETLANDS, TIDAL
E =	ESTUARIES	R =	RIVERS / STREAMS	W=	WETLANDS, FRESHWATER
G =	GROUND WATER				

HYDRO UNIT

"Hydro Unit" is the State Water Resources Control Board hydrological subunit area.

START AND END DATES

Start and End Dates are shown as the year or as month/year.

GROUP A PESTICIDES

Aldrin, dieldrin, chlordane, endrin, heptachlor, heptachlor epoxide, hexachlorocyclohexane (including lindane), endosulfan, and toxaphene

* Comments presented under each pollutant/stressor are not required under Clean Water Act Section 303(d). In a few cases, they provide necessary information.

KCB

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 98-01

Own Motion Review of the Petition of
ENVIRONMENTAL HEALTH COALITION
to Review Waste Discharge Requirements Order 96-03,
NPDES Permit No. CAS0108740,
for Storm Water and Urban Runoff from the
Orange County Flood Control District
and the
Incorporated Cities of Orange County
Within the San Diego Region,
Issued by the
California Regional Water Quality Control Board,
San Diego Region.

SWRCB/OCC File A-1041

BY THE BOARD:

On August 8, 1996, the Regional Water Quality Control Board, San Diego Region (Regional Water Board), adopted Waste Discharge Requirements Order 96-03, NPDES No. CAS0108740, for storm water discharge from municipal separate sewer systems for the incorporated cities of Orange County within the San Diego Regional Water Board's boundaries (Orange County permit).[1] The waste discharge requirements constitute a national pollutant discharge elimination system (NPDES) permit pursuant to section 402(p) of the federal Clean Water Act (CWA).

[1] On March 8, 1996, the Regional Water Quality Control Board, Santa Ana Region, issued waste discharge requirements for storm water discharge to the incorporated cities of Orange County within the Santa Ana Regional Water Board's boundaries that are essentially identical to the permit adopted by the San Diego Regional Water Board.

On September 6, 1996, the State Water Resources Control Board (SWRCB) received a petition from the Environmental Health Coalition (petitioner) contesting certain provisions of the NPDES permit.[2] The SWRCB did not take formal action on the petition within the 270 days specified in Title 23, California Code of Regulations, section 2052(d). The SWRCB will, on its own motion, review the Regional Water Board's action as authorized by California Water Code section 13320(a).

I. BACKGROUND

The primary issue raised by petitioner concerns the Regional Water Board's implementation of the CWA requirement that all NPDES permits must include technology-based effluent limitations and any more stringent limitation necessary to meet water quality standards. Federal and state requirements relevant to the issues raised in the petition are discussed below.[3]

CWA section 301(a) prohibits the discharge of any pollutant unless pursuant to an NPDES permit. (33 U.S.C. § 1311(a).) Section 301(b)(1)(A) requires compliance with effluent limitations necessary to achieve compliance with technology-based standards (e.g., best practicable control technology currently available or secondary treatment). Section 301(b)(1)(C) also requires compliance with any more stringent effluent limitation "necessary to meet water quality standards." (33 U.S.C.

[2] This order is based on the record before the Regional Water Board. The Regional Water Board also issued an NPDES permit to the Department of Transportation and a petition was filed challenging that permit. In preparing this order, we have reviewed the record for the petition challenging that permit and other documents noted in this Order.

[3] See State Water Resources Control Board Order WQ 91-03 (*Citizens For a Better Environment, et al.*) for an extensive discussion of the regulatory framework for municipal separate storm sewer systems.

§ 1311(b)(1)(c).) CWA section 402 establishes requirements for NPDES permits. (33 U.S.C. § 1342.) NPDES permits must comply with section 301. Section 402(p) establishes specific NPDES permit requirements for municipal storm water discharges and for storm water discharges associated with industrial activities. Section 402(p) includes a technology-based standard for storm water permits issued to municipal separate storm sewer systems. Such permits must require:

> ". . . controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." (33 U.S.C. § 1342(p)(3)(B)(iii).)

To comply with CWA sections 301 and 402 for municipal separate storm water discharges, a municipal storm water NPDES permit must include effluent limitations to meet the technology-based standard to reduce pollutants to the "maximum extent practicable" and any more stringent effluent limitations necessary to meet water quality standards. The United States Environmental Protection Agency (EPA) has promulgated regulations to implement NPDES requirements in CWA section 402, including storm water requirements of CWA section 402(p).[4] (See 40 C.F.R. Part 122.26.)

[4] CWA Section 402(p) specifies that permits for industrial discharges are required to comply with all technology-based and water quality-based requirements. (Section 402(p)(3)(A).) In contrast, CWA Section 402(p) specifies that permits for municipal separate storm water discharges shall require controls to comply with technology-based requirements but does not specifically state that municipal permits must require controls to comply with water quality-based requirements. (Section 402(p)(3)(B).) EPA, however, has interpreted the Clean Water Act to require permits for municipal separate storm water discharges to include requirements to achieve compliance with water quality standards. See memorandum "Compliance with Water Quality Standards in NPDES Permits Issued to Municipal Separate Storm Sewer Systems" from E. Donald Elliott, General Counsel, EPA, to Nancy J. Marvel, Regional Counsel, EPA Region 9 (January 9, 1991).

CWA section 303 requires states to adopt water quality standards for surface waters. (33 U.S.C. § 1313.) Water quality standards consist of the designated uses of waters and the water quality criteria for such waters that would support the designated uses. The Regional Water Board in its Water Quality Control Plan for the San Diego region has adopted water quality standards by designating the beneficial uses for waters in the region and establishing water quality objectives (i.e., water quality criteria) to protect those uses. See Water Quality Control Plan for the San Diego Basin (9), September 8, 1994, at Chapters 2 and 3. The SWRCB has also adopted water quality control plans and policies that specify water quality standards which are relevant to this permit (e.g., the SWRCB Ocean Plan). To comply with CWA section 301, municipal storm water permits must include effluent limitations where necessary to meet these water quality standards.

NPDES permits issued by the Regional Water Boards, including municipal storm water permits, typically include a requirement entitled "discharge limitations" or "effluent limitations" that specifies the technology-based effluent limitations and a requirement entitled "receiving water limitations" or "receiving water standards" that specifies the water quality objectives in the Water Quality Control Plan relevant to the discharge and limitations necessary to attain those objectives. The receiving water limitations provision is used to implement the requirement of CWA section 301(b)(1)(C) to include more stringent effluent limitations necessary to meet

water quality standards.[5] The limitations necessary to meet water quality standards are also called the water quality-based effluent limitations. NPDES permits are generally required to include numeric effluent limitations to implement the technology-based standard and water quality-based effluent limitations to attain the water quality standards.[6] (40 C.F.R. § 122.44.) However, the federal regulations allow the use of best management practices (BMPs) to control or abate the discharge of pollutants when numeric effluent limitations are infeasible. (40 C.F.R. § 122.44(k).) The SWRCB has determined that for municipal separate storm water permits, BMPs constitute valid effluent limitations to comply with both the technology-based and water quality-based effluent limitation requirements.[7] See SWRCB Orders WQ 91-03 and WQ 91-04. In fact, narrative effluent limitations requiring implementation of BMPs are generally the most appropriate form of effluent limitations when designed to satisfy technology requirements, including reduction of pollutants to the maximum extent practicable, and water quality-based requirements of the CWA.

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[5] SWRCB Order WQ 91-03 concluded that municipal permits must include effluent limitations necessary to achieve water quality standards. See Order WQ 91-03 at slip op. 36. Orange County and other interested persons have argued that section 402(p) does not require municipal permits to meet water quality standards. While disagreeing, it should be noted that section 402(p) contains explicit authority for states to require provisions in addition to the "maximum extent practical" controls.

[6] See memorandum "Numeric Effluent Limitations in NPDES Permits" from Elizabeth Miller Jennings, Senior Staff Counsel, State Water Resources Control Board, to Central Valley Regional Water Quality Control Board (Aug. 1, 1997).

[7] EPA has issued a national policy entitled "Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits," 61 Fed. Reg. 43761 (Aug. 26, 1996), that addresses issues related to the type of effluent limitations that are appropriate to provide for attainment of water quality standards. The policy applies only to EPA, but EPA has encouraged states to adopt similar policies for storm water permits. The policy states that storm water permits need not include numeric water quality-based effluent limitations. Rather, BMPs should be used to attain water quality-based effluent limitations, which should be expanded in later permits if necessary to provide for attainment of water quality standards.

II. CONTENTIONS AND FINDINGS[8]

The petitioner seeks review of the Orange County permit adopted by the Regional Water Board. The Orange County NPDES permit, adopted by the Regional Water Board, applies to the incorporated cities in Orange County within the boundaries of the San Diego region. The Santa Ana Regional Water Board, on March 8, 1996, adopted an NPDES permit for storm water discharges from the incorporated cities of Orange County within the boundaries of the Santa Ana region.[9] Orange County had requested that the Santa Ana Regional Water Board adopt one permit for all of Orange County. The San Diego Regional Water Board preferred to retain jurisdiction but agreed to adopt a permit consistent with the permit adopted by the Santa Ana Regional Water Board. Both permits for Orange County are essentially identical and require the permittees to develop a plan establishing BMPs to control discharges to the "maximum extent practicable." The Orange County permittees adopted a plan called the "drainage area management plan" (DAMP) that was approved by the San Diego Regional Water Board on April 6, 1996.[10] Both permits also contain the same provision addressing receiving water limitations, which, in relevant part, states:

> "1. Receiving water limitations have been established based on beneficial uses, water quality objectives, and water quality standards contained in the Basin Plan, and amendments thereto, and on ambient water quality. They are intended to protect the beneficial uses and attain the water quality objectives contained in the Basin Plan. The discharge of urban storm water, or non-storm water, from a municipal storm sewer system

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[8] All other contentions raised in the petition which are not discussed in this order are dismissed. (Cal. Code Regs., tit. 23, § 2052; *People* v. *Barry* (1987) 194 Cal.App.3d 158 [239 Cal.Rptr. 349].)

[9] No petition was filed challenging the permit issued by the Santa Ana Regional Water Board.

[10] The DAMP was also approved by the Santa Ana Regional Water Board.

for which the permittees are responsible under the terms of this permit shall not cause continuing or recurring impairment of beneficial uses or exceedances of water quality objectives. The permittees will not be in violation of this provision so long as they are in compliance with the requirements set forth [in the following provision]."

"a. If the Executive Officer determines that a continuing or recurring impairment of beneficial uses or exceedances of water quality objectives has been caused by urban storm water discharges from the municipal storm sewer system, the following steps shall be taken. . . ."

The remainder of the provision requires the Executive Officer to evaluate the DAMP and if the Executive Officer determines that implementation of the DAMP will not have a reasonable likelihood of preventing future impairment of beneficial uses or exceedances of water quality objectives, the permittees would be required to submit a report evaluating impacts on water quality and proposing changes to implementation of the existing DAMP or proposing revisions to the DAMP. The permittees would then be required to implement the revised DAMP.

Petitioner contends that for several reasons, this receiving water limitations provision is inadequate under the CWA and its implementing regulations and under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act). Petitioner points out that CWA section 402(b), and implementing regulations, require that NPDES permits issued by state agencies comply with the CWA. (33 U.S.C. 1342(b), 40 C.F.R. § 123.25.) The Porter-Cologne Act provides that permits issued subject to federal law must "ensure compliance with all applicable provisions of the [CWA and its implementing regulations], together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of

beneficial uses, or to prevent nuisance." (Cal. Water Code § 13377.) Petitioner contends that the receiving water limitations language fails to require attainment of water quality standards.

1. Contention: The receiving water limitations section fails to comply with the CWA and the Porter-Cologne Act because it does not prohibit discharges that "contribute to" as well as "cause" exceedances of water quality objectives as required by federal regulations.

Finding: The SWRCB agrees that the NPDES permit must prohibit discharges that "cause" or "contribute" to violations of water quality standards. Federal regulations specify requirements that must be included in each NPDES permit. (40 C.F.R. § 122.44.) Each NPDES permit must include limitations necessary to achieve water quality standards:

> "Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality." (40 C.F.R. § 122.44(d)(1)(i).)[11] (Emphasis added.)

The receiving water limitations language of the Orange County NPDES permit requires the permittees to be responsible for those discharges that "cause continuing or recurring impairment of beneficial uses or exceedances of water quality objectives." To comply with the CWA, the phrase quoted in the immediately preceding sentence shall be interpreted so as to require permittees to control discharges that contribute to exceedances

[11] This provision applies to state programs. See 40 C.F.R. section 123.25.

of water quality objectives. Of course such contributions would have to be substantial (in more than a *de minimis* amount) contributions.

2. Contention: The petitioner contends that the receiving water limitations section in the permit violates the CWA and implementing regulations because it does not require compliance with water quality standards. The permit states that the permittees "will not be in violation of [receiving water limitations] so long as they are in compliance with the requirements" for evaluating the DAMP.

Finding: The SWRCB disagrees with petitioner's contention. In SWRCB Order WQ 96-13, the SWRCB reviewed and approved the storm water permit for certain permittees in the Santa Clara Valley issued by the San Francisco Bay Regional Water Board. The Santa Clara Valley permit contains a receiving water limitations section that specifically prohibits discharges that cause or contribute to a violation of water quality objectives, and states that the permittees "shall comply . . . through the timely implementation of control measures and other actions to reduce pollution in the discharge." (Emphasis added.) The receiving water limitations provision in the Orange County permit prohibits discharges that cause exceedances of water quality objectives, and states that the "permittees will not be in violation of this provision so long as they are in compliance with the requirements" for evaluating and improving the effectiveness of the DAMP. The Orange County permit receiving water limitations section is not, as a practical matter, different than the Santa Clara Valley permit approved by this SWRCB. In each case, compliance with the receiving water limitations is achieved by following a

procedure to evaluate and improve the BMPs where necessary to comply with water quality standards.

The SWRCB has already determined that the use of BMPs to achieve both the technology-based effluent limitations and the water quality-based effluent limitations complies with the CWA and the Porter-Cologne Act. See SWRCB Order WQ 91-03. Accordingly, the SWRCB agrees that use of the phrase that the "permittees will not be in violation of . . ." complies with the CWA and, in fact, used that same phrase in SWRCB Water Quality Order 97-03-DWQ (Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities, NPDES General Permit No. CAS000001) (the General Industrial Permit).

3. Contention: The petitioner contends that the receiving water limitations provision violates the CWA and implementing regulations because the mechanism for determining exceedances of receiving water limitations is unworkable and, therefore, would not result in achievement of water quality standards. The permittees are not considered to be in violation of receiving water limitations as long as the process for evaluating the DAMP are followed. This process, however, will not result in achievement of water quality standards because (1) it is very difficult to demonstrate that urban runoff has "caused" an exceedance of water quality objectives; (2) Regional Water Board staff stated at the Board hearing at which the permit was adopted that there were inadequate resources to oversee the storm water program; (3) the permit does not require submittal of information on the adequacy of the DAMP until after the Executive Officer determines that the plan will not result in achievement of water quality objectives;

and (4) the permit places no time schedule on review of the adequacy of the plan to meet water quality standards. The permit does not require any change to the DAMP until directed by the Executive Officer. Due to these limitations, water quality standards are not likely to be achieved.

Finding: Petitioner has raised legitimate concerns. As discussed above, permittees will be required to control discharges that contribute to exceedances of water quality objectives. The SWRCB's charge under Water Code section 13320 is to determine whether the Regional Water Board has acted appropriately. In this case, the Regional Water Board has directed its Executive Officer to determine when receiving water limitations have been exceeded. In order for such determinations to be made the Executive Officer must devote sufficient resources to make such determinations in a timely manner. Provided this is the case, it can be concluded that the permit is adequate to achieve water quality standards. This conclusion to uphold the permit language is further predicated on the fact that to do otherwise would result in two inconsistent storm water permits for Orange County.

III. ADDITIONAL ISSUES

While upholding the permit as appropriate, the SWRCB has concerns that future storm water permits contain the strongest and clearest possible language to protect water quality. As evidenced by the discussion at the January 7, 1998 workshop review of this petition, there are serious disagreements as to how best to ensure such protection. A review of the record leads to the following conclusions:

- Future storm water permits should contain consistent requirements to ensure water quality protection.
- Such permits must comply with CWA and Porter-Cologne Water Quality Control Act requirements.
- Storm water permits must achieve compliance with water quality standards, but they may do so by requiring implementation of BMPs in lieu of numeric water quality-based effluent limitations.
- Permittees must ultimately be responsible for evaluating and revising BMPs to achieve compliance with water quality standards.
- Permits should be written to clearly identify water quality standards and to clearly require that permittees, through the implementation of BMPs, shall not cause or contribute to exceedances of such water quality standards.
- Given the unique nature of the storm water discharges, it is reasonable that implementation take place, where appropriate, on a phased basis.
- Determinations that additional BMPs are necessary to achieve water quality standards should be based on findings by the permittees or the Regional Boards that storm water discharges are a substantial (in more than a *de minimis* amount) contributor to continuing or recurring exceedances of such standards.

Based upon these conclusions and as a precedent decision,[12] the following receiving water limitation language shall be included in future municipal storm water permits.

RECEIVING WATER LIMITATIONS

1. Storm water discharges and authorized non-storm water discharges to any surface or ground water shall not adversely impact human health or the environment.

2. The SWMP shall be designed and implemented, or shall be in the process of being revised in accordance with the procedures set forth below to ensure that discharges authorized by this permit shall not cause or substantially (in more than a *de minimis* amount) contribute to a continuing or recurring exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan or the applicable Regional Water Quality Control Board's Basin Plan.

3. If the discharges cause or contribute to an exceedance of the applicable water quality standards, permittee shall take the following steps:

   a. Upon a determination by either the facility operator or the Regional Water Board that discharges are causing or contributing to an exceedance of an applicable water quality standard, the facility operator shall promptly notify and thereafter submit a report to the appropriate Regional Water Quality Control 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 water quality standards. The report may be incorporated in the annual update to the SWMP unless the Regional Water Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Water Quality Control Board may require modifications to the report.

   b. Submit any modifications to the report required by the Regional Board within 30 days of notification.

[12] In SWRCB Order WR 96-1, the SWRCB determined that water quality orders are precedent decisions. (See Gov. Code § 11425.60.)

c. Within 30 days following approval of the report described above by the Regional Water Quality Control Board, the facility operator shall revise its SWMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required;

d. Implement the revised SWMP and monitoring program in accordance with the approved schedule; and

e. Reduce pollutants in storm water discharges and authorized non-storm water discharges, following implementation of the SWMP revised in accordance with paragraph 3 above, to levels which shall not cause or contribute to an exceedance of any applicable water quality standards.

4. So long as permittees have complied with the procedures set forth in paragraph 3 above and are implementing the revised SWMP, they do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Water Board to develope additional BMPs.

IV. CONCLUSIONS

After review of the record and consideration of the contentions of the petitioner, and for the reasons discussed above, we conclude:

1. The federal regulations implementing CWA section 402(p) require NPDES permits to prohibit discharges of pollutants that "cause or contribute" to exceedances of water quality standards and the permit will be so interpreted.

2. The specific portion of the receiving water limitations provision that states that "permittees will not be in violation of this provision so long as they are in compliance with the requirements" specifying the process for evaluating and improving the effectiveness of the DAMP complies with the CWA.

3. The Regional Water Board acted appropriately in adopting the permit.

4. Receiving water limitation provisions of future municipal storm water permits shall be consistent with this Order.

V. ORDER

IT IS ORDERED that Order 96-03 shall be interpreted as discussed above.

It is further ordered that in other respects, the petition is denied.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on January 22, 1998.

AYE:	John Caffrey Marc Del Piero Mary Jane Forster John W. Brown
NO:	None
ABSENT:	James M. Stubchaer
ABSTAIN:	None

Maureen Marché
Administrative Assistant to the Board

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER: WQ 99 - 05

Own Motion Review of the Petition of
Environmental Health Coalition
to Review Waste Discharge Requirements Order No. 96-03,
NPDES Permit No. CAS0108740
for Storm Water and Urban Runoff from the
Orange County Flood Control District
and the
Incorporated Cities of Orange County
Within the San Diego Region,
Issued by the
California Regional Water Quality Control Board,
San Diego Region.

SWRCB/OCC File A-1041

BY THE BOARD:

In Order WQ 98-01, the State Water Resources Control Board (State Water Board) ordered that certain receiving water limitation language be included in future municipal storm water permits. Following inclusion of that language in permits issued by the San Francisco Bay and San Diego Regional Water Quality Control Boards (Regional Water Boards) for Vallejo and Riverside respectively, the United States Environmental Protection Agency (EPA) objected to the permits. The EPA objection was based on the receiving water limitation language. The EPA has now issued those permits itself and has included receiving water limitation language it deems appropriate.

14-550

In light of EPA's objection to the receiving water limitation language in Order WQ 98-01 and its adoption of alternative language, the State Water Board is revising its instructions regarding receiving water limitation language for municipal storm water permits. It is hereby ordered that Order WQ 98-01 will be amended to remove the receiving water limitation language contained therein and to substitute the EPA language. Based on the reasons stated here, and as a precedent decision,[1] the following receiving water limitation language shall be included in future municipal storm water permits.[2]

RECEVING WATER LIMITATIONS

The permittees shall comply with Discharge Prohibitions [ ][3] and Receiving Water Limitations [ ] through timely implementation of control measures and other actions to reduce pollutants in the discharges in accordance with the SWMP and other requirements of this permit including any modifications. The SWMP shall be designed to achieve compliance with Receiving Water Limitations [ ]. If exceedance(s) of water quality objectives or water quality standards (collectively, WQS) persist notwithstanding implementation of the SWMP and other requirements of this permit, the permittees shall assure compliance with Discharge Prohibitions [ ] and Receiving Water Limitations [ ] by complying with the following procedure:

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[1] In SWRCB Order WR 96-1, the State Water Board determined that water quality orders are precedent decisions. (See Gov. Code §11425.60.)

[2] This language may be revised as necessary to ensure that terminology conforms with the rest of the permit.

[3] Insert appropriate numbers for prohibitions and limitations that implement water quality objectives and water quality standards.

a. Upon a determination by either the permittees or the Regional Water Board that discharges are causing or contributing to an exceedance of an applicable WQS, the permittees shall promptly notify and thereafter submit a report to the Regional Water 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. The report may be incorporated in the annual update to the SWMP unless the Regional Water Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Water Board may require modifications to the report.

b. Submit any modifications to the report required by the Regional Water Board within 30 days of notification.

c. Within 30 days following approval of the report described above by the Regional Water Board, the permittees shall revise the SWMP and monitoring program to incorporate the approved modified BMPs that have been and will be implemented, implementation schedule, and any additional monitoring required.

d. Implement the revised SWMP 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 SWMP, the permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Water Board to develop additional BMPs.

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ORDER

IT IS ORDERED that Order WQ 98-01 is revised as discussed above.

CERTIFICATION

The undersigned, Administrative Assistant to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on June 17, 1999.

AYE: James M. Stubchaer
Mary Jane Forster
John W. Brown
Arthur G. Baggett, Jr.

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché
Administrative Assistant to the Board

STATE OF CALIFORNIA
STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2001- 15

In the Matter of the Petitions of

BUILDING INDUSTRY ASSOCIATION OF SAN DIEGO COUNTY
AND
WESTERN STATES PETROLEUM ASSOCIATION

For Review Of Waste Discharge Requirements Order No. 2001-01
for Urban Runoff from San Diego County
[NPDES No. CAS0108758]
Issued by the
California Water Quality Control Board,
San Diego Region

SWRCB/OCC FILES A-1362, A-1362(a)

BY THE BOARD:

On February 21, 2001, the San Diego Regional Water Quality Control Board (Regional Water Board) issued a revised national pollutant discharge elimination system (NPDES) permit in Order No. 2001-01 (permit) to the County of San Diego (County), the 18 incorporated cities within the County, and the San Diego Unified Port District. The permit covers storm water discharges from municipal separate storm sewer systems (MS4) throughout the County. The permit is the second MS4 permit issued for the County, although the first permit was issued more than ten years earlier.[1]

[1] NPDES permits generally expire after five years, but can be extended administratively where the Regional Water Board is unable to issue a new permit prior to the expiration date. As the record in this matter amply demonstrates, the Regional Water Board engaged in an extensive process of issuing draft permits, accepting comments, and holding workshops and hearings since at least 1995.

The permit includes various programmatic and planning requirements for the permittees, including construction and development controls, controls on municipal activities, controls on runoff from industrial, commercial, and residential sources, and public education. The types of controls and requirements included in the permit are similar to those in other MS4 permits, but also reflect the expansion of the storm water program since the first MS4 permit was adopted for San Diego County 11 years ago.[2]

On March 23, 2001, the State Water Resources Control Board (State Water Board or Board) received petitions for review of the permit from the Building Industry Association of San Diego County (BIA) and from the Western States Petroleum Association (WSPA).[3] The petitions are legally and factually related, and have therefore been consolidated for purposes of review.[4] None of the municipal dischargers subject to the permit filed a petition, nor did they file responses to the petitions.

I. BACKGROUND

MS4 permits are adopted pursuant to Clean Water Act section 402(p). This federal law sets forth specific requirements for permits for discharges from municipal storm sewers. One of the requirements is that permits "shall require controls to reduce the discharge of

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[2] For a discussion of the evolution of the storm water program, consistent with guidance from the United States Environmental Protection Agency (U.S. EPA), see Board Order WQ 2000-11.

[3] On March 23, the State Water Board also received brief letters from the Ramona Chamber of Commerce, the North San Diego County Association of Realtors, the San Diego County Apartment Association, the National Association of Industrial and Office Properties, and the California Building Industry Association. All of these letters state that they are "joining in" the petition filed by BIA. None of the letters contain any of the required information for petitions, which is listed at Cal. Code of Regs., tit. 23, section 2050. These letters will be treated as comments on the BIA petition. To the extent the authors intended the letters be considered petitions, they are dismissed.

[4] Cal. Code of Regs., tit. 23, section 2054.

pollutants to the maximum extent practicable [MEP]." States establish appropriate requirements for the control of pollutants in the permits.

This Board very recently reviewed the need for controls on urban runoff in MS4 permits, the emphasis on best management practices (BMPs) in lieu of numeric effluent limitations, and the expectation that the level of effort to control urban runoff will increase over time.[5] We pointed out that urban runoff is a significant contributor of impairment to waters throughout the state, and that additional controls are needed. Specifically, in Board Order WQ 2000-11 (hereinafter, LA SUSMP order), we concluded that the Los Angeles Regional Water Board acted appropriately in determining that numeric standards for the design of BMPs to control runoff from new construction and redevelopment constituted controls to the MEP.[6]

The San Diego permit incorporates numeric design standards for runoff from new construction and redevelopment similar to those considered in the LA SUSMP order.[7] In addition, the permit addresses programmatic requirements in other areas. The LA SUSMP order was a precedential decision,[8] and we will not reiterate our findings and conclusions from that decision.[9]

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[5] Board Order WQ 2000-11.

[6] As explained in that Order, numeric design standards are not the same as numeric effluent limitations. While BIA contends that the permit under review includes numeric effluent limitations, it does not. A numeric design standard only tells the dischargers how much runoff must be treated or infiltrated; it does not establish numeric effluent limitations proscribing the quality of effluent that can be discharged following infiltration or treatment.

[7] The San Diego permit also includes provisions that are different from those approved in the LA SUSMP Order, but which were not the subject of either petition. Such provisions include the inclusion of non-discretionary projects. We do not make any ruling in this Order on matters that were not addressed in either petition.

[8] Government Code section 11425.60; State Board Order WR 96-1 (Lagunitas Creek), at footnote 11.

[9] BIA restates some of the issues this Board considered in the LA SUSMP order. For instance, BIA contends that it is inappropriate for the permit to regulate erosion control. While this argument was not specifically addressed in our prior Order, it is obvious that the most serious concern with runoff from construction is the potential for increased erosion. It is absurd to contend that the permit should have ignored this impact from urban runoff.

The petitioners make numerous contentions, mostly concerning requirements that they claim the dischargers will not be able to, or should not be required to, comply with. We note that none of the dischargers has joined in these contentions. We further note that BIA raises contentions that were already addressed in the LA SUSMP order. In this Order, we have attempted to glean from the petition issues that are not already fully addressed in Board Order Board Order WQ 2000-11, and which may have some impact on BIA and its members. WSPA restated the contentions it made in the petition it filed challenging the LA SUSMP order. We will not address those contentions again.[10] But we will address whether the Regional Water Board followed the precedent established there as it relates to retail gasoline outlets.[11]

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[10] On November 8, 2001, following the October 31 workshop meeting that was held to discuss the draft order, BIA submitted a "supplemental brief" that includes many new contentions raised for the first time. (Interested persons who were not petitioners filed comments on the draft order asking the State Water Board to address some of these.) The State Water Board will not address these contentions, as they were not timely raised. (Wat. Code § 13320; Cal. Code of Regs., tit. 23, § 2050(a).) Specific contentions that are not properly subject to review under Water Code section 13320 are objections to findings 16, 17, and 38 of the permit, the contention that permit provisions constitute illegal unfunded mandates, challenges to the permit's inspection and enforcement provisions, objections to permit provisions regarding construction sites, the contention that post-construction requirements should be limited to "discretionary" approvals, the challenge to the provisions regarding local government compliance with the California Environmental Quality Act, and contentions regarding the term "discharge" in the permit. BIA did not meet the legal requirements for seeking review of these portions of the permit.

[11] On November 8, 2001, the State Water Board received eight boxes of documents from BIA, along with a "Request for Entry of Documents into the Administrative Record." BIA failed to comply with Cal. Code of Regs., tit. 23, section 2066(b), which requires such requests be made "prior to or during the workshop meeting." The workshop meeting was held on October 31, 2001. The request will therefore not be considered. BIA also objected in this submittal that the Regional Water Board did not include these documents in its record. The Regional Water Board's record was created at the time the permit was adopted, and was submitted to the State Water Board on June 11, 2001. BIA's objection is not timely.

II. CONTENTIONS AND FINDINGS[12]

Contention: BIA contends that the discharge prohibitions contained in the permit are "absolute" and "inflexible," are not consistent with the standard of "maximum extent practicable" (MEP), and financially cannot be met.

Finding: The gist of BIA's contention concerns Discharge Prohibition A.2, concerning exceedance of water quality objectives for receiving waters: "Discharges from MS4s which cause or contribute to exceedances of receiving water quality objectives for surface water or groundwater are prohibited." BIA generally contends that this prohibition amounts to an inflexible "zero contribution" requirement.

BIA advances numerous arguments regarding the alleged inability of the dischargers to comply with this prohibition and the impropriety of requiring compliance with water quality standards in municipal storm water permits. These arguments mirror arguments made in earlier petitions that required compliance with water quality objectives by municipal storm water permittees. (See, e.g., Board Orders WQ 91-03, WQ 98-01, and WQ 99-05.) This Board has already considered and upheld the requirement that municipal storm water discharges must not cause or contribute to exceedances of water quality objectives in the receiving water. We adopted an iterative procedure for complying with this requirement, wherein municipalities must report instances where they cause or contribute to exceedances, and then must review and improve BMPs so as to protect the receiving waters. The language in the permit in Receiving

[12] This Order does not address all of the issues raised by the petitioners. The Board finds that the issues that are not addressed are insubstantial and not appropriate for State Water Board review. (See *People v. Barry* (1987) 194 Cal.App.3d 158 [239 Cal.Rptr. 349]; Cal. Code Regs., tit. 23, § 2052.) We make no determination as to whether we will address the same or similar issues when raised in future petitions.

Water Limitation C.1 and 2 is consistent with the language required in Board Order WQ 99-05, our most recent direction on this issue.[13]

While the issue of the propriety of requiring compliance with water quality objectives has been addressed before in several orders, BIA does raise one new issue that was not addressed previously. In 1999, the Ninth Circuit Court of Appeals issued an opinion addressing whether municipal storm water permits must require "strict compliance" with water quality standards.[14] (*Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159.) The court in *Browner* held that the Clean Water Act provisions regarding storm water permits do not require that municipal storm-sewer discharge permits ensure strict compliance with water quality standards, unlike other permits.[15] The court determined that: "Instead, [the provision for municipal storm water permits] *replaces* the requirements of [section 301] with the requirement that municipal storm-sewer dischargers 'reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator . . . determines appropriate for the control of such pollutants'." (191 F.3d at 1165.) The court further held that the Clean Water Act does grant the permitting agency discretion to determine what pollution controls are appropriate for municipal storm water discharges. (*Id.* at 1166.) Specifically, the court stated

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[13] In addition to Discharge Prohibition A.2, quoted above, the permit includes Receiving Water Limitation C.1, with almost identical language: "Discharges from MS4s that cause or contribute to the violation of water quality standards (designated beneficial uses and water quality objectives developed to protect beneficial uses) are prohibited." Receiving Water Limitation C.2 sets forth the iterative process for compliance with C.1, as required by Board Order WQ 99-05.

[14] "Water quality objectives" generally refers to criteria adopted by the state, while "water quality standards" generally refers to criteria adopted or approved for the state by the U.S. EPA. Those terms are used interchangeably for purposes of this Order.

[15] Clean Water Act § 301(b)(1)(C) requires that most NPDES permits require strict compliance with quality standards.

that U.S. EPA had the authority either to require "strict compliance" with water quality standards through the imposition of numeric effluent limitations, or to employ an iterative approach toward compliance with water quality standards, by requiring improved BMPs over time. (*Id.*) The court in *Browner* upheld the EPA permit language, which included an iterative, BMP-based approach comparable to the language endorsed by this Board in Order WQ 99-05.

In reviewing the language in this permit, and that in Board Order WQ 99-05, we point out that our language, similar to U.S. EPA's permit language discussed in the *Browner* case, does not require strict compliance with water quality standards. Our language requires that storm water management plans be designed to achieve compliance with water quality standards. Compliance is to be achieved over time, through an iterative approach requiring improved BMPs. As pointed out by the *Browner* court, there is nothing inconsistent between this approach and the determination that the Clean Water Act does not mandate strict compliance with water quality standards. Instead, the iterative approach is consistent with U.S. EPA's general approach to storm water regulation, which relies on BMPs instead of numeric effluent limitations.

It is true that the holding in *Browner* allows the issuance of municipal storm water permits that limit their provisions to BMPs that control pollutants to the maximum extent practicable (MEP), and which do not require compliance with water quality standards. For the reasons discussed below, we decline to adopt that approach. The evidence in the record before us is consistent with records in previous municipal permits we have considered, and with the data we have in our records, including data supporting our list prepared pursuant to Clean Water Act section 303(d). Urban runoff is causing and contributing to impacts on receiving waters throughout the state and impairing their beneficial uses. In order to protect beneficial uses and to achieve compliance with water quality objectives in our streams, rivers, lakes, and the ocean, we

must look to controls on urban runoff. It is not enough simply to apply the technology-based standards of controlling discharges of pollutants to the MEP; where urban runoff is causing or contributing to exceedances of water quality standards, it is appropriate to require improvements to BMPs that address those exceedances.

While we will continue to address water quality standards in municipal storm water permits, we also continue to believe that the iterative approach, which focuses on timely improvement of BMPs, is appropriate. We will generally not require "strict compliance" with water quality standards through numeric effluent limitations and we will continue to follow an iterative approach, which seeks compliance over time.[16] The iterative approach is protective of water quality, but at the same time considers the difficulties of achieving full compliance through BMPs that must be enforced throughout large and medium municipal storm sewer systems.[17]

We have reviewed the language in the permit, and compared it to the model language in Board Order WQ 99-05. The language in the Receiving Water Limitations is virtually identical to the language in Board Order WQ 99-05. It sets a limitation on discharges that cause or contribute to violation of water quality standards, and then it establishes an iterative approach to complying with the limitation. We are concerned, however, with the language in Discharge Prohibition A.2, which is challenged by BIA. This discharge prohibition is similar to the Receiving Water Limitation, prohibiting discharges that cause or contribute to exceedance of

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[16] Exceptions to this general rule are appropriate where site-specific conditions warrant. For example, the Basin Plan for the Lake Tahoe basin, which protects an outstanding national resource water, includes numeric effluent limitations for storm water discharges.

[17] While BIA argues that the permit requires "zero contribution" of pollutants in runoff, and "in effect" contains numeric effluent limitations, this is simply not true. The permit is clearly BMP-based, and there are no numeric effluent limitations. BIA also claims that the permit will require the construction of treatment plants for storm water similar to the publicly-owned treatment works for sanitary sewage. There is no basis for this contention; there is no requirement in the permit to treat all storm water. The emphasis is on BMPs.

water quality objectives. The difficulty with this language, however, is that it is not modified by the iterative process. To clarify that this prohibition also must be complied with through the iterative process, Receiving Water Limitation C.2 must state that it is also applicable to Discharge Prohibition A.2. The permit, in Discharge Prohibition A.5, also incorporates a list of Basin Plan prohibitions, one of which also prohibits discharges that are not in compliance with water quality objectives. (See, Attachment A, prohibition 5.) Language clarifying that the iterative approach applies to that prohibition is also necessary.[18]

BIA also objects to Discharge Prohibition A.3, which appears to require that treatment and control of discharges must always occur prior to entry into the MS4: "Discharges into and from MS4s containing pollutants which have not been reduced to the [MEP] are prohibited."[19] An NPDES permit is properly issued for "discharge of a pollutant" to waters of the United States.[20] (Clean Water Act § 402(a).) The Clean Water Act defines "discharge of a pollutant" as an "addition" of a pollutant to waters of the United States from a point source. (Clean Water Act section 502(12).) Section 402(p)(3)(B) authorizes the issuance of permits for discharges "from municipal storm sewers."

We find that the permit language is overly broad because it applies the MEP standard not only to discharges "from" MS4s, but also to discharges "into" MS4s. It is certainly

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[18] The iterative approach is not necessary for all Discharge Prohibitions. For example, a prohibition against pollution, contamination or nuisance should generally be complied with at all times. (See, Discharge Prohibition A.1.) Also, there may be discharge prohibitions for particularly sensitive water bodies, such as the prohibition in the Ocean Plan applicable to Areas of Special Biological Significance.

[19] Discharge Prohibition A.1 also refers to discharges into the MS4, but it only prohibits pollution, contamination, or nuisance that occurs "in waters of the state." Therefore, it is interpreted to apply only to discharges to receiving waters.

[20] Since NPDES permits are adopted as waste discharge requirements in California, they can more broadly protect "waters of the state," rather than being limited to "waters of the United States." In general, the inclusion of "waters (footnote continued)

true that in most instances it is more practical and effective to prevent and control pollution at its source. We also agree with the Regional Water Board's concern, stated in its response, that there may be instances where MS4s use "waters of the United States" as part of their sewer system, and that the Board is charged with protecting all such waters. Nonetheless, the specific language in this prohibition too broadly restricts all discharges "into" an MS4, and does not allow flexibility to use regional solutions, where they could be applied in a manner that fully protects receiving waters.[21] It is important to emphasize that dischargers into MS4s continue to be required to implement a full range of BMPs, including source control. In particular, dischargers subject to industrial and construction permits must comply with all conditions in those permits prior to discharging storm water into MS4s.

Contention: State law requires the adoption of wet weather water quality standards, and the permit improperly enforces water quality standards that were not specifically adopted for wet weather discharges.

Finding: This contention is clearly without merit. There is no provision in state or federal law that mandates adoption of separate water quality standards for wet weather conditions. In arguing that the permit violates state law, BIA states that because the permit applies the water quality objectives that were adopted in its Basin Plan, and those objectives were not specifically adopted for wet weather conditions only, the Regional Water Board violated

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of the state" allows the protection of groundwater, which is generally not considered to be "waters of the United States."

[21] There are other provisions in the permit that refer to restrictions "into" the MS4. (See, e.g., Legal Authority D.1.) Those provisions are appropriate because they do not apply the MEP standard to the permittees, but instead require the permittees to demand appropriate controls for discharges into their system. For example, the federal regulations require that MS4s have a program "to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system . . . ." (40 C.F.R. § 122.26(d)(2)(iv)(D).)

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Water Code section 13241. These allegations appear to challenge water quality objectives that were adopted years ago. Such a challenge is clearly inappropriate as both untimely, and because Basin Plan provisions cannot be challenged through the water quality petition process. (See Wat. Code § 13320.) Moreover, there is nothing in section 13241 that supports the claim that Regional Water Boards must adopt separate wet weather water quality objectives. Instead, the Regional Water Board's response indicates that the water quality objectives were based on all water conditions in the area. There is nothing in the record to support the claim that the Regional Water Board did not in fact consider wet weather conditions when it adopted its Basin Plan. Finally, Water Code section 13263 mandates the Regional Water Board to implement its Basin Plan when adopting waste discharge requirements. The Regional Water Board acted properly in doing so.

BIA points to certain federal policy documents that authorize states to promulgate water quality standards specific to wet-weather conditions.[22] Each Regional Water Board considers revisions to its Basin Plan in a triennial review. That would be the appropriate forum for BIA to make these comments.

Contention: BIA contends that the permit improperly classifies urban runoff as "waste" within the meaning of the Water Code.

Finding: BIA challenges Finding 2, which states that urban runoff is a waste, as defined in the Water Code, and that it is a "discharge of pollutants from a point source" under the federal Clean Water Act. BIA contends that the legislative history of section 13050(d) supports

[22] These documents do not support the claim that U.S. EPA and the Clinton Administration indicated that the absence of such regulations "is a major problem that needs to be addressed," as claimed in BIA's Points and Authorities, at page 18.

its position that "waste" should be interpreted to exclude urban runoff. The Final Report of the Study Panel to the California State Water Resources Control Board (March, 1969) is the definitive document describing the legislative intent of the Porter-Cologne Water Quality Control Act. In discussing the definition of "waste," this document discusses its broad application to "current drainage, flow, or seepage into waters of the state of harmful concentrations" of materials, including eroded earth and garbage.

As we stated in Board Order WQ 95-2, the requirement to adopt permits for urban runoff is undisputed, and Regional Water Boards are not required to obtain any information on the impacts of runoff prior to issuing a permit. (At page 3.) It is also undisputed that urban runoff contains "waste" within the meaning of Water Code section 13050(d), and that the federal regulations define "discharge of a pollutant" to include "additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man." (40 C.F.R. § 122.2.) But it is the waste or pollutants in the runoff that meet these definitions of "waste" and "pollutant," and not the runoff itself.[23] The finding does create some confusion, since there are discharge prohibitions that have been incorporated into the permit that broadly prohibit the discharge of "waste" in certain circumstances. (See Attachment A to the permit.) The finding will therefore be amended to state that urban runoff contains waste and pollutants.

Contention: BIA contends that the Regional Water Board violated California Environmental Quality Act (CEQA).

[23] The Regional Water Board is appropriately concerned not only with pollutants in runoff but also the volume of runoff, since the volume of runoff can affect the discharge of pollutants in the runoff. (See Board Order WQ 2000-11, at page 5.)

Finding: As we have stated in several prior orders, the provisions of CEQA requiring adoption of environmental documents do not apply to NPDES permits.[24] BIA contends that the exemption from CEQA contained in section 13389 applies only to the extent that the specific provisions of the permit are required by the federal Clean Water Act. This contention is easily rejected without addressing whether federal law mandated all of the permit provisions. The plain language of section 13389 broadly exempts the Regional Water Board from the requirements of CEQA to prepare environmental documents when adopting "any waste discharge requirement" pursuant to Chapter 5.5 (§§ 13370 et seq., which applies to NPDES permits).[25] BIA cites the decision in *Committee for a Progressive Gilroy v. State Water Resources Control Board* (1987) 192 Cal.App.3d 847. That case upheld the State Water Board's view that section 13389 applies only to NPDES permits, and not to waste discharge requirements that are adopted pursuant only to state law. The case did not concern an NPDES permit, and does not support BIA's argument.

Contention: WSPA contends that the Regional Water Board did not follow this Board's precedent for retail gasoline outlets (RGOs) established in the LA SUSMP order.

Finding: In the LA SUSMP order, this Board concluded that construction of RGOs is already heavily regulated and that owners may be limited in their ability to construct infiltration facilities. We also noted that, in light of the small size of many RGOs and the proximity to underground tanks, it might not always be feasible or safe to employ treatment methodologies. We directed the Los Angeles Regional Water Board to mandate that RGOs

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[24] Water Code section 13389; see, e.g., Board Order WQ 2000-11.

[25] The exemption does have an exception for permits for "new sources" as defined in the Clean Water Act, which is not applicable here.

employ the BMPs listed in a publication of the California Storm Water Quality Task Force. (*Best Management Practice Guide – Retail Gasoline Outlets* (March 1997).) We also concluded that RGOs should not be subject to the BMP design standards at this time. Instead, we recommended that the Regional Water Board undertake further consideration of a threshold relative to size of the RGO, number of fueling nozzles, or some other relevant factor. The LA SUSMP order did not preclude inclusion of RGOs in the SUSMP design standards, with proper justification, when the permit is reissued.

The permit adopted by the Regional Water Board did not comply with the directions we set forth in the LA SUSMP order for the regulation of RGOs. The permit contains no findings specific to the issues discussed in our prior order regarding RGOs, and includes no threshold for inclusion of RGOs in SUSMPs. Instead, the permit requires the dischargers to develop and implement SUSMPs within one year that include requirements for "Priority Development Project Categories," including "retail gasoline outlets." While other priority categories have thresholds for their inclusion in SUSMPs, the permit states: "Retail Gasoline Outlet is defined as any facility engaged in selling gasoline."[26]

The Regional Water Board responded that it did follow the directions in the LA SUSMP order. First, it points to findings that vehicles and pollutants they generate impact receiving water quality. But the only finding that even mentions RGOs is finding 4, which simply lists RGOs among the other priority development project categories as land uses that generate more pollutants. The Regional Water Board staff also did state some justifications for the inclusion of RGOs in two documents. The Draft Fact Sheet explains that RGOs contribute

[26] Permit at F.1.b(2)(a)(x).

pollutants to runoff, and opines that there are appropriate BMPs for RGOs. The staff also prepared another document after the public hearing, which was distributed to Board Members prior to their vote on the permit, and which includes similar justifications and references to studies.[27] The LA SUSMP order called for some type of threshold for inclusion of RGOs in SUSMPs. The permit does not do so. Also, justifications for permit provisions should be stated in the permit findings or the final fact sheet, and should be subject to public review and debate.[28] The discussion in the document submitted after the hearing did not meet these criteria. There was some justification in the "Draft Fact Sheet," but the fact sheet has not been finalized.[29] In light of our concerns over whether SUSMP sizing criteria should apply to RGOs, it was incumbent on the Regional Water Board to justify the inclusion of RGOs in the permit findings or in a final fact sheet, and to consider an appropriate threshold, addressing the concerns we stated. The Regional Water Board also responded that when the dischargers develop the SUSMPs, the dischargers might add specific BMPs and a threshold as directed in the LA SUSMP order. But the order specifically directed that any threshold, and the justification therefore, should be included in the permit. The Regional Water Board did not comply with these directions.

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[27] See "Comparison Between Tentative Order No. 2001-01 SUSMP Requirements and LARWQCB SUSMP Requirements (as Supported by SWRCB Order WQ 2000-11)."

[28] See 40 C.F.R. sections 124.6(e) and 124.8.

[29] U.S. EPA regulations require that there be a fact sheet accompanying the permit. (40 C.F.R. § 124.8.) The record contains only a draft fact sheet, which was never published or distributed in final form. The Regional Water Board should finalize the fact sheet, accounting for any revisions made in the final permit, and publish it on its web site as a final document.

III. CONCLUSIONS

Based on the discussion above, the Board concludes that:

1. The Regional Water Board appropriately required compliance with water quality standards and included requirements to achieve reduction of pollutants to the maximum extent practicable. The permit must be clarified so that the reference to the iterative process for achieving compliance applies not only to the receiving water limitation, but also to the discharge prohibitions that require compliance with water quality standards. The permit should also be revised so that it requires that MEP be achieved for discharges "from" the municipal sewer system, and for discharges "to" waters of the United States, but not for discharges "into" the sewer system.

2. The Regional Water Board was not required to adopt wet-weather specific water quality objectives.

3. The Regional Water Board inappropriately defined urban runoff as "waste."

4. The Regional Water Board did not violate the California Environmental Quality Act.

5. The permit will be revised to delete retail gasoline outlets from the Priority Development Project Categories for Standard Urban Storm Water Mitigation Plans. The Regional Water Board may consider adding retail gasoline outlets, upon inclusion of appropriate findings and a threshold describing which outlets are included in the requirements.

IV. ORDER

IT IS HEREBY ORDERED that the Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems in San Diego County (Order No. 2001-01) are revised as follows:

1. Part A.3: The words "into and" are deleted.

2. Part C.2: Throughout the first paragraph, the words ", Part A.2, and Part A.5 as it applies to Prohibition 5 in Attachment A" shall be inserted following "Part C.1."

3. Finding 2: Revise the finding to read: **URBAN RUNOFF CONTAINS "WASTE" AND "POLLUTANTS"**: Urban runoff contains waste, as defined in the California Water Code, and pollutants, as defined in the federal Clean Water Act, and adversely affects the quality of the waters of the State.

4. Part F.1.b(2)(a): Delete section "x."

In all other respects the petitions are dismissed.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on November 15, 2001.

AYE: Arthur G. Baggett, Jr.
Peter S. Silva
Richard Katz

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché
Clerk to the Board

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2008-0024

APPROVING AN AMENDMENT TO THE WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION (BASIN PLAN) TO INCORPORATE A TOTAL MAXIMUM DAILY LOAD (TMDL) FOR TRASH IN THE LOS ANGELES RIVER WATERSHED

WHEREAS:

1. On September 19, 2001, the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) adopted a Basin Plan amendment (Resolution No. 01-013) incorporating the Los Angeles River Watershed Trash TMDL for the Coastal Watersheds of Los Angeles and Ventura Counties. The TMDL was approved by the State Water Resources Control Board (State Water Board) on February 19, 2002 and by the Office of Administrative Law (OAL) on July 16, 2002. The United States Environmental Protection Agency (U.S. EPA) approved the Los Angeles River Watershed Trash TMDL on August 1, 2002.

2. The City of Los Angeles and the County of Los Angeles filed petitions in Los Angeles Superior Court challenging the Los Angeles River Watershed Trash TMDL. Negotiations led to a settlement agreement, which became effective on September 23, 2003.

3. On January 26, 2006 following a lawsuit by 22 cities to set aside the TMDL, a California Appellate Court affirmed that the Los Angeles Water Board had not complied with the California Environmental Quality Act (CEQA). On June 8, 2006, the Los Angeles Water Board set aside the trash TMDL, pursuant to the writ of mandate.

4. On August 9, 2007, the Los Angeles Water Board adopted Resolution No. 07-012 amending the Basin Plan to incorporate a TMDL for trash in the Los Angeles River Watershed.

5. The TMDL for trash in the Los Angeles River Watershed is designed to protect the aquatic life habitat, water contact recreation, and non-contact water recreation beneficial uses of the Los Angeles River Watershed and to achieve the narrative water quality objectives set to protect those uses.

6. The Los Angeles Water Board found that the analysis contained in the Final Project Report, the CEQA "substitute documentation" for the proposed Basin Plan amendment, including the CEQA Checklist, the staff report, and the responses to comments prepared by Los Angeles Water Board staff complies with the requirements of the State Water Board's certified regulatory CEQA process, as set forth in the California Code of Regulations, Title 23, section 3775 et seq.

7. The State Water Board finds that in amending the Basin Plan to establish this TMDL, the Los Angeles Water Board complied with the requirements set forth in sections 13240 and 13242 of the California Water Code. The State Water Board also finds that the TMDL is consistent with the requirements of federal Clean Water Act section 303(d).

8. The Los Angeles Water Board found that adoption of this amendment is consistent with the State Antidegradation Policy (State Water Board Resolution No. 68-16), in that the changes to water quality objectives (i) consider maximum benefits to the people of the state, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies.

8. The Los Angeles Water Board established a loading capacity, represented as a numeric target for the Los Angeles River Watershed, at zero trash. Compliance with this trash load will be based on a nine-year implementation schedule.

9. A Basin Plan amendment does not become effective until approved by the State Water Board and until the regulatory provisions are approved by OAL. The TMDL must also be approved by U.S. EPA.

THEREFORE BE IT RESOLVED THAT:

The State Water Board:

1. Approves the amendment to the Basin Plan as adopted under Los Angeles Water Board Resolution No. 07-012.

2. Authorizes the Executive Director or designee to submit the amendment adopted under Los Angeles Water Board Resolution No. 07-012 to OAL for approval of the regulatory provisions and to USEPA for approval of the TMDL.

CERTIFICATION

The undersigned Clerk to the Board does hereby certify that the foregoing is a full, true, and correct copy of a resolution duly and regularly adopted at a meeting of the State Water Resources Control Board held on April 15, 2008.

AYE:	Chair Tam M. Doduc Vice Chair Gary Wolff, P.E., Ph.D Charles R. Hoppin Frances Spivy-Weber
NAY:	None
ABSENT:	Arthur G. Baggett, Jr.
ABSTAIN:	None

Jeanine Townsend

Jeanine Townsend
Clerk to the Board

STATE OF CALIFORNIA

STATE WATER RESOURCES CONTROL BOARD

ORDER WQ 2009-0008

In the Matter of the Petition of

COUNTY OF LOS ANGELES AND LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

Waste Discharge Requirements Order No. R4-2006-0074
Issued by the
California Regional Water Quality Control Board,
Los Angeles Region

SWRCB/OCC FILE A-1780

BY THE BOARD:

In 2001, the Los Angeles Regional Water Quality Control Board (Los Angeles Water Board) adopted Waste Discharge Requirements Order No. 01-182 (the permit), a national pollutant discharge elimination system (NPDES) municipal storm water permit. The permit authorizes storm water discharges from municipalities throughout the County of Los Angeles.[1] In 2002, the Los Angeles Water Board established a total maximum daily load (TMDL) for bacteria at Santa Monica Bay beaches during dry weather (the TMDL). The TMDL includes a waste load allocation for municipal storm water discharges. On September 14, 2006, the Los Angeles Water Board modified the permit by adopting Waste Discharge Requirements Order No. R4-2006-0074 (the Permit modification). The Los Angeles Water Board crafted the Permit modification to implement the summer dry weather waste load allocations in the TMDL.

On October 16, 2006, the County of Los Angeles and the Los Angeles County Flood Control District (Petitioners) filed a petition with the State Water Resources Control Board (State Water Board), challenging the Permit modification. The Petitioners asked that the petition be placed in abeyance. Two years later, in September 2008, the Petitioners activated

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[1] The City of Long Beach is subject to a separate municipal storm water permit. (Los Angeles Water Board Order 99-060 [NPDES No. CAS004002].)

the petition. In this Order, the State Water Board concludes that the Los Angeles Water Board's implementation of the TMDL through the Permit modification was appropriate and proper.[2]

I. BACKGROUND

A. Regulatory Background

The Petitioners contend the Los Angeles Water Board improperly translated the provisions of an existing TMDL into a municipal storm water permit. In this section, we provide a brief overview of relevant portions of the regulatory frameworks for TMDLs and for storm water regulation.

1. TMDLs

In State Water Board Order WQ 2001-06 (*Tosco*), this Board provided a detailed background of TMDLs. As we explained in the *Tosco* order, water quality standards provide the foundation for identifying impaired waters that require a TMDL. Clean Water Act section 303(c) requires the states to adopt water quality standards that protect the public health or welfare, enhance the quality of water, and serve the purposes of the Clean Water Act. Water quality standards consist of the beneficial uses of a water body and the criteria to protect those uses. For waters subject to the Clean Water Act, California's water quality standards are typically found in regional water quality control plans (basin plans) and in statewide plans.

Clean Water Act section 303(d) requires states to identify waters of the United States for which technology-based effluent limitations are not stringent enough to implement water quality standards. We refer to those waters that are not attaining water quality standards as impaired waters, and identify the impaired waters on the state's 303(d) list of water quality limited segments.

For the pollutants causing impairment of waters of the United States, Clean Water Act section 303(d) requires states to establish TMDLs. "A TMDL defines the specified maximum amount of a pollutant which can be discharged or 'loaded' into [impaired waters] from all combined sources."[3] A TMDL is the sum of the individual wasteload allocations assigned to point sources, load allocations for nonpoint sources, and other elements designed to achieve

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[2] To the extent Petitioners raised issues not discussed in this order, such issues are hereby dismissed as not substantial or appropriate for review by the State Water Board. (See *People v. Barry* (1987) 194 Cal.App.3d 158, 175-177; *Johnson v. State Water Resources Control Board* (2004) 123 Cal.App.4th 1107; Cal. Code Regs., tit. 23, § 2052, subd. (a)(1).)

[3] *Dioxin/Organochlorine Center v. Clarke* (9th Cir. 1995) 57 F.3d 1517, 1520.

water quality standards.[4] Regional water quality control boards typically adopt TMDLs as part of each region's basin plan[5] and therefore include programs for implementation.[6] In essence, TMDLs serve as a backstop provision of the Clean Water Act designed to implement water quality standards when other provisions have failed to achieve water quality standards.

TMDLs are not self-executing, but instead, rely upon further orders or actions to adjust pollutant restrictions on individual dischargers.[7] Federal regulations state that water quality based effluent limitations in NPDES permits must be consistent with the assumptions and requirements of the wasteload allocations in the TMDL, if the TMDL has been approved by the United States Environmental Protection Agency (U.S. EPA).[8]

The State Water Board estimates that statewide over 580 TMDLs will be needed for the current impaired waters list of 2,238 pollutant/water body combinations. Over 115 TMDLs are currently under development.

2. Municipal Storm Water Regulation

This Board has discussed the regulatory requirements for municipal storm water discharges in prior orders.[9] Section 402(p) of the Clean Water Act prohibits the discharge of pollutants from specified municipal separate storm sewer systems (MS4s) to waters of the United States except as authorized by an NPDES permit. Section 402(p) contains two substantive standards applicable to municipal storm water permits: MS4 permits (1) "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers;"[10] and (2) "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants."[11]

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[4] 40 C.F.R. § 130.3(i).

[5] See 40 C.F.R. §§ 130.6(c)(1) & 130.7.

[6] Wat. Code, §§ 13050, subd. (j), & 13242.

[7] *City of Arcadia v. EPA* (N.D.Cal. 2003) 265 F.Supp.2d 1142, 1144-1145; see also, e.g., State Water Board Resolution 2002-0149, ¶ 9 (approving Santa Monica Beaches Dry Weather Bacteria TMDL and noting that numeric targets and wasteload allocations are not directly enforceable and will need to be translated into individual permit requirements during a subsequent permitting action).

[8] 40 C.F.R. § 122.44(d)(1)(vii)(B).

[9] See, e.g., State Water Board Orders WQ 91-03 (*Communities for a Better Environment*), WQ 96-13 (*Save San Francisco Bay Ass'n*), WQ 2000-11 (*Cities of Bellflower et al.*), and WQ 2001-15 (*BIA*).

[10] 33 U.S.C., § 1342(p)(3)(B)(ii).

[11] *Id.*, § 1342(p)(3)(B)(iii).

U.S. EPA promulgated regulations establishing minimum requirements for all MS4 permits. The regulations generally focus on requirements that MS4s implement programs to reduce the amount of pollutants found in storm water discharges to the maximum extent practicable. The regulations also require the MS4's program to include an element to detect and remove illicit discharges and improper disposal into the storm sewer.[12] U.S. EPA added the illicit discharge program requirement with the stated intent of implementing the Clean Water Act provision requiring permits to "effectively prohibit non-storm water discharges."[13] Neither the Clean Water Act nor the federal storm water regulations define "non-storm water." "Illicit discharge" is defined as any discharge to an MS4 "not composed entirely of storm water."[14] Thus, "illicit discharge" is the most nearly applicable definition of "non-storm water" found in federal law and is often used interchangeably with that term.

B. Procedural Background

In 1998, the State Water Board added 44 Santa Monica Bay beaches to its 303(d) list due to bacteria impairments. As required by the Clean Water Act, the Los Angeles Water Board adopted a TMDL entitled *Dry Weather TMDL for Bacteria at Santa Monica Bay Beaches* (the TMDL) on January 24, 2002. The State Water Board approved the TMDL on September 19, 2002. The California Office of Administrative Law and U.S. EPA subsequently approved the TMDL, and the TMDL became effective on July 15, 2003.

The Los Angeles Water Board established the TMDL to protect swimmers and other recreational users of Santa Monica Bay beaches when there are dry weather conditions and the beaches are most heavily used. Dry weather is defined in the TMDL to mean those days with less than 0.1 inches of rain and days at least three days after a day with 0.1 inches of rain or more. The TMDL recognizes that, under certain conditions, even undeveloped watersheds may have exceedances of bacteria water quality standards. As a result, the TMDL differentiates between summer dry weather (April 1 to October 31) and winter dry weather (November 1 to March 31). In summer dry weather, a reference beach in an undeveloped watershed had no exceedances of bacteria water quality standards. The resulting summer dry weather wasteload allocations in the TMDL are, therefore, zero days of exceedance of the bacteria water quality standards at a particular beach. In winter dry weather, the reference

[12] 40 C.F.R. § 122.26(d)(2)(iv)(B).

[13] National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges; Final Rule (hereafter Phase I preamble), 55 Fed. Reg. 47990, 47995 (Nov. 16, 1990).

[14] 40 C.F.R. § 122.26(b)(2). The definition of "illicit discharge" does provide exceptions for discharges pursuant to a separate NPDES permit and for discharges resulting from fire fighting activities. (*Ibid.*)

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beach had three exceedances of the bacteria water quality standards. The resulting winter dry weather wasteload allocations allowed no more than three days of exceedance of the bacteria water quality standards at a particular beach.[15]

The TMDL includes wasteload allocations for municipal storm water discharges. Recognizing the different challenges associated with achieving the summer and winter dry weather wasteload allocations, as well as the higher summertime use of the beaches, the Los Angeles Water Board's implementation plan for the TMDL established a shorter schedule for achieving the summer dry weather wasteload allocations. The basin plan amendment establishing the TMDL included an implementation plan with a final compliance date of July 15, 2006 for summer dry weather. The final date for winter dry weather is July 15, 2009. By those dates, the TMDL's implementation plan anticipated there were to be no more discharges from MS4s that cause or contribute to exceedances of bacteria water quality standards on summer dry weather days.

The TMDL applies to Santa Monica Bay beaches along 55 miles of coastline, from Leo Carillo State Beach in the north to Outer Cabrillo beach in the south. Together, the beaches host an average of 55 million visitors per year, who add approximately $1.7 billion dollars to the local economy.

In May 2006, the Los Angeles Water Board's staff provided notice of its proposal to reopen and modify the permit in order to establish permit requirements consistent with the TMDL and its implementation plan. The proposed modification would make the TMDL's wasteload allocations enforceable, and be consistent with U.S. EPA's regulation requiring that effluent limitations in NPDES permits be consistent with the assumptions and requirements of the wasteload allocations in the TMDL.[16] The Los Angeles Water Board solicited and received two rounds of comments on the proposed permit revisions, held a public workshop to solicit oral and written comments, and issued two sets of responses to comments. During the comment period, the Los Angeles Water Board received many comment letters, including letters of support from Governor Schwarzenegger and other public officials. On September 14, 2006, the Los Angeles Water Board held a public hearing and adopted a permit modification that included requirements to implement the TMDL's summer dry weather wasteload allocations.

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[15] Relying on antidegradation principles, the TMDL established winter dry weather wasteload allocations of zero, one, two, or three days of bacteria exceedances based on a particular beach's historical water quality.

[16] 40 C.F.R. §122.44(d)(1)(vii)(B).

The modification prohibits discharges that cause or contribute to exceedances of bacteria water quality standards at Santa Monica Bay beaches on summer dry weather days. The Permit modification added Part 2.5 to the Receiving Water Limitations. Part 2.5 states:

> During Summer Dry Weather there shall be no discharges of bacteria from MS4s into the Santa Monica Bay that cause or contribute to exceedances in the Wave Wash, of the applicable bacteria objectives. The applicable bacteria objectives include both the single sample and geometric mean bacteria objectives set to protect the Water Contact Recreation (REC-1) beneficial use, as set forth in the Basin Plan.

The Permit modification also added a discharge prohibition. Discharge Prohibition 1.B states: "Discharges of Summer Dry Weather flows from MS4s into Santa Monica Bay that cause or contribute to exceedances of the bacteria Receiving Water Limitations in Part 2.5 below are prohibited." Neither the discharge prohibition nor the receiving water limitations includes an iterative process towards compliance.

Petitioners submitted a timely joint petition to the State Water Board on October 16, 2006. Pursuant to State Water Board regulations,[17] the petition was held in abeyance for nearly two years before Petitioners activated it on September 18, 2008. On that date, Petitioners also submitted a supplemental statement of points and authorities, which the State Water Board hereby adds to the administrative record. Petitioners, the Los Angeles Water Board, and a group of three environmental organizations sought leave to make additional submissions and to add evidence to the administrative record.[18] Those requests are hereby denied.[19]

II. ISSUES AND FINDINGS

Contention: The discharge prohibition and receiving water limitations added by the Permit modification are ambiguous and should be clarified.

Finding: The contested provisions are sufficiently clear and were properly adopted. We conclude that no changes are necessary and reject this contention. Petitioners claim that the discharge prohibition and receiving water limitations added by the Permit modification could be construed to prohibit storm water discharges containing bacteria, despite the Los Angeles Water Board's stated intention to limit those provisions to non-storm

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[17] See Cal. Code Regs., tit. 23, § 2050.5, subd. (d).

[18] The filings include Petitioners' request to file a reply pleading, and various requests for administrative notice and to submit additional evidence.

[19] See Cal. Code Regs., tit. 23, §§ 2050.5, subd. (a), & 2050.6.

water discharges. In Petitioners' view, the words "non-storm water" should be added to Part 2.5 of the permit's receiving water limitations to match that intent and to clarify that Part 2.5 does not apply to storm water discharges.

Part 2.5 of the permit reads: "During Summer Dry Weather there shall be no discharges of bacteria from MS4s into the Santa Monica Bay that cause or contribute to [bacteria] exceedances...." The permit defines dry weather as "days with less than 0.1 inch of rainfall and occurring more than three days after a rain day."[20] "Summer Dry Weather" is a dry weather day occurring from April 1 to October 31 of each year.[21]

Petitioners' proposed revision to Part 2.5 would read: "During Summer Dry Weather there shall be no *non-storm water* discharges of bacteria from MS4s . . . ." (Italics added.) They argue that, without the change, Part 2.5 may apply to "storm water" because that term is defined in federal regulations to include "surface run-off and drainage." Petitioners imply that the federal reference to "surface run-off and drainage" includes run-off and drainage discharges that occur during dry weather periods of the summer.

We decline to accept Petitioners' proposed language, including their similar proposal for Discharge Prohibition 1.B, because the language chosen by the Los Angeles Water Board is clear and appropriate. The challenged permit provisions do not apply to storm water flows. U.S. EPA has previously rejected the notion that "storm water," as defined at 40 Code of Federal Regulations section 122.26(b)(13), includes dry weather flows. In U.S. EPA's preamble to the storm water regulations, U.S. EPA rejected an attempt to define storm water to include categories of discharges "not in any way related to precipitation events."[22] The Los Angeles Water Board's permit language follows U.S. EPA's approach. The new Permit provisions specifically regulate dry weather discharges, which are defined to exclude discharges occurring during or immediately following a reportable precipitation event. Any discharges during such dry weather days would not be precipitation-related. No liability will attach under these provisions for discharges during, or as the result of, a rainfall event exceeding 0.1 inches.

In any event, Petitioners' proposed language deviates from that of the underlying wasteload allocation. That wasteload allocation defines "dry weather" and "summer dry weather" with language identical to that used in the challenged provisions.[23] The discharges

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[20] Permit, Part 5, Definitions.

[21] *Ibid.*

[22] 55 Fed. Reg. 47990, 47995.

[23] See Basin Plan, Tables 7-4.1, 7-4.2a.

regulated by the wasteload allocation are not qualified by the modifier "non-storm water," or any other term. Because 40 Code of Federal Regulations section 122.44(d)(1)(vii) requires effluent limitations to be consistent with the assumptions and requirements of the underlying wasteload allocation, we refuse to unnecessarily add language that, if anything, could cause confusion and threaten compliance with U.S. EPA's regulation.

Contention: The receiving water limitations and discharge prohibition are numeric effluent limitations and, therefore, do not follow the accepted approach for controlling municipal storm water discharges.

Finding: The contested provisions are appropriate and proper. The summer dry weather discharges, as defined by the Permit and the TMDL, are more appropriately regarded as non-storm water discharges, which the Clean Water Act requires to be effectively prohibited.

Petitioners liken the challenged provisions to numeric effluent limitations, and then cite various state and federal sources to argue that using numeric effluent limitations to implement a TMDL in a storm water permit is inappropriate. Petitioners point to State Water Board Order WQ 2001-15 (*BIA*), where we stated that, for municipal storm water permits, "we will generally not require 'strict compliance' with water quality standards through numeric effluent limitations," and instead "we will continue to follow an iterative approach, which seeks compliance over time" with water quality standards.[24] They also point to a U.S. EPA guidance document entitled *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs* (the U.S. EPA guidance document).[25] Petitioners cite a provision therein that reads, "because storm water discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be feasible or appropriate to establish numeric limits for municipal and small construction discharges."[26]

The references relied upon by Petitioners are inapposite, and do not support invalidating the Los Angeles Water Board's requirements. Instead, the Petitioners' references are directed at the regulation of storm water discharges. The Permit modification is limited to non-storm water discharges which occur during summer dry weather. The U.S. EPA guidance document is limited to wasteload allocations "for storm water discharges" and permit limitations

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[24] *BIA*, *supra*, at p. 8.

[25] U.S. EPA, *Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs*, Memorandum from U.S. EPA Director, Office of Wetlands, Oceans and Watersheds Robert H. Wayland, III and Director, Office of Wastewater Management James Hanlon to Water Division Directors, Regions 1-10, Nov. 22, 2002 (hereafter U.S. EPA guidance document).

[26] *Id.*, at p. 4.

and conditions "based on the [wasteload allocations] for storm water discharges."[27] Furthermore, the Clean Water Act and the federal storm water regulations assign different performance requirements for storm water and non-storm water discharges. These distinctions in the guidance document, the Clean Water Act, and the storm water regulations make it clear that a regulatory approach for storm water - such as the iterative approach we have previously endorsed - is not necessarily appropriate for non-storm water.

We instead look to directly relevant authorities. Federal law requires municipal storm water permit limitations to be consistent with applicable wasteload allocations.[28] The Clean Water Act requires MS4 permit requirements to effectively prohibit non-storm water discharges.[29] Similarly, California law requires NPDES permits to apply "any more stringent effluent standards or limitations necessary to implement water quality control plans...."[30]

The basin plan established a compliance deadline of July 15, 2006, for achieving final compliance with the summer dry weather wasteload allocations for bacteria. The TMDL, which is a component of the Los Angeles Water Board's basin plan, assigns a wasteload allocation to certain "local agencies that are permittees or co-permittees on a municipal storm water permit."[31] The basin plan further establishes that these agencies are responsible for complying with the summer dry weather wasteload allocation. The summer dry weather wasteload allocation prohibits the exceedance of bacteria water quality objectives on summer dry weather days at specified locations.[32] The Permit modification is consistent with the wasteload allocation and other basin plan provisions.

The Permit modification is also consistent with the federal framework for non-storm water discharges. 40 Code of Federal Regulations section 122.26(d)(2)(iv)(B), which implements the Clean Water Act's requirement for the effective prohibition of non-storm water discharges, requires municipal storm water permittees to detect and remove all categories of non-storm water discharges to the MS4, or to require the non-storm water discharger to obtain a separate NPDES permit. While MS4 permits generally contain exceptions for some non-storm water discharges, these exceptions do not extend to non-storm water discharges identified as a

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[27] U.S. EPA guidance document, *supra*, at p. 1.

[28] 40 C.F.R. § 122.44(d)(1)(vii)(B).

[29] 33 U.S.C. § 1342(p)(3)(B)(ii).

[30] Wat. Code, § 13377.

[31] Basin Plan, Table 7-4.1, fn. 3.

[32] *Id.*, Table 7-4.1.

source of pollutants.[33] In adopting the TMDL, the Los Angeles Water Board identified summer dry weather discharges as a source of water quality exceedances for bacteria. Prohibiting summer dry weather bacteria exceedances caused or contributed to by MS4s is therefore consistent with the federal framework for non-storm water discharges.

Moreover, the references Petitioners' rely upon to challenge the prohibitions and receiving water limitations as strict, numeric effluent limitations are not relevant to this petition. The contested provisions are receiving water limitations, not numeric effluent limitations. The contested provisions do not impose a numeric limitation measured at a point source outfall. Instead, compliance with the limitations is measured in the receiving water, and more specifically, at the "wave wash" for the individual beaches. The TMDL defines the wave wash "as the point at which the storm drain or creek empties and the effluent from the storm drain initially mixes with the receiving ocean water."[34] The provisions are directed at the quality of the receiving water, as affected by the discharge. They do not establish numeric effluent limitations for the discharge to the receiving water.[35],[36]

While the issue before us only concerns permit requirements to implement summer dry weather wasteload allocations and therefore non-storm water discharges, the result would not necessarily be different for municipal *storm water* discharges subject to a TMDL. TMDLs, which take significant resources to develop and finalize, are devised with specific implementation plans and compliance dates designed to bring impaired waters into compliance with water quality standards. It is our intent that federally mandated TMDLs be given substantive effect. Doing so can improve the efficacy of California's NPDES storm water permits. This is not to say that a wasteload allocation will result in numeric effluent limitations for municipal storm water discharges. But, when an approved TMDL is in place, the water boards will give substantive effect to the TMDL and allow it to become much more than an academic exercise. Whether a future municipal storm water permit requirement appropriately implements a storm water wasteload allocation will need to be decided based on the regional

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[33] See 40 C.F.R. § 122.26(d)(2)(iv)(B)(1). The exempted categories include, but are not limited to, water line flushing, rising ground waters, landscape irrigation, and street wash water.

[34] Basin Plan, Table 7-4.1, fn. 1.

[35] See, e.g., *BIA*, *supra*; State Water Board Order WQ 99-05 (*Environmental Health Coalition*). Those Orders endorsed receiving water limitations modified by an iterative process. The absence of an accompanying iterative process does not convert receiving water limitations into numeric effluent limitations.

[36] For the purposes of state enforcement under the Porter-Cologne Act's mandatory minimum penalties law, California distinguishes numeric restrictions on discharged effluent from receiving water limitations. (Wat. Code, § 13385.1, subd. (c).)

water quality control board's findings supporting either the numeric or non-numeric effluent limitations contained in the permit.

III. ORDER

IT IS HEREBY ORDERED THAT the petition of the County of Los Angeles and Los Angeles County Flood Control District is denied.

CERTIFICATION

The undersigned, Clerk to the Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on August 4, 2009.

AYE:	Chairman Charles R. Hoppin Vice Chair Frances Spivy-Weber Board Member Arthur G. Baggett, Jr. Board Member Tam M. Doduc
NAY:	None
ABSENT:	None
ABSTAIN:	None

Jeanine Townsend

Jeanine Townsend
Clerk to the Board

135 Cal.App.4th 1392, 38 Cal.Rptr.3d 373, 36 Envtl. L. Rep. 20,025, 06 Cal. Daily Op. Serv. 797, 2006 Daily Journal D.A.R. 1145
(Cite as: 135 Cal.App.4th 1392, 38 Cal.Rptr.3d 373)

Court of Appeal, Fourth District, Division 1, California.
CITY OF ARCADIA et al., Plaintiffs and Appellants,
v.
STATE WATER RESOURCES CONTROL BOARD et al., Defendants and Appellants.
No. D043877.

Jan. 26, 2006.
Rehearing Denied Feb. 17, 2006.
Review Denied April 19, 2006.

Background: Cities filed petition for writ of mandate and complaint for declaratory and injunctive relief against state and regional water boards to challenge water boards' adoption and approval of a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains into river. The Superior Court, San Diego County, No. GIC803631,Wayne L. Peterson and Linda B. Quinn, JJ., partially granted cities' petition and granted declaratory relief, but did not invalidate trash TMDL on specified grounds. Water boards and cities appealed.

Holdings: The Court of Appeal, McConnell, P.J., held that:
(1) water boards' decision not to conduct an assimilative capacity study before adopting zero trash TMDL was within their expertise rather than trial court's;
(2) water boards sufficiently complied with statute requiring consideration of economic factors before adopting and approving zero trash TMDL;
(3) regional water board's environmental checklist with regard to approving zero trash TMDL was deficient for purposes of California Environmental Quality Act (CEQA);
(4) water boards' adoption and approval of zero trash TMDL did not violate federal standards; and
(5) adoption and approval of zero trash TMDL did not fail to comply with requisite scientific standards.

Judgment affirmed in part, reversed in part; order affirmed.

West Headnotes

[1] Mandamus 250 ⇐69

250 Mandamus
250II Subjects and Purposes of Relief
250II(B) Acts and Proceedings of Public Officers and Boards and Municipalities
250k69 k. Legislative Powers. Most Cited Cases
Review of judgment partially granting cities' petition for writ of mandate to challenge adoption by state and regional water boards of planning document setting a target of zero trash discharge from municipal storm drains into river was limited to traditional mandamus, inasmuch as water boards' actions were quasi-legislative. West's Ann.Cal.C.C.P. § 1085.

[2] Mandamus 250 ⇐69

250 Mandamus
250II Subjects and Purposes of Relief
250II(B) Acts and Proceedings of Public Officers and Boards and Municipalities
250k69 k. Legislative Powers. Most Cited Cases
Acts of an administrative agency that are quasi-legislative in nature are not reviewable by administrative mandamus; rather, review of a quasi-legislative action is limited to traditional mandamus.

[3] Mandamus 250 ⇐168(2)

250 Mandamus
250III Jurisdiction, Proceedings, and Relief
250k168 Evidence
250k168(2) k. Presumptions and Burden of Proof. Most Cited Cases

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135 Cal.App.4th 1392, 38 Cal.Rptr.3d 373, 36 Envtl. L. Rep. 20,025, 06 Cal. Daily Op. Serv. 797, 2006 Daily Journal D.A.R. 1145
(Cite as: 135 Cal.App.4th 1392, 38 Cal.Rptr.3d 373)

Mandamus 250 ⚖172

250 Mandamus
250III Jurisdiction, Proceedings, and Relief
250k172 k. Scope of Inquiry and Powers of Court. Most Cited Cases
Under statute authorizing writs of mandate, review is limited to an inquiry into whether the action was arbitrary, capricious, or entirely lacking in evidentiary support, and the petitioner has the burden of proof to show that the decision is unreasonable or invalid as a matter of law. West's Ann.Cal.C.C.P. § 1085.

[4] Mandamus 250 ⚖187.9(1)

250 Mandamus
250III Jurisdiction, Proceedings, and Relief
250k187 Appeal and Error
250k187.9 Review
250k187.9(1) k. Scope and Extent in General. Most Cited Cases
In mandamus proceedings, the appellate court reviews the record de novo except where the trial court made foundational factual findings, which are binding on appeal if supported by substantial evidence.

[5] Environmental Law 149E ⚖689

149E Environmental Law
149EXIII Judicial Review or Intervention
149Ek677 Scope of Inquiry on Review of Administrative Decision
149Ek689 k. Assessments and Impact Statements. Most Cited Cases
Abuse of discretion applies to review of California Environmental Quality Act issues. West's Ann.Cal.Pub.Res.Code § 21000 et seq.

[6] Environmental Law 149E ⚖689

149E Environmental Law
149EXIII Judicial Review or Intervention
149Ek677 Scope of Inquiry on Review of Administrative Decision
149Ek689 k. Assessments and Impact Statements. Most Cited Cases
On review of California Environmental Quality Act (CEQA) issues, the reviewing court's task on appeal is the same as the trial court's; the reviewing court therefore conduct its review independent of the trial court's findings. West's Ann.Cal.Pub.Res.Code § 21000 et seq.

[7] Environmental Law 149E ⚖192

149E Environmental Law
149EV Water Pollution
149Ek187 Water Quality Standards or Plans
149Ek192 k. Daily Maximum Load and Limited Segments. Most Cited Cases
State and regional water boards' decision not to conduct an assimilative capacity study before adopting a target of zero trash discharge from municipal storm drains into river was within their expertise rather than the trial court's; Clean Water Act did not require regional boards to conduct an assimilative capacity study before adopting the zero trash total maximum daily loads (TMDL), and the evidence adequately supported boards' decision. Clean Water Act, § 303, 33 U.S.C.A. § 1313.

[8] Environmental Law 149E ⚖192

149E Environmental Law
149EV Water Pollution
149Ek187 Water Quality Standards or Plans
149Ek192 k. Daily Maximum Load and Limited Segments. Most Cited Cases
State and regional water boards were not required to conduct a cost/benefit analysis before adopting and approving a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains into river; by its plain terms, statute authorizing such analysis did not apply at the TMDL stage. West's Ann.Cal.Water Code § 13267.

[9] Statutes 361 ⚖181(1)

361 Statutes
361VI Construction and Operation
361VI(A) General Rules of Construction

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361k180 Intention of Legislature
361k181 In General
361k181(1) k. In General. Most Cited Cases

Statutes 361 ⚖188

361 Statutes
361VI Construction and Operation
361VI(A) General Rules of Construction
361k187 Meaning of Language
361k188 k. In General. Most Cited Cases

The court's primary aim in construing any law is to determine the legislative intent, and in doing so, the court looks first to the words of the statute, giving them their usual and ordinary meaning.

[10] Environmental Law 149E ⚖192

149E Environmental Law
149EV Water Pollution
149Ek187 Water Quality Standards or Plans
149Ek192 k. Daily Maximum Load and Limited Segments. Most Cited Cases

Adoption of a trash total maximum daily loads (TMDL) under Clean Water Act does not, by itself, prohibit any conduct or require any actions; instead, each TMDL represents a goal that may be implemented by adjusting pollutant discharge requirements in individual National Pollution Discharge Elimination System (NPDES) permits or establishing nonpoint source controls. Clean Water Act, § 303, 33 U.S.C.A. § 1313.

[11] Environmental Law 149E ⚖192

149E Environmental Law
149EV Water Pollution
149Ek187 Water Quality Standards or Plans
149Ek192 k. Daily Maximum Load and Limited Segments. Most Cited Cases

State and regional water boards sufficiently complied with statute requiring consideration of economic factors before adopting and approving a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains into river; boards' trash TMDL included the estimated costs of several types of compliance methods and a cost comparison of capital costs and costs of operation and maintenance, and consideration of economic factors under statute did not require analysis of every conceivable compliance method or combinations thereof, or the fiscal impacts on permittees. West's Ann.Cal.Water Code § 13241.

[12] Environmental Law 149E ⚖192

149E Environmental Law
149EV Water Pollution
149Ek187 Water Quality Standards or Plans
149Ek192 k. Daily Maximum Load and Limited Segments. Most Cited Cases

State and regional water boards could include estuary of river along with river when adopting and approving a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains into river; plain language of Clean Water Act did not preclude boards from exercising their discretion to simultaneously submit to the Environmental Protection Agency (EPA) the identification of an impaired water body and a TMDL for it. Clean Water Act, § 303(d)(2), 33 U.S.C.A. § 1313(d)(2).

[13] Environmental Law 149E ⚖218

149E Environmental Law
149EV Water Pollution
149Ek215 Administrative Agencies and Proceedings
149Ek218 k. Notice and Comment. Most Cited Cases

State and regional water boards sufficiently identified estuary of river along with river, so as to put all parties on notice when adopting and approving a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains into river, pursuant to Clean Water Act; although trash TMDL list did not include estuary, trash TMDL listed and discussed the beneficial uses of the estuary, and administrative record contained several pictures of trash deposited in estuary during high flows. Clean

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Water Act, § 303, 33 U.S.C.A. § 1313.

[14] Environmental Law 149E ⚿595(3)

149E Environmental Law
149EXII Assessments and Impact Statements
149Ek584 Necessity for Preparation of Statement, Consideration of Factors, or Other Compliance with Requirements
149Ek595 Particular Projects
149Ek595(3) k. Waters and Water Courses; Dams and Flood Control. Most Cited Cases

Regional water board failed to comply with California Environmental Quality Act (CEQA) requirements when it prepared an environmental checklist with regard to approving a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains into river, in lieu of an environmental impact report (EIR) or its functional equivalent; basin planning process of state and regional water boards was a certified regulatory program, neither checklist nor trash TMDL included an analysis of the reasonably foreseeable impacts of construction and maintenance of pollution control devices or mitigation measures. West's Ann.Cal.Pub.Res.Code § 21159.

See 12 Witkin, Summary of Cal. Law (10th ed. 2005) Real Property, § 831 et seq.; Cal. Jur. 3d, Pollution and Conservation Laws, § 118 et seq.

[15] Environmental Law 149E ⚿585

149E Environmental Law
149EXII Assessments and Impact Statements
149Ek584 Necessity for Preparation of Statement, Consideration of Factors, or Other Compliance with Requirements
149Ek585 k. In General. Most Cited Cases

California Environmental Quality Act (CEQA) requires a governmental agency to prepare an environmental impact report (EIR) whenever it considers approval of a proposed project that may have a significant effect on the environment. West's Ann.Cal.Pub.Res.Code § 21000 et seq.

[16] Environmental Law 149E ⚿589

149E Environmental Law
149EXII Assessments and Impact Statements
149Ek584 Necessity for Preparation of Statement, Consideration of Factors, or Other Compliance with Requirements
149Ek589 k. Significance in General. Most Cited Cases

Environmental Law 149E ⚿590

149E Environmental Law
149EXII Assessments and Impact Statements
149Ek584 Necessity for Preparation of Statement, Consideration of Factors, or Other Compliance with Requirements
149Ek590 k. Mitigation Measures. Most Cited Cases

Environmental Law 149E ⚿594

149E Environmental Law
149EXII Assessments and Impact Statements
149Ek584 Necessity for Preparation of Statement, Consideration of Factors, or Other Compliance with Requirements
149Ek594 k. Negative Declaration; Statement of Reasons. Most Cited Cases

Under the California Environmental Quality Act (CEQA), if there is no substantial evidence a project may have a significant effect on the environment, or the initial study identifies potential significant effects, but provides for mitigation revisions which make such effects insignificant, a public agency must adopt a negative declaration to such effect and, as a result, no environmental impact report (EIR) is required. West's Ann.Cal.Pub.Res.Code § 21000 et seq.

[17] Environmental Law 149E ⚿589

149E Environmental Law
149EXII Assessments and Impact Statements
149Ek584 Necessity for Preparation of Statement, Consideration of Factors, or Other Compliance with Requirements

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149Ek589 k. Significance in General. Most Cited Cases

Environmental Law 149E ⚿615

149E Environmental Law
149EXII Assessments and Impact Statements
149Ek612 Evidence
149Ek615 k. Weight and Sufficiency. Most Cited Cases
The California Environmental Quality Act (CEQA) requires the preparation of an environmental impact report (EIR) whenever it can be fairly argued on the basis of substantial evidence that the project may have significant environmental impact; thus, if substantial evidence in the record supports a fair argument that significant impacts or effects may occur, an EIR is required and a negative declaration cannot be certified. West's Ann.Cal.Pub.Res.Code § 21000 et seq.

[18] Environmental Law 149E ⚿592

149E Environmental Law
149EXII Assessments and Impact Statements
149Ek584 Necessity for Preparation of Statement, Consideration of Factors, or Other Compliance with Requirements
149Ek592 k. Categorical Exclusion; Exemptions in General. Most Cited Cases
State regulatory programs that meet certain environmental standards and are certified by the Secretary of the California Resources Agency are exempt from the requirements of California Environmental Quality Act (CEQA) for preparation of environmental impact reports (EIRs), negative declarations, and initial studies; environmental review documents prepared by such programs may be used instead of environmental documents that CEQA would otherwise require. West's Ann.Cal.Pub.Res.Code § 21080.5.

[19] Environmental Law 149E ⚿592

149E Environmental Law
149EXII Assessments and Impact Statements
149Ek584 Necessity for Preparation of Statement, Consideration of Factors, or Other Compliance with Requirements
149Ek592 k. Categorical Exclusion; Exemptions in General. Most Cited Cases
The guidelines for implementation of the California Environmental Quality Act (CEQA) do not directly apply to a certified regulatory program's environmental document; however, when conducting its environmental review and preparing its documentation, a certified regulatory program is subject to the broad policy goals and substantive standards of CEQA. 14 CCR § 15000 et seq.

[20] Declaratory Judgment 118A ⚿201

118A Declaratory Judgment
118AII Subjects of Declaratory Relief
118AII(K) Public Officers and Agencies
118Ak201 k. Officers and Official Acts in General. Most Cited Cases

Declaratory Judgment 118A ⚿204

118A Declaratory Judgment
118AII Subjects of Declaratory Relief
118AII(K) Public Officers and Agencies
118Ak204 k. State Officers and Boards. Most Cited Cases
In cities' challenge to state and regional water boards' adoption and approval of a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains into river, judgment should not have included declaratory relief as to non-navigable waters, where water boards conceded that trash TMDL only applied to navigable waters, leaving no present controversy with regard to non-navigable waters.

[21] Declaratory Judgment 118A ⚿61

118A Declaratory Judgment
118AI Nature and Grounds in General
118AI(D) Actual or Justiciable Controversy
118Ak61 k. Necessity. Most Cited Cases
The fundamental basis of declaratory relief is the

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existence of an actual, present controversy.

[22] Environmental Law 149E ⚿192

149E Environmental Law
149EV Water Pollution
149Ek187 Water Quality Standards or Plans
149Ek192 k. Daily Maximum Load and Limited Segments. Most Cited Cases
State and regional water boards' adoption and approval of a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains into river did not violate federal "maximum extent practicable" and "best management practices" standards under Clean Water Act; record failed to show that zero limit was unattainable, burden was on cities challenging the TMDL to establish impossibility, and, in any event, federal statute applicable to establishing a TMDL did not suggest that practicality was a consideration. Clean Water Act, § 303(d)(1)(C), 33 U.S.C.A. § 1313(d)(1)(C).

[23] Appeal and Error 30 ⚿756

30 Appeal and Error
30XII Briefs
30k756 k. Form and Requisites in General. Most Cited Cases

Appeal and Error 30 ⚿761

30 Appeal and Error
30XII Briefs
30k761 k. Points and Arguments. Most Cited Cases

Appeal and Error 30 ⚿1079

30 Appeal and Error
30XVI Review
30XVI(K) Error Waived in Appellate Court
30k1079 k. Insufficient Discussion of Objections. Most Cited Cases
Parties are required to include argument and citation to authority in their briefs, and the absence of these necessary elements allows the appellate court to treat the appellant's issue as waived.

[24] Environmental Law 149E ⚿192

149E Environmental Law
149EV Water Pollution
149Ek187 Water Quality Standards or Plans
149Ek192 k. Daily Maximum Load and Limited Segments. Most Cited Cases
State and regional water boards' adoption and approval of a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains into river did not require water boards to identify load allocations and implementation measures for nonpoint sources of trash discharge; Clean Water Act did not require that states adopt a regulatory system for nonpoint sources. Clean Water Act, § 303, 33 U.S.C.A. § 1313.

[25] Environmental Law 149E ⚿192

149E Environmental Law
149EV Water Pollution
149Ek187 Water Quality Standards or Plans
149Ek192 k. Daily Maximum Load and Limited Segments. Most Cited Cases
State and regional water boards' adoption and approval of a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains into river was not improper under Clean Water Act, notwithstanding stated beneficial uses of river that included allegedly illegal use of river for recreation and bathing by homeless people seeing shelter there; swimming and bathing by homeless were only two among numerous other beneficial uses that were not challenged. Clean Water Act, § 303(d)(1)(A), 33 U.S.C.A. § 1313(d)(1)(A).

[26] Environmental Law 149E ⚿192

149E Environmental Law
149EV Water Pollution
149Ek187 Water Quality Standards or Plans
149Ek192 k. Daily Maximum Load and Limited Segments. Most Cited Cases
State and regional water boards' adoption and approval of a zero trash total maximum daily loads (TMDL) discharge from municipal storm drains in-

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to river did not fail to comply with requisite scientific analysis under Clean Water Act; project evaluated trash loading at two drainage basins, and trash TMDL relied on several studies to conclude that urban runoff was the dominant source of trash. Clean Water Act, § 303, 33 U.S.C.A. § 1313.

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McCONNELL, P.J.

*1401 This case concerns the serious environmental problem of litter discharged from municipal storm drains into the Los Angeles River, and efforts of the California Regional Water Quality Control Board, Los Angeles Region (Regional Board) and the State Water Resources Control Board (State Board) [FN1] to ameliorate the problem through the adoption and approval of a planning document setting a target of zero trash discharge within a multi-year implementation period.

FN1. We refer to these entities together as the Water Boards.

The Water Boards appeal a judgment partially granting a petition for writ of mandate brought by the City of Arcadia and 21 other cities (Cities), [FN2] who *1402 agree trash pollution must be remedied but oppose the target of zero trash as unattainable and inordinately expensive. The Water Boards challenge the court's findings that an assimilative capacity study is a required element of its action; a cost-benefit analysis and consideration of economic factors are required under state law and are not met; the zero trash target is inapplicable to the Los Angeles River Estuary (Estuary) because it does not appear on the state's list of impaired waters; and, the Water Boards failed to comply with the California Environmental Quality Act (CEQA) by not preparing an Environmental Impact report (EIR) or its functional equivalent.

FN2. In addition to Arcadia the Cities include Baldwin Park, Bellflower, Cerritos, Commerce, Diamond Bar, Downey, Irwindale, Lawndale, Monrovia, Montebello, Monterey Park, Pico Rivera, Rosemead, San Gabriel, Santa Fe Springs, Sierra Madre, Signal Hill, South Pasadena, Vernon, West Covina and Whittier.

The Water Boards also contend the court erred by granting the Cities declaratory relief on their claim the Trash total maximum daily load (TMDL) does not apply to "nonwaters," meaning areas that do not drain into navigable waters such as the Los Angeles River or tributaries, as the parties agreed during this proceeding that the trash TMDL applies only to navigable waters.

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The Cities also appeal, contending the trial court erred by not invalidating the Trash TMDL on the additional grounds the Water Boards failed to provide for deemed compliance with the target of zero trash through certain methods; failed to implement load allocations for nonpoint sources of trash pollution; failed to adhere to the data collection and analysis required by federal and state law; relied on nonexistent, illegal and irrational uses to be made of the Los Angeles River; and, violated the Administrative Procedures Act (APA).

We conclude the Cities' appeal lacks merit. As to the Water Boards' appeal, we conclude the court properly invalidated the planning document on the ground of noncompliance with CEQA, and we affirm the judgment insofar as it is based on that ground. We reverse the judgment to the extent it is based on other grounds. Further, we hold the court erred by granting declaratory relief on the nonwaters issue as there was no controversy when the court ruled.

**379 BACKGROUND INFORMATION

I

Statutory and Regulatory Scheme

The "quality of our nation's waters is governed by a 'complex statutory and regulatory scheme ... that implicates both federal and state administrative responsibilities.' " *1403(*City of Burbank v. State Water Resources Control Bd.* 2005) 35 Cal.4th 613, 619, 26 Cal.Rptr.3d 304, 108 P.3d 862 (*City of Burbank*).) An overview of applicable law is required to place the facts here in context.

A

Federal Law

In 1972 Congress enacted amendments to the Federal Water Pollution Control Act (Pub.L. No. 92-500 (Oct. 18, 1972) 86 Stat. 816; 33 U.S.C. § 1251 et seq.), which, as amended in 1977, is commonly known as the Clean Water Act. (*City of Burbank, supra,* 35 Cal.4th at pp. 619-620, 26 Cal.Rptr.3d 304, 108 P.3d 862.) Its stated goal is "to restore and maintain the chemical, physical and biological integrity of the Nation's waters" by eliminating the discharge of pollutants into navigable waters. (33 U.S.C. § 1251(a).)

The Clean Water Act places "primary reliance for developing water quality standards on the states." (*Scott v. Hammond* (7th Cir.1984) 741 F.2d 992, 994.) It requires each state to develop such standards and review them at least once every three years for required modifications. (33 U.S.C. § 1313(a), (c)(1).) The standards must include designated uses such as recreation, navigation or the propagation of fish, shellfish and wildlife; water quality criteria sufficient to protect the designated uses; and an antidegradation policy. (40 C.F.R. §§ 131.6, 131.10-131.12 (2003).) The water quality criteria "can be expressed in narrative form or in a numeric form, e.g., specific pollutant concentrations." (*Florida Public Interest Research Group Citizen Lobby, Inc. v. EPA* (11th Cir.2004) 386 F.3d 1070, 1073.) "Narrative criteria are broad statements of desirable water quality goals in a water quality plan. For example, 'no toxic pollutants in toxic amounts' would be a narrative description." (*City of Burbank, supra,* 35 Cal.4th at p. 622, fn. 4, 26 Cal.Rptr.3d 304, 108 P.3d 862.)

The Clean Water Act focuses on two possible sources of pollution: point sources and nonpoint sources. "Point source" means "any discernable, confined and discrete conveyance" such as a pipe, ditch, channel, tunnel, or conduit. (33 U.S.C. § 1362(14).) The Clean Water Act does not define nonpoint source pollution, but it has been described as " ' "nothing more [than] a [water] pollution problem not involving a discharge from a point source." ' " (*Defenders of Wildlife v. EPA* (10th

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Cir.2005) 415 F.3d 1121, 1123-1124.) [FN3]

> FN3. According to the Environmental Protection Act (EPA), nonpoint source pollution is caused by rainfall or snowmelt moving over and through the ground, and includes excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas; oil, grease and toxic chemicals from urban runoff and energy production; sediment from improperly managed construction sites, crop and forest land, and eroding stream banks; salt from irrigation practices and acid drainage from abandoned mines; and bacteria and nutrients from livestock, pet wastes and faulty septic systems. (http:// www. epa. gov/ owow/ nps/ qa. html.)

*1404 "Congress dealt with the problem of point source pollution using the National Pollution Discharge Elimination System [NPDES] permit process. Under this approach, compliance rests on technology-**380 based controls that limit the discharge of pollution from any point source into certain waters unless that discharge complies with the [Clean Water] Act's specific requirements." (*San Francisco BayKeeper v. Whitman* (2002) 297 F.3d 877, 880; 33 U.S.C. § 1311(b)(1)(A).) " 'Nonpoint sources, because of their very nature, are not regulated under the NPDES [program]. Instead, Congress addressed nonpoint sources of pollution in a separate portion of the [Clean Water] Act which encourages states to develop areawide waste treatment management plans.' " (*Pronsolino v. Marcus* (N.D.Cal.2000) 91 F.Supp.2d 1337, 1348, citing 33 U.S.C. § 1288; see also 33 U.S.C. § 1329.)

"When the NPDES system fails to adequately clean up certain rivers, streams or smaller water segments, the [Clean Water] Act requires use of a water-quality based approach. States are required to identify such waters ... [and] rank [them] in order of priority, and based on that ranking, calculate levels of permissible pollution called 'total maximum daily loads' or 'TMDLs.' " (*San Francisco BayKeeper v. Whitman, supra,* 297 F.3d at p. 880; 33 U.S.C. § 1313(d)(1)(A); 40 C.F.R. § 130.7(b) (2003).) "This list of substandard waters is known as the '303(d) list' (section 303 of the Clean Water Act having been codified as [title 33 United States Code] section 1313)." (*City of Arcadia v. EPA* (9th Cir.2005) 411 F.3d 1103, 1105 (*City of Arcadia II*).)

"A TMDL defines the specified maximum amount of a pollutant which can be discharged or 'loaded' into the waters at issue from all combined sources." (*Dioxin/Organochlorine Center v. Clarke* (9th Cir.1995) 57 F.3d 1517, 1520.) "A TMDL must be 'established at a level necessary to implement the applicable water quality standards....' [Citation.] A TMDL assigns a *waste load allocation* ... to each point source, which is that portion of the TMDL's total pollutant load, which is allocated to a point source for which an NPDES permit is required. [Citation.] Once a TMDL is developed, effluent limitations in NPDES permits must be consistent with the [waste load allocations] in the TMDL." (*Communities for a Better Environment v. State Water Resources Control Bd.* (2003) 109 Cal.App.4th 1089, 1095-1096, 1 Cal.Rptr.3d 76; *Dioxin/Organochlorine Center v. Clarke,* at p. 1520.) [FN4] A TMDL requires a *1405 "margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality." (33 U.S.C. § 1313(d)(1)(C).)

> FN4. The Clean Water Act "does not define total maximum daily load. EPA's regulations break it into a 'waste[ ]load allocation' for point sources and a 'load allocation' for nonpoint sources." (*Pronsolino v. Marcus, supra,* 91 F.Supp.2d at p. 1344, fn. 8; 40 C.F.R. § 130.2(g)-(i) (2005).)

The EPA may allow states to adopt and administer NPDES permit programs (*Pronsolino v. Marcus, supra,* 91 F.Supp.2d at p. 1347, fn. 10), and it has authorized California to administer such a program.

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(54 Fed.Reg. 40664 (Oct. 3, 1989).)

B

State Law

California implements the Clean Water Act through the Porter-Cologne Act (Wat.Code, § 13000 et seq.), which was promulgated in 1969. Under the Porter-Cologne Act, nine regional boards regulate the quality of waters within their regions under the purview of the State Board. (Wat.Code, §§ 13000, 13100, 13200, 13241, 13242.)

****381** Regional boards must formulate and adopt water quality control plans, commonly called basin plans, which designate the beneficial uses to be protected, water quality objectives and a program to meet the objectives. (Wat.Code, §§ 13050, subd. (j), 13240.) " 'Water quality objectives' means the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area." (*Id.*, § 13050, subd. (h).)

The EPA must approve or disapprove a state's TMDL within 30 days of its submission. (33 U.S.C. § 1313(d)(2).) If the EPA disapproves a state's submission, it must establish its own TMDL within 30 days of the disapproval. (*Ibid.*)

II

Trash TMDL

The Los Angeles River is a 51-mile flood control channel, largely concrete-lined, which runs through the City of Los Angeles and surrounding municipalities in Los Angeles County and terminates at the Pacific Ocean. In 1990 the Regional Board issued an NPDES storm water permit to the Los Angeles County Department of Public Works as the principal permittee and 84 cities as copermittees, to address various chemical pollutants discharged into the region's water bodies (Municipal NPDES Permit).

***1406** In 1994 the Regional Board adopted a revised water quality control plan, or basin plan (1994 Basin Plan), which includes narrative water quality objectives. It provides that "[w]aters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses," and "[w]aters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses." (Italics omitted.) Beneficial uses of the Los Angeles River and surrounds include wildlife and marine habitat, including habitat for endangered species, and recreational activities such as fishing, walking, hiking, jogging, bicycling, horseback riding, bird watching and photography.

In 1996 and 1998 the Regional Board identified certain reaches of the Los Angeles River on the state's "303(d) list" as being impaired by trash, primarily through storm water runoff in thousands of municipal storm drains. [FN5] On September 19, 2001, the Regional Board adopted a resolution to amend its 1994 Basin Plan to incorporate a TMDL for trash in the Los Angeles River (Trash TMDL). Despite many objections from affected municipalities, the Trash TMDL sets a numeric target of zero trash as "even a single piece of trash can be detrimental, and no level of trash is acceptable in waters of the state." [FN6] "The numeric target is staff's interpretation of the narrative water quality objective [in ****382** the 1994 Basin Plan], including an implicit margin of safety."

FN5. The Regional Board defines "trash" as "man-made litter" within the meaning of Government Code section 68055.1, subdivision (g), which provides: " 'Litter' means all improperly discarded waste material, including, but not limited to, con-

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> venience food, beverage, and other produce packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing."
>
> FN6. The Regional Board adopted a Trash TMDL in January 2001, which also had a target of zero trash. It reconsidered the matter on September 19, 2001, "to provide clarifying language and greater flexibility in implementing the [Trash] TMDL."

The reduction of trash is to be phased over a 14-year period, including an optional two-year baseline monitoring period. In lieu of baseline monitoring, cities may accept a default baseline allocation of "640 gallons of uncompressed trash per square mile per year," a value based on data the City of Calabasas provided. The Trash TMDL provides for a "review of the current target [of zero trash] ... once a reduction of 50% has been achieved and sustained," "based on the findings of future studies regarding the threshold levels needed for protecting beneficial uses."

Under the Trash TMDL, cities may use a variety of compliance methods, including "[e]nd-of-pipe full capture structural controls," "partial capture *1407 control systems" and "[i]nstitutional controls." Cities using a full-capture system meeting certain criteria will be deemed in compliance with the zero target if the systems are properly maintained and maintenance records are available for the Regional Board's inspection.

On December 21, 2001, the Regional Board issued an order under Water Code section 13267 to the County of Los Angeles and copermittees under the Municipal NPDES Permit to submit baseline monitoring plans by February 1, 2002, and to monitor trash in the Los Angeles River between January 2002 and December 2003, with a final report due February 2004.[FN7] The Regional Board intends to use resulting data to "refine" the default baseline waste load allocations in the Trash TMDL.

> FN7. In *City of Arcadia v. EPA* (N.D.Cal.2003) 265 F.Supp.2d 1142, 1156 (*City of Arcadia I*), the court noted the Los Angeles County Department of Public Works has assumed responsibility for the baseline monitoring burden for all municipalities to which the Trash TMDL applies. The Trash TMDL states that "[e]ach of the permittees and co-permittees are responsible for monitoring land uses within their jurisdiction," but "monitoring responsibilities may be delegated to a third-party monitoring entity such as the [Department of Public Works]."

In February and July 2002, the State Board and the Office of Administrative Law, respectively, approved the Trash TMDL. In August 2002 the EPA approved it and announced it supersedes an interim TMDL for trash the EPA adopted in March 2002 as a result of a consent decree in litigation between environmental groups and the EPA. (*City of Arcadia I, supra,* 265 F.Supp.2d 1142, 1147.)[FN8]

> FN8. In *City of Arcadia I, supra,* 265 F.Supp.2d at page 1153, the City of Arcadia and other cities unsuccessfully challenged the EPA's approval of the Trash TMDL on the ground it was unauthorized to do so after adopting its own TMDL. In *City of Arcadia II, supra,* 411 F.3d at pages 1106-1107, the court affirmed the lower court's dismissal of the case.

III

Procedural History

The Cities are within the Regional Board's jurisdic-

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tion and are permittees under the 2001 Municipal NPDES Permit. In July 2002 the Cities filed a petition for writ of mandate and complaint for declaratory and injunctive relief against the Water Boards. They filed the action in the Los Angeles County Superior Court, but the parties stipulated to its transfer to the San Diego County Superior Court.

The second amended petition alleges numerous grounds on which the Trash TMDL violates the Clean Water Act or the Porter-Cologne Act, and the court adjudicated some issues in favor of each party. It found the ***1408** Water Boards improperly (1) failed to conduct an analysis of the Los Angeles River's assimilative capacity; (2) failed to conduct a cost-benefit analysis or ****383** consider economic factors under Water Code sections 13267 and 13241; (3) purported to apply the Trash TMDL to the Estuary even though it is not listed on the state's 1998 303(d) list as impaired; and (4) failed to prepare a required EIR or its functional equivalent under CEQA. The court issued a writ of mandate commanding the Water Boards to set aside the amendment to the 1994 Basin Plan and the Trash TMDL to the extent it was based on the above findings and to not take any further steps to implement it. The court denied the Water Boards' motion to vacate the judgment or grant a new trial, and judgment was entered on December 24, 2003.

The Cities later moved for an order that the prohibitory terms of the writ of mandate and judgment not be stayed on appeal. (Code Civ. Proc., § 1110b.) The court granted the motion, and further ordered that "to preserve the status quo and prevent injustice to [the Cities], the ... implementation schedule and compliance dates, and all milestones contained in the [Trash TMDL] shall be tolled effective December 24, 2003, through and until a final determination has been rendered on the pending appeal." The Water Boards appealed that order, and in accordance with the parties' stipulation we consolidated it with the other appeals.

DISCUSSION

WATER BOARDS' APPEAL

I

Standard of Review

[1][2] The Water Boards contend a deferential standard of review applies to our review of their action under Code of Civil Procedure section 1085, and the Cities claim an independent standard applies under Code of Civil Procedure section 1094.5. Code of Civil Procedure section 1094.5, the administrative mandamus statute, applies when "the writ is issued for the purpose of inquiring into the validity of any final administrative order or decision made as the result of a proceeding in which by law a hearing is required to be given, evidence is required to be taken, and discretion in the determination of facts is vested in the inferior tribunal." (Code Civ. Proc., § 1094.5, subd. (a).) "Acts of an administrative agency that are quasi-legislative in nature, e.g., establishment of regulations to carry out a statutory policy or direction, are not reviewable by administrative mandamus." (8 Witkin, Cal. Procedure (4th ed. 1997) Extraordinary Writs, § 268, pp. 1067-1068.) Rather, review of a quasi-legislative action is limited to traditional mandamus. (*Id.* at p. 1068.)

[3][4] ***1409** The trial court correctly found this proceeding is for traditional mandamus because the Regional Board's adoption and the State Water Board's approval of the Trash TMDL was quasi-legislative. Under Code of Civil Procedure section 1085, " ' "review is limited to an inquiry into whether the action was arbitrary, capricious or entirely lacking in evidentiary support," ' ... [and][t]he petitioner has the burden of proof to show that the decision is unreasonable or invalid as a matter of law. [Citation.] We review the record de novo except where the trial court made foundational factual findings, which are binding on appeal if supported by substantial evidence." (*Citizens for Improved Sorrento Access, Inc. v. City of San*

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Diego (2004) 118 Cal.App.4th 808, 814, 13 Cal.Rptr.3d 259.)

The Cities' reliance on Water Code section 13330 is misplaced. It provides that "[a]ny party aggrieved by a final decision or order of a regional board *for which the state board denies review* may obtain review of the decision or order of the regional****384** board in the superior court (*id.,* § 13330, subd. (b), italics added), and "[e]xcept as otherwise provided herein, Section 1094.5 of the Code of Civil Procedure shall govern proceedings for which petitions are filed pursuant to this section" (*id.,* § 13330, subd. (d)). Given the language italicized above, Water Code section 13330 necessarily applies to an administrative appeal of a quasi-judicial action under Code of Civil Procedure section 1094.5. Here, an appeal to the State Board was unnecessary because the Trash TMDL was ineffective without its approval. (Wat.Code, § 13245.) Indeed, the State Board notified the Cities in March 2001 that it "lacks statutory authority to accept petitions for review of water quality control plan (basin plan) amendments adopted" by regional boards.

[5][6] As to CEQA issues, the parties agree an abuse of discretion standard applies. (*Federation of Hillside & Canyon Assns. v. City of Los Angeles* (2004) 126 Cal.App.4th 1180, 1199, 24 Cal.Rptr.3d 543.) Abuse of discretion "is established if the agency has not proceeded in a manner required by law or if the determination or decision is not supported by substantial evidence." (Pub. Resources Code, § 21168.5.) "Our task on appeal is 'the same as the trial court's.' [Citation.] Thus, we conduct our review independent of the trial court's findings." (*Quail Botanical Gardens Foundation, Inc. v. City of Encinitas* (1994) 29 Cal.App.4th 1597, 1602, fn. 3, 35 Cal.Rptr.2d 470.)

II

Assimilative Capacity Study

The trial court invalidated the Trash TMDL based in part on the Cities' argument an "assimilative capacity study" is a required element of a TMDL and none was performed here. In its statement of decision, the court ***1410** explained "[i]t is unreasonable to conclude that the beneficial uses of the [Los Angeles] River could not be maintained with some 'target' other than zero. Of course, it is possible the River would not support a greater target, however, without a study it is yet undetermined."

[7] The Water Boards contend the trial court erred by substituting its own judgment for that of the Water Boards on the issue of whether the adoption of the Trash TMDL should have been preceded by a scientific study of the assimilative capacity of the Los Angeles River. They assert the matter was best suited for their determination rather than the court's and the evidence adequately supports their decision. We agree with the Water Boards.

During the notice and comment period, the Regional Board received numerous complaints that a zero Trash TMDL is infeasible, or at least unwarranted without a scientific assimilative capacity study, or load capacity study, showing a zero limit is the only means of protecting beneficial uses. For instance, the City of Los Angeles worried that "[i]f there's one gum wrapper in the [Los Angeles] River, you can get sued."

The Regional Board responded to one complaint as follows: "For more typical pollutants, the loading parameters are flow and pollutant concentration. For this pollutant [trash], flow does not serve to dilute the pollutant, but merely serves as a transport mechanism. Therefore, the typical loading calculation does not apply to trash." The Regional Board took the position that since littering is unlawful, a target of zero trash in the Los Angeles River is the only defensible position. It also explained that its staff "found no study to document that there is an acceptable level of trash that will cause no harm to aquatic life," and absent such a study it was compelled to adopt a zero target.

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**385 At a Regional Board hearing, Dr. Mark Gold, executive director of Heal the Bay, testified he was unaware of any assimilative capacity study having been performed anywhere on trash. He explained, "Basically it's a physical object. It's trash. It's not something that breaks down and becomes part of the environment in many, many cases. And so honestly, it probably won't reach any sort of threshold of being a scientific study of any value."

At a State Board hearing Dave Smith, an EPA team leader working with the Regional Board on the trash issue, testified "it would be difficult to design [an assimilative capacity] study and come up with firm answers." He also explained that both the Regional Board and the State Board "have conducted pretty diligent efforts to find research studies, reports, that look at the affects of trash on the aquatic environment," and neither they nor the EPA could find any literature to support a target of more than zero trash.

*1411 Alex Helperin, of the Natural Resources Defense Council, testified at a Regional Board hearing that "[e]ven small quantities [of trash] can maim and kill wildlife, [which] becomes entangled in it or ingest[s] it. [Trash] [c]an obstruct and repel boaters and contract recreators and compromise the aesthetic quality that's essential to the recognized aspect of non-contact recreation beneficial use for the Los Angeles River."

The administrative record includes numerous photographs of copious amounts of trash deposited in the Los Angeles River watershed through storm water drains. Dennis Dickerson, the Executive Officer of the Regional Board, testified he took photographs of trash in the Long Beach area shortly after storms, and among them are photographs of "water birds foraging among the trash." One photograph is of a bird with a cigarette butt in its mouth and another is of a fish trapped in a plastic six-ring can holder.

In arguing an assimilative capacity study is required *before* adopting a TMDL, the Cities rely principally on an EPA document issued January 7, 2000, entitled "Guidance for Developing TMDLs in California" (2000 EPA Guidance). It states: "The TMDL document must describe the relationship between numeric target(s) and identified pollutant sources, and estimate total assimilative capacity (loading capacity) of the water[ ]body for the pollutant of concern.... [¶] The loading capacity is the critical quantitative link between the applicable water quality standards (as interpreted through numeric targets) and the TMDL. Thus, a maximum allowable pollutant load must be estimated to address the site-specific nature of the impairment.... [¶] The loading capacity section must discuss the methods and data used to estimate loading capacity. A range of methods can be used...." (Emphasis omitted.)

The 2000 EPA Guidance, however, contains the following disclaimer: "[I]t does not impose legally-binding requirements on the EPA, the State of California, or the regulated community, and may not apply to a particular situation based upon the circumstances. EPA and State decision makers retain the discretion to adopt approaches on a case-by-case basis that differ from this guidance where appropriate and consistent with the requirements of section 303(d) [of the Clean Water Act] and EPA's regulations."

Smith, of the EPA, testified at a Regional Board hearing that he wrote the 2000 EPA Guidance and the Trash TMDL "fully complies with the Clean Water Act, its regulations and [the 2000 EPA Guidance]." Smith explained the "TMDL process specifically contemplates making decisions under uncertainty," and "[i]t does so by providing that a margin of safety has to be **386 incorporated in every TMDL to account for the uncertainty in the analysis." Smith said states are required "to move forward to make TMDL decisions *1412 based on available information and data, not to wait again and again and again for better information to come forward." Generally, " 'considerable weight should be accorded to an executive department's construction of a statutory scheme it is entrusted to adminis-

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ter.' " (*United States v. Mead Corp.* (2001) 533 U.S. 218, 227-228, 121 S.Ct. 2164, 150 L.Ed.2d 292.)

In *Natural Resources Defense Council v. Muszynski* (2d Cir.2001) 268 F.3d 91 (*Muszynski*), the plaintiff asked the court to invalidate a TMDL that the EPA had approved to control phosphorus pollution in drinking water, on the ground a margin of safety of only 10 percent was insufficient to account for uncertainty regarding the effects of phosphorus on water quality. The plaintiff argued "that no scientific or mathematical basis prescribed this percentage as opposed to any other." (*Id.* at p. 102.) The EPA countered that "because 'there is no "standard" or guideline for choosing a specific margin of safety, best professional judgment and the available information are used in setting [it].' " (*Ibid.*) The *Muszynski* court agreed with the EPA, explaining: "While the [margin of safety] may ... be set with an uncomfortable degree of discretion, requiring that EPA [or authorized regional board] show a rigorous scientific methodology *dictates one course of action as opposed to another and would effectively prevent the agency from acting in situations where action is required in the face of a clear public health or environmental danger but the magnitude of that danger cannot be effectively quantified.* '[A]s long as Congress delegates power to an agency to regulate on the borders of the unknown, courts cannot interfere with reasonable interpretations of equivocal evidence.' [Citation.] ... [S]imply to reject EPA's efforts to implement the [Clean Water Act] because it must respond to real water quality problems without the guidance of a rigorously precise methodology would essentially nullify the exercise of agency discretion in the form of 'best professional judgment.' " (*Muszynski, supra,* 268 F.3d at pp. 102-103, italics added.)

Further, in *Muszynski, supra,* 268 F.3d 91, 103, the court noted "that approval of the Phase I [margin of safety] was based, in part, on the limited information available. The EPA approval contemplates revision of the [margin of safety] as more information becomes available: 'As additional reservoir data and loading data become available, Phase I model assumptions are being reexamined under Phase II.' "

We conclude federal law does not require the Regional Board to conduct an assimilative capacity study before adopting the Trash TMDL. Moreover, the evidence amply shows that because of the nature of trash, including Styrofoam containers and other materials that are undiluted by water, in contrast to chemical pollutants, and the dangers to wildlife of even small amounts of trash, an assimilative capacity study would be difficult to conduct and of little value at the outset. For instance, given the ill effects of trash in a ***1413** water body it is unlikely such a study would determine the Los Angeles River may be loaded with a certain percentage of trash without affecting beneficial uses, particularly since a TMDL must include a margin of safety that "takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality." (33 U.S.C. § 1313(d)(1)(C).) In any event, the Trash TMDL requires the Regional Board to reconsider the zero trash target after a 50 percent reduction of trash is achieved, and no party suggests a trash reduction of at least 50 percent is unwarranted or unattainable. Because of ****387** this escape hatch, compliance with a zero trash target may never actually be mandated. The Water Boards' decision not to conduct or require an assimilative capacity study is within their expertise, not the court's, and we defer to them on the issue.

III

Cost-Benefit Analysis and Economic Considerations

[8] The Water Boards next contend the court erred by finding the Trash TMDL is invalid because they violated state law by not conducting a cost-benefit analysis (Wat.Code, § 13267) or considering eco-

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nomic factors (*id.* at § 13241) before adopting and approving it.

A

Water Code Section 13267

A regional board is authorized to investigate the quality of waters in its region (Wat.Code, § 13267, subd. (a)), and when it requires a polluter to furnish "technical or monitoring program reports," the "burden, including costs, of these reports shall bear a reasonable relationship to the need for the report[s] and the benefits to be obtained from the reports." (Wat.Code, § 13267, subd. (b)(1).) The court found the Regional Board adopted the Trash TMDL under the authority of Water Code section 13267, as the document mentions the statute several times and "expressly requires monitoring plans and submission of data to establish baselines for trash discharges."

The Water Boards persuasively contend Water Code section 13267 is inapplicable, and references to that statute in the Trash TMDL are to contemplated future orders. For instance, the Trash TMDL states "[b]aseline monitoring will be required via [Water Code] Section 13267," and the submission of baseline monitoring plans will be due "30 days after receipt of the Executive Officer's request as authorized by [Water Code] Section 13267." *1414 It also states that "future storm water permits will be modified to incorporate the Waste Load Allocations and to address monitoring and implementation of this [Trash] TMDL."

Further, the Trash TMDL states "the permittee [under the Municipal NPDES permit] will submit a monitoring plan with the proposed monitoring sites and at least two alternative monitoring locations for each site. The plan must include maps of the drainage and storm drain data for each proposed and alternate monitoring location. The monitoring plan(s) will be submitted to the Regional Board within 30 days after receipt of the Executive Officer's letter requesting such a plan. Such a request is authorized pursuant to [Water Code] [s]ection 13267.... The Regional Board's Executive Officer will have full authority to review the monitoring plan(s), to modify the plan, to select among the alternate monitoring sites, and to approve or disapprove the plan(s)."

Additionally, the Water Boards submit that the December 21, 2001, order the Regional Board issued under Water Code section 13267 to the County of Los Angeles and copermittees under the Municipal NPDES permit regarding baseline monitoring and reporting would have been "useless and unnecessary" had the Trash TMDL itself required monitoring and reporting, and since there was no appeal of the December 21 order to the State Board within 30 days (Wat.Code, § 13320, subd. (a)) the cost-benefit analysis issue is not subject to appellate review. We note that the December 21 order, but not the Trash TMDL, warns that under Water Code section 13268 the "failure to conduct the required monitoring and/or to provide the required information in a timely manner **388 may result in civil liability imposed by the Regional Board in an amount not to exceed ... $1000."

[9][10] "Our primary aim in construing any law is to determine the legislative intent. [Citation.] In doing so we look first to the words of the statute, giving them their usual and ordinary meaning." (*Committee of Seven Thousand v. Superior Court* (1988) 45 Cal.3d 491, 501, 247 Cal.Rptr. 362, 754 P.2d 708.) We agree that by its plain terms Water Code section 13267 is inapplicable at the TMDL stage, and thus the court erred by invalidating the Trash TMDL on this ground. The monitoring and reports are required by the December 21, 2001 order, not the Trash TMDL, and the reduction of trash will be implemented by other NPDES permits. "TMDLs are primarily informational tools that allow the states to proceed from the identification of waters requiring additional planning to the required plans." (*Pronsolino v. Nastri* (9th Cir.2002) 291 F.3d 1123, 1129.) "A TMDL does not, by itself, prohibit any

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conduct or require any actions. Instead, each TMDL represents a goal that may be implemented by adjusting pollutant discharge requirements in individual NPDES permits or establishing nonpoint source ***1415** controls." (*City of Arcadia I, supra,* 265 F.Supp.2d at p. 1144.) A "TMDL forms the basis for further administrative actions that may require or prohibit conduct with respect to particularized pollutant discharges and water[ ]bodies." (*Id.* at p. 1145.)

B

Water Code Section 13241

[11] Water Code section 13241 provides that "[e]ach regional board shall establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance." In establishing water quality objectives a regional board is required to consider several factors, including "[e]conomic considerations." (Wat.Code, § 13241, subd. (d).)

The Water Boards contend Water Code section 13241 is inapplicable because the Trash TMDL does not establish water quality objectives, but merely implements, under Water Code section 13242, the existing narrative water quality objectives in the 1994 Basin Plan. It provides that waters shall not contain floating materials, including solids, or suspended or settleable materials in concentrations that adversely affect beneficial uses. The Cities counter that the Trash TMDL effectively establishes new water quality objectives, because when the 1994 Basin Plan was adopted a TMDL for trash was not contemplated and thus economic considerations of such a TMDL were not considered. Further, the Trash TMDL imposes for the first time a numeric limit for trash and significantly increases the costs of compliance.

We need not, however, decide whether the Trash TMDL adopts new or revised water quality objectives within the meaning of Water Code section 13241, because even if the statute is applicable, the Water Boards sufficiently complied with it.[FN9] Water Code section 13241, subdivision (d) does not define "economic considerations" or specify a particular manner of compliance, and thus, as the Water Boards assert, the matter is within a regional ****389** board's discretion. It appears there is no reported opinion analyzing the "economic considerations" phrase of this statute. In *City of Burbank, supra,* 35 Cal.4th at page 625, 26 Cal.Rptr.3d 304, 108 P.3d 862, the court, without discussion, concluded that in adopting Water Code section 13241 the Legislature intended "that a regional board consider the *cost of compliance* [with numeric pollutant restrictions] when setting effluent limitations in a wastewater discharge permit." (Italics added.)

> FN9. For the same reason, we are not required to reach the Water Boards' assertion that to any extent the California Supreme Court's recent opinion in *City of Burbank, supra,* 35 Cal.4th 613, 26 Cal.Rptr.3d 304, 108 P.3d 862, applies to a TMDL, it precludes them from considering economic factors in establishing the Trash TMDL.

***1416** The Trash TMDL discusses the costs of gathering and disposing of trash at the mouth of the Los Angeles River watershed during the rainy seasons between 1995 and 1999. It also states: "Cleaning up the river, its tributaries and the beaches is a costly endeavor. The Los Angeles County Department of Public Works contracts out the cleaning of over 75,000 catchments (catch basins) for a total cost of slightly over $1 million per year, billed to 42 municipalities.... [¶] Over 4,000 tons of trash are collected from Los Angeles County beaches annually, at a cost of $3.6 million to Santa Monica Bay communities in fiscal years 1988-1989 alone. In 1994 the annual cost to clean the 31 miles of beaches (19 beaches) along Los Angeles County was $4,157,388."

The Trash TMDL also discusses the costs of vari-

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ous types of compliance measures, and explains the "cost of implementing this TMDL will range widely, depending on the method that the Permittees select to meet the Waste Load Allocations. Arguably, enforcement of existing litter ordinances could be used to achieve the final Waste Load Allocations at minimal or no additional cost. The most costly approach in the short-term is the installation of full-capture structural treatment devices on all discharges into the river. However, in the long term this approach would result in lower labor costs and may be less expensive than some other approaches."

The Trash TMDL defines catch basin inserts as "the least expensive structural treatment device in the short term," at a cost of approximately $800 each. It cautions, however, that because catch basin inserts "are not a full capture method, they must be monitored frequently and must be used in conjunction with frequent street sweeping." The Trash TMDL estimates that if the approximately 150,000 catch basins throughout the watershed were retrofitted with inserts, capital costs would be $120 million over 10 years, maintenance and operation costs would be $330 million over 10 years, and maintenance and operation costs after full implementation would be $60 million per year.

Further, the Trash TMDL discusses the full capture vortex separation system (VSS), which "diverts the incoming flow of storm[ ]water and pollutants into a pollutant separation and containment chamber. Solids within the separation chamber are kept in continuous motion, and are prevented from blocking the screen so that water can pass through the screen and flow downstream. This is a permanent device that can be retrofitted for oil separation as well. Studies have shown that VSS [units] remove virtually all of the trash contained in treated water. The cost of installing a VSS is assumed to be high, so limited funds will place a cap on the number of units which can be installed during any single fiscal year."

*1417 The Trash TMDL estimates the retrofitting of the entire Los Angeles River watershed with low capacity VSS units would be $945 million in capital costs and $813 million in operation and maintenance costs over 10 years, and $148 million in annual operation and maintenance costs after full implementation. The installation of large capacity VSS units would run **390 approximately $332 million in capital costs and $41 million in operation and maintenance costs over 10 years, and $7.4 million per year in operation and maintenance costs after full implementation. The yearly cost of servicing one VSS unit is estimated to be $2,000. The Trash TMDL explains that "outfitting a large drainage with a number of large VSS [units] may be less costly than using a larger number of small VSS [units]. Maintenance costs decrease dramatically as the size of the system increases." The Trash TMDL also contains a cost comparison of catch basin inserts and low capacity and large capacity VSS units.

Additionally, the Trash TMDL estimates the costs for end-of-pipe nets at between $10,000 and $80,000, depending on the length of the pipe network. It explains that " '[r]elease nets' are a relatively economical way to monitor trash loads from municipal drainage systems. However, in general they can only be used to monitor or intercept trash at the end of a pipe and are considered to be partial capture systems, as nets are usually sized at a 1/2" to 1" mesh."

The Cities assert that "a 'consideration' of economics should have included a discussion of the economic *impacts* associated with the vortex separation systems. Alternatively, the Water Boards could have analyzed other methods of compliance, such as a series of [best management practices], including increased street sweeping, catch basin inserts, release nets, or some other combination of [best management practices] that should have been evaluated for purposes of allowing the municipalities to be in deemed compliance with the zero [Trash] TMDL." (Italics added.) As stated, though, the Trash TMDL does include the estimated costs of

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several types of compliance methods and a cost comparison of capital costs and costs of operation and maintenance. The Cities cite no authority for the proposition that a consideration of economic factors under Water Code section 13241 must include an analysis of every conceivable compliance method or combinations thereof or the fiscal impacts on permittees.

Given the lack of any definition for "economic considerations" as used in Water Code section 13241, and our deference to the Water Boards' expertise, we conclude the Trash TMDL's discussion of compliance costs is adequate ***1418** and does not fulfill the arbitrary or capricious standard. Accordingly, the Trash TMDL is not invalid on this ground.[FN10]

> FN10. The Cities also assert that under federal law an economic analysis is a prerequisite to the adoption of a TMDL. They rely on 40 Code of Federal Regulations, part 130.6(c)(4), but it pertains to nonpoint sources of pollution that need not be addressed in a TMDL, as discussed further below. The portion of the regulation covering TMDLs does not mention economics (*id.*, § 130.6(c)(1)). Parts 130.6(5) and (6) of 40 Code of Federal Regulations discuss economics, but in the context of the area wide planning process under section 208(b)(2) of the Clean Water Act (33 U.S.C. § 1288(b)(2)), which is inapplicable here. According to the Water Boards, the Southern California Association of Governments is the designated area-wide planning agency.

IV

Los Angeles River Estuary

[12] Additionally, the Water Boards challenge the court's finding they abused their discretion by attempting to include the Estuary in the Trash TMDL, as the Estuary is not on the state's 1998 303(d) list of impaired waters. The Water Boards contend a water body's formal listing on the state's 303(d) list is not a prerequisite to formulating a TMDL for it. Rather, an agency may simultaneously submit to the EPA the *identification* of a ****391** water body as impaired and a corresponding TMDL.

The Clean Water Act provides: "Each state shall identify those waters within its boundaries for which the effluent limitations ... are not stringent enough to implement any water quality standards applicable to such waters. The State shall establish a priority ranking for such waters, taking into account the severity of the pollution and the uses to be made of such waters." (33 U.S.C. § 1313(d)(1)(A).) Further, it provides that "[e]ach state shall establish for the waters identified in paragraph (1)(A) of this subsection, and in accordance with the priority ranking, the total maximum daily load...." (*Id.* at § 1313(d)(1)(C).) These provisions do not prohibit a regional board from identifying a water body and establishing a TMDL for it at essentially the same time, or indicate that formal designation on a state's 303(d) list is a prerequisite to a TMDL.

Further, 33 United States Code section 1313(d)(2) provides: "Each State shall submit to the [EPA] Administrator from time to time, ... for his [or her] approval the waters identified *and* the loads established under paragraphs (1)(A) [and] ... (1)(C) ... of this subsection. The [EPA] Administrator shall either approve or disapprove such identification *and* load not later than thirty days after the date of submission." (Italics added.) This clarifies that a regional board may simultaneously identify an impaired water body and establish a TMDL for it.

***1419** In *San Francisco BayKeeper v. Whitman, supra,* 297 F.3d 877, 884-885, the court held an agency has no *duty* to submit a TMDL at the same time it identifies an impaired water body, noting the development of a TMDL "to correct the pollution is obviously a more intensive and time-consuming project than simply identifying the polluted waters,

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as the EPA has indicated." (*Id.* at p. 885.) The Water Boards assert the case does not deprive an agency from exercising its *discretion* to simultaneously submit to the EPA the identification of an impaired water body and a TMDL for it. Given the plain language of 33 United States Code section 1313(d)(2), we agree. Moreover, "[s]tates remain at the front line in combating pollution" (*City of Arcadia II, supra,* 411 F.3d at p. 1106), and "[s]o long as the [s]tate does not attempt to adopt more *lenient* pollution control measures than those already in place under the [Clean Water] Act, [it] does not prohibit state action." (*Id.* at p. 1107.)

[13] Alternatively, the Cities complain the Regional Board did not sufficiently identify the Estuary as being impaired and included in the Trash TMDL until after its adoption and approval by the State Board and Office of Administrative Law and the completion of all public hearings. On July 29, 2002, the Regional Board sent the EPA a memorandum "to provide clarification on specific aspects" of the Trash TMDL. It stated that a "TMDL was established for the reaches of the Los Angeles River, tributaries and lakes listed on the [state's] 1998 303(d) list," and "[i]n addition, a TMDL was established for the Los Angeles River [E]stuary in the City of Long Beach. As described on page 12, paragraph 2 of the [staff] report, staff found that the impairment in the [E]stuary due to trash is 'even more acute in Long Beach where debris flushed down by the upper reaches collects.' [¶] The impairment in the [E]stuary was well documented during TMDL development," and it "would have been included in the 1998 303(d) list if the attached photographic evidence had been available at the time of the listing."

The Trash TMDL lists the reaches of the Los Angeles River "that are impaired by trash, and listed on the [state's] 303(d) ****392** list." The list does not include the Estuary. The Water Boards assert that even so, it was always obvious the Estuary is impaired and included in the Trash TMDL. The Trash TMDL states it is "for the Los Angeles River Watershed," and "watershed" is defined as "a region or area bounded peripherally by a divide and draining ultimately to a particular watercourse or body of water." (Merriam-Webster's Collegiate Dict. (10th ed.1996) p. 1336.) "Estuary" is defined as "a water passage where the tide meets a river current," especially "an arm of the sea at the lower end of a river." (*Id.* at p. 397.)

The Trash TMDL describes the watershed as beginning at the "western end of the San Fernando Valley to the Queensway Bay and Pacific Ocean at Long Beach," and it also states the watershed continues from "Willow Street all ***1420** the way through the [E]stuary." An amici curiae brief by Santa Monica BayKeeper, Inc., Heal the Bay, Inc., and Natural Resources Defense Council, Inc. (collectively BayKeeper), asserts Queensway Bay is the site of the Estuary, and no party has challenged the assertion. Further, the Trash TMDL lists and discusses the beneficial uses of the Estuary, including habitat for many species of birds, some endangered, and fish. It also states beneficial uses "are impaired by large accumulations of suspended and settled debris throughout the river system," and in particular "estuarine habitat" is impaired. Further, the administrative record contains several pictures of trash deposited in the Estuary during high flows, depicting "the variety of ways through which trash ... becomes an integral part of wildlife, affecting all plant and animal communities in the process."

The Trash TMDL's identification of the Estuary as impaired could have been clearer, but we conclude it was sufficient to put all affected parties on notice, and does not meet the arbitrary-and-capricious standard. Further, although the identification of impaired water bodies requires a priority ranking (33 U.S.C. § 1313(d)(2)), and the Trash TMDL does not prioritize the Estuary's need for a TMDL, we agree with amici BayKeeper that any error in the Water Boards' procedure was not prejudicial because the Trash TMDL shows amelioration of the trash problem in the entire Los Angeles River wa-

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tershed is highly important, and it is unlikely the Water Boards would single out the Estuary for lower priority or that inclusion of the Estuary would disturb their existing priorities.

V

CEQA

[14] The Water Boards challenge the sufficiency of the evidence to support the trial court's finding that the amendment adding the Trash TMDL to the 1994 Basin Plan does not comport with CEQA. The court found the Regional Board's environmental checklist was deficient and there is sufficient evidence of a fair argument that the project may have a significant effect on the environment, thus necessitating an EIR or its functional equivalent. We conclude the court was correct.

A

General Legal Principles

"CEQA compels government first to identify the environmental effects of projects, and then to mitigate those adverse effects through the ***1421** imposition of feasible mitigation measures or through the selection of feasible alternatives." (*Sierra Club v. State Bd. of Forestry* (1994) 7 Cal.4th 1215, 1233, 32 Cal.Rptr.2d 19, 876 P.2d 505.) CEQA mandates that public agencies refrain from approving projects with significant environmental effects if ****393** there are feasible alternatives or mitigation measures that can substantially lessen or avoid those effects. (*Mountain Lion Foundation v. Fish & Game Com.* (1997) 16 Cal.4th 105, 134, 65 Cal.Rptr.2d 580, 939 P.2d 1280.)

[15][16][17] CEQA is implemented through initial studies, negative declarations and EIR's. (*Sierra Club v. State Bd. of Forestry, supra,* 7 Cal.4th at p. 1229, 32 Cal.Rptr.2d 19, 876 P.2d 505.) "CEQA requires a governmental agency [to] prepare an [EIR] whenever it considers approval of a proposed project that *'may* have a *significant* effect on the environment.' " (*Quail Botanical Gardens Foundation, Inc. v. City of Encinitas, supra,* 29 Cal.App.4th at p. 1601, 35 Cal.Rptr.2d 470.) "If there is no substantial evidence a project 'may have a significant effect on the environment' or the initial study identifies potential significant effects, but provides for mitigation revisions which make such effects insignificant, a public agency must adopt a negative declaration to such effect and, as a result, no EIR is required. [Citations.] However, the Supreme Court has recognized that CEQA requires the preparation of an EIR 'whenever it can be fairly argued on the basis of substantial evidence that the project may have significant environmental impact.' [Citations.] Thus, if substantial evidence in the record supports a 'fair argument' significant impacts or effects may occur, an EIR is required and a negative declaration cannot be certified." (*Id.* at pp. 1601-1602, 35 Cal.Rptr.2d 470.)

" 'Significant effect on the environment' means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant." (Cal.Code Regs., tit. 14, § 15382.)

B

Certified Regulatory Program

[18] "State regulatory programs that meet certain environmental standards and are certified by the Secretary of the California Resources Agency are

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exempt from CEQA's requirements for preparation of EIRs, negative declarations, and initial studies. [Citations.] Environmental review documents prepared by certified programs may be used instead of environmental documents that CEQA would otherwise require. [Citations.] Certified regulatory *1422 programs remain subject, however, to other CEQA requirements." (2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act (Cont.Ed.Bar 2005) § 21.2, p. 1076; Pub. Resources Code, § 21080.5.) Documents prepared by certified programs are considered the "functional equivalent" of documents CEQA would otherwise require. (*Mountain Lion Foundation v. Fish & Game Com., supra,* 16 Cal.4th at p. 113, 65 Cal.Rptr.2d 580, 939 P.2d 1280; 2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act, *supra,* § 21.10, p. 1086 ["the documentation required of a certified program essentially duplicates" that required for an EIR or negative declaration].)

An "agency seeking certification must adopt regulations requiring that final action on the proposed activity include written responses to significant environmental points raised during the decisionmaking process. [Citation.] The agency must also implement guidelines for evaluating the proposed activity consistently with the **394 environmental protection purposes of the regulatory program. [Citation.] The document generated pursuant to the agency's regulatory program must include alternatives to the proposed project and mitigation measures to minimize significant adverse environmental effects [citation], and be made available for review by other public agencies and the public [citation]." (*Mountain Lion Foundation v. Fish & Game Com., supra,* 16 Cal.4th at p. 127, 65 Cal.Rptr.2d 580, 939 P.2d 1280.)

[19] The guidelines for implementation of CEQA (Cal.Code Regs., tit. 14, § 15000 et seq.) do not directly apply to a certified regulatory program's environmental document. (2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act, *supra,* § 21.10, p. 1086.) However, "[w]hen conducting its environmental review and preparing its documentation, a certified regulatory program is subject to the broad policy goals and substantive standards of CEQA." (*Ibid.*)

In a certified program, an environmental document used as a substitute for an EIR must include "[a]lternatives to the activity and mitigation measures to avoid or reduce any significant or potentially significant effects that the project might have on the environment," and a document used as a substitute negative declaration must include a "statement that the agency's review of the project would not have any significant or potentially significant effects on the environment and therefore no alternatives or mitigation measures are proposed to avoid or reduce any significant effects on the environment. This statement shall be supported by a checklist or other documentation to show the possible effects that the agency examined in reaching this conclusion." (Cal.Code Regs., tit. 14, § 15252, subd. (a).)

The basin planning process of the State Board and regional boards is a certified regulatory program (Cal.Code Regs., tit. 14, § 15251, subd. (g)), and *1423 the regulations implementing the program appear in the California Code of Regulations, title 23, sections 3775 to 3782. A regional board's submission of a plan for State Board approval must be accompanied by a brief description of the proposed activity, a completed environmental checklist prescribed by the State Board, and a written report addressing reasonable alternatives to the proposed activity and mitigation measures to minimize any significant adverse environmental impacts. (*Id.,* § 3777, subd. (a).)

C

Environmental Documentation

The Regional Board's environmental documentation in lieu of documents CEQA ordinarily requires con-

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sists of a checklist and the Trash TMDL. The checklist asked a series of questions regarding whether implementation of the Trash TMDL would cause environmental impacts, to which the Regional Board responded "yes," "maybe" or "no." "Yes" or "maybe" answers required an explanation. The checklist described beneficial impacts pertaining to plant and animal life, water quality and recreation. The checklist denied the project would have any environmental impact on land, including soil displacement, air, noise, natural resources or traffic, and thus it included no discussion of those factors. The checklist concluded "the proposed Basin Plan amendment [adding the Trash TMDL] could not have a significant effect on the environment."

The Regional Board obviously intended its documentation to be the functional equivalent of a negative declaration. Nonetheless, on appeal the Water Boards claim for the first time that the Regional ****395** Board's environmental review process is tiered, and its documentation meets the requirements of a first tier EIR under Public Resources Code section 21159. They assert the court's criticism of the checklist is baseless "because it ignores the concept of tiered environmental review and specific provisions for pollution control performance standards."

" 'Tiering' refers 'to the coverage of general matters in broader EIRs (such as on general plans or policy statements) with subsequent narrower EIRs or ultimately *site-specific* EIRs incorporating by reference the general discussions and concentrating solely on the issues specific to the EIR subsequently prepared. Tiering is appropriate when the sequence of EIRs is: [¶] ... [f]rom a general plan, policy, or program EIR to a ... site-specific EIR.' " (*Natural Resources Defense Council, Inc. v. City of Los Angeles* (2002) 103 Cal.App.4th 268, 285, 126 Cal.Rptr.2d 615.) "[C]ourts have allowed first tier EIR's to defer detailed analysis to subsequent project EIR's." ***1424**(*Friends of Mammoth v. Town of Mammoth Lakes Redevelopment Agency* (2000) 82 Cal.App.4th 511, 532, 98 Cal.Rptr.2d 334.)

Public Resources Code section 21159, which allows expedited environmental review for mandated projects, provides that an agency "shall perform, at the time of the adoption of a rule or regulation requiring the installation of pollution control equipment, or a performance standard or treatment requirement, an environmental analysis of the reasonably foreseeable methods of compliance.... The environmental analysis shall, at a minimum, include, all of the following: [¶] (1) An analysis of the reasonably foreseeable environmental impacts of the methods of compliance. [¶] (2) An analysis of reasonably foreseeable mitigation measures. [¶] (3) An analysis of reasonably foreseeable alternative means of compliance with the rule or regulation." (Pub. Resources Code, § 21159, subd. (a).) The Water Boards submit they complied with the statute, and the "tier two environmental review is the responsibility of the local agencies who will determine how they intend to comply with the performance standards" of the Trash TMDL.

Issues not presented to the trial court are ordinarily waived on appeal. (*Royster v. Montanez* (1982) 134 Cal.App.3d 362, 367, 184 Cal.Rptr. 560.) In any event, we conclude the checklist and Trash TMDL are insufficient as either the functional equivalent of a negative declaration [FN11] or a tiered EIR. Moreover, an EIR is required since the Trash TMDL itself presents substantial evidence of a fair argument that significant environmental impacts may occur. "Because a negative declaration ends environmental review, the fair argument test provides a low threshold for requiring an EIR." (*Ocean View Estates Homeowners Assn., Inc. v. Montecito Water Dist.* (2004) 116 Cal.App.4th 396, 399, 10 Cal.Rptr.3d 451.)

> FN11. A negative declaration may not be based on a " 'bare bones' " approach in a checklist. (*Snarled Traffic Obstructs Progress v. City and County of San Francisco* (1999) 74 Cal.App.4th 793, 797, fn. 2, 88 Cal.Rptr.2d 455, and cases cited therein.)

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> A "certified program's statement of no significant impact must be supported by documentation *showing* the potential environmental impacts that the agency examined in reaching its conclusions," and "[t]his documentation would be similar to an initial study." (2 Kostka & Zischke, Practice Under the Cal. Environmental Quality Act, *supra,* § 21.11, pp. 1088-1089, italics added.) Because we conclude an EIR is required, we need not expand on how the checklist and Trash TMDL fail to satisfy negative declaration requirements or their functional equivalent.

**396 The Trash TMDL discusses various compliance methods or combinations thereof that permittees may employ, including the installation of catch basin inserts and VSS units. The Trash TMDL estimates that if the catch basin method is used exclusively, approximately 150,000 catch basins throughout the watershed would require retrofitting at a cost of approximately $120 million. It explains, however, that the "ideal way to capture trash deposited into a storm[ ]drain system would be to install a VSS unit. This device diverts *1425 the incoming flow of storm[ ]water and pollutants into a pollution separation and containment chamber." Only VSS units or similar full-capture devices will be deemed fully compliant with the zero trash target. The Trash TMDL estimates the cost of installing low capacity VSS units would be $945 million and the cost of installing large capacity VSS units would be $332 million.

The checklist and the Trash TMDL, however, ignore the temporary impacts of the construction of these pollution controls, which logically may result in soils disruptions and displacements, an increase in noise levels and changes in traffic circulation. Further, the Trash TMDL explains that since catch basin inserts "are not a full capture method, they must be monitored frequently and must be used in conjunction with frequent street sweeping." The checklist and the Trash TMDL also ignore the effects of increased street sweeping on air quality, and possible impacts caused by maintenance of catch basin inserts, VSS units and other compliance methods.

Indeed, the County of Los Angeles wrote to the Regional Board that "cleanout of structural controls, such as [catch basin inserts] and VSSs, naturally will increase existing noise levels due to vehicle and vacuuming noises." The City of Los Angeles advised that the Trash TMDL would result in increased maintenance vehicle traffic and "substantial air emissions or deterioration of ambient air quality," increased noise, increased use of natural resources and adverse impacts on existing transportation systems.

The Water Boards contend those comments are merely "unsubstantiated opinion and speculation by biased project opponents." Substantial evidence is not "[a]rgument, speculation, unsubstantiated opinion or narrative [or] evidence which is clearly inaccurate or erroneous." (Pub. Resources Code, § 21082.2, subd. (c).) However, letters and testimony from government officials with personal knowledge of the anticipated effects of a project on their communities "certainly supports a fair argument that the project may have a significant environmental impact." (*City of Livermore v. Local Agency Formation Com.* (1986) 184 Cal.App.3d 531, 542, 230 Cal.Rptr. 867.) Again, however, the Trash TMDL itself satisfies the fair argument criterion.

Even if the Water Boards had relied on Public Resources Code section 21159 at the trial court, the environmental documents do not meet its minimum requirements. Neither the checklist nor the Trash TMDL includes an analysis of the reasonably foreseeable impacts of construction and maintenance of pollution control devices or mitigation measures, and in fact the Water Boards develop no argument as to how they ostensibly complied with the statute. While we agree a tiered environmental analysis is appropriate here, the Regional Board did not prepare a first-level EIR or its functional equivalent. We reject the Water Boards' argument the Regional

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Board did all it ***1426** could because there "is no way to examine project level impacts that are entirely dependent upon the speculative possibilities of how subsequent****397** decision[ ]makers may choose to comply" with the Trash TMDL. Tier two project-specific EIR's would be more detailed under Public Resources Code section 21159.2, but the Trash TMDL sets forth various compliance methods, the general impacts of which are reasonably foreseeable but not discussed.

As a matter of policy, in CEQA cases a public agency must explain the reasons for its actions to afford the public and other agencies a meaningful opportunity to participate in the environmental review process, and to hold it accountable for its actions. (*Federation of Hillside & Canyon Assns. v. City of Los Angeles, supra,* 126 Cal.App.4th 1180, 1198, 24 Cal.Rptr.3d 543.) The Water Boards' CEQA documentation is inadequate, and remand is necessary for the preparation of an EIR or tiered EIR, or functional equivalent, as substantial evidence raises a fair argument the Trash TMDL may have significant impacts on the environment. The court correctly invalidated the Trash TMDL on CEQA grounds.[FN12]

> FN12. The Water Boards also contend the trial court erred by staying the implementation schedule for the Trash TMDL pending this appeal. The matter is moot given our holding on the CEQA issue.

VI

Declaratory Relief

[20] In its statement of decision, the trial court explained the Cities "contend [the Water Boards] improperly attempted to control the watershed including the 'entire 584 square miles' of incorporated and unincorporated areas of the County [of Los Angeles], and nowhere in the [Trash] TMDL or the [1994] Basin Plan Amendment did [they] assert that the numeric Waste Load Allocations ... are to apply to the entire 584 square miles of watershed." The court, however, explained the Water Boards "concede the [Trash] TMDL only applies to navigable waters by asserting [they] didn't intend to control non-navigable waters," and it found "the parties are in agreement that the trash load allocations apply to the portion of the subject watershed as defined on pages 3575 and 3584 of the Administrative Record [pages of the Trash TMDL] and the Waste Load Allocations do not apply to non-waters."

The statement of decision nonetheless states the court granted the Cities' "relief as requested" as to "regulation of non-waters." In their third cause of action, the Cities sought a judicial declaration that the amendment to the 1994 Basin Plan and the Trash TMDL are invalid because they violate federal and state law. The judgment declared unenforceable a July 29, 2002, letter from ***1427** the Regional Board to the EPA that stated the "Waste Load Allocations apply to the entire urbanized portion of the watershed.... The urbanized portion of the watershed was calculated to encompass 584 square miles of the total watershed."

[21] "The fundamental basis of declaratory relief is the existence of an *actual, present controversy.*" (5 Witkin, Cal. Procedure, *supra,* Pleadings, § 817, p. 273.) Because the parties agreed during this proceeding there was no *present* controversy, the judgment should not have included declaratory relief on the nonwaters issue.

CITIES' APPEAL

I

Concepts of "Maximum Extent Practicable" and "Best Management Practices"

[22] The Cities contend a zero target for trash in the

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Los Angeles River is unattainable,**398 and thus the Trash TMDL violates the law by not deeming compliance through the federal "maximum extent practicable" and "best management practices" standards, which are less stringent than the numeric target of zero. The Cities rely on 33 United States Code section 1342(p)(3)(B)(iii), under which an NPDES permit for a municipal discharge into a storm drain "shall require controls to reduce the discharge of pollutants to the *maximum extent practicable,* including management practices, control techniques and system, design and engineering methods, and such other provisions as the [EPA] Administrator or the State determines appropriate for the control of such pollutants." (Italics added.) FN13 "Best management practices" are generally pollution control measures set forth in NPDES permits. (*BIA, supra,* 124 Cal.App.4th at p. 877, 22 Cal.Rptr.3d 128.)

> FN13. The Clean Water Act and applicable regulations do not define the maximum extend practicable standard. (*Building Industry Assn. of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 889, 22 Cal.Rptr.3d 128 (*BIA*).) In *BIA*, the NPDES permit at issue defined the standard as "a highly flexible concept that depends on balancing numerous factors." (*Ibid.*)

The Cities assert that "as the [r]ecord reflects, compliance with the 'zero' [Trash] TMDL ... is impossible," and the Water Boards "themselves recognize that 'zero' is an impossible standard to meet." Contrary to the Cities' suggestion, the Water Boards made no implied finding or concession of impossibility. Rather, the record shows that members of the Water Boards questioned whether a zero trash target is actually attainable. A zero limit on *1428 trash within the meaning of the Trash TMDL *is* attainable because there are methods of deemed compliance with the limit. The record does not show the limit is unattainable, and the burden was on the Cities as opponents of the Trash TMDL to establish impossibility. Further, the impossibility issue is not germane at this juncture, as the matter is at the planning stage with an interim goal of a 50 percent reduction in trash, a goal everyone agrees is necessary and achievable.

In any event, the trial court found 33 United States Code section 1342(p)(3)(B)(iii) inapplicable to the adoption of a TMDL. The court also found state and federal laws authorize regional boards to "use water quality, and not be limited to practicability as the guiding principle for developing limits [in a TMDL] on pollution." Further, the court noted the Cities presented no authority for their proposition the Regional Board is required to adopt a storm water TMDL that is achievable.

We agree with the court's assessment. The statute applicable to establishing a TMDL, 33 United States Code section 1313(d)(1)(C), does not suggest that practicality is a consideration. To the contrary, a regional board is required to establish a TMDL "at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety." (33 U.S.C. § 1313(d)(1)(C).) The NPDES permit provision, 33 United States Code 1342(p)(3)(B), is inapplicable because, again, we are only considering the propriety of the Trash TMDL, a precursor to NPDES permits implementing it. Under the Trash TMDL, the numeric target will be reconsidered after several years when a reduction in trash of 50 percent is achieved, and thus it is presently unknown whether compliance with a trash limit of zero will ever actually be mandated.

[23] To bolster their position the Cities rely on **39933 United States Code section 1329(a)(1)(C)). It provides, however, that in a state's assessment report for a *nonpoint* source management program, the state must "describe[ ] the process, including intergovernmental coordination and public participation, for identifying best management practices and measures to control each category and subcategory of nonpoint sources and, where appropriate, particular nonpoint sources identified under subparagraph (B) and to reduce, to

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the maximum extent practicable, the level of pollution resulting from such category, subcategory, or source." (*Ibid.*) In *BIA, supra,* 124 Cal.App.4th at page 887, 22 Cal.Rptr.3d 128, we rejected the argument the statute shows Congress intended to apply a maximum extent practicable standard to point source discharges as well as nonpoint discharges. The Cities say they disagree with *BIA*, but they develop no argument revealing any flaw in the opinion. "[P]arties are required ***1429** to include argument and citation to authority in their briefs, and the absence of these necessary elements allows this court to treat appellant's ... issue as waived." (*Inter-insurance Exchange v. Collins* (1994) 30 Cal.App.4th 1445, 1448, 37 Cal.Rptr.2d 126.)

The Cities' reliance on *Defenders of Wildlife v. Browner* (9th Cir.1999) 191 F.3d 1159, for the proposition that municipalities, unlike private companies, may not be required to strictly comply with numeric discharge limits is likewise misplaced. *Defenders of Wildlife v. Browner* involves a challenge to an NPDES permit, not the adoption of a TMDL. Further, the court there rejected the argument that "the EPA [or authorized regional or state board] may not, under the [Clean Water Act], require strict compliance with state water-quality standards, through numerical limits or otherwise." (*Id.* at p. 1166.) The court explained: "Although Congress did not require municipal storm-sewer discharges to comply strictly with [numerical effluent limitations], [section] 1342(p)(3)(B)(iii) [of United States Code, title 33] states that '[p]ermits for discharges from municipal storm sewers ... shall require ... *such other provisions as the [EPA] Administrator ... determines appropriate for the control of such pollutants.*' (Emphasis added.) That provision gives the EPA discretion to determine what pollution controls are appropriate.... [¶] Under that discretionary provision, the EPA has the authority to determine that ensuring strict compliance with state water-quality standards is necessary to control pollutants. The EPA also has the authority to require less than strict compliance with state water-quality standards.... Under 33 United States Code section 1342(p)(3)(B)(iii), the EPA's choice to include either management practices or numeric limitations in the permits was within its discretion." (*Id.* at pp. 1166-1167.)

In *BIA*, this court similarly held that 33 United States Code section 1342(p)(3)(B)(iii) does not divest a regional board's discretion to impose an NPDES permit condition requiring compliance with state water quality standards more stringent than the maximum-extent-practicable standard. (*BIA, supra,* 124 Cal.App.4th at pp. 871, 882-885, 22 Cal.Rptr.3d 128; see also Wat.Code, § 13377 [waste discharge requirements shall meet federal standards and may also include "more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance"].) Thus, even if the analysis in *Defenders of Wildlife v. Browner* or *BIA* arguably has any application to a TMDL, the opinions do not help the Cities.

Additionally, the Cities' reliance on a November 2002 EPA memorandum on establishing TMDLs and issuing NPDES ****400** permits is misplaced, as it postdates the Regional Board's adoption of the Trash TMDL and its approval by the State Board and the EPA. Further, the memorandum states it ***1430** is not binding, and "indeed, there may be other approaches that would be appropriate in particular situations. When EPA makes a TMDL or permitting decision, it will make each decision on a case-by-case basis and will be guided by applicable requirements of the [Clean Water Act] and implementing regulations, taking into account comments and information presented at that time by interested persons regarding the appropriateness of applying these recommendations to the particular situation."

II

Nonpoint Sources of Pollution

[24] The Cities contend the court should have in-

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validated the Trash TMDL on additional grounds, including the Water Boards' failure to identify load allocations and implementation measures for nonpoint sources of trash discharge. The Cities assert the Water Boards are required to adopt implementation measures "for the homeless and aerial sources of trash, [and] also for the other nonpoint sources of trash consisting of State and federal facilities, and other facilities not yet subject to NPDES Permits." The Cities submit that the Clean Water Act does not allow the Water Boards "to effectively impose the burden of the load allocation from all nonpoint sources solely on municipalities."

The Cities further claim the Water Boards acted arbitrarily and capriciously by imposing a trash target of zero on municipalities, but imposing a " 'de minimus' requirement on non-point source discharges." The Cities cite the July 29, 2002, letter from the Regional Board to the EPA, clarifying that it identified nonpoint sources of trash pollution "as wind blown trash and direct deposit of trash into the water," but "as the non-point sources were determined to be de-minimus, we did not believe it necessary to outline a reduction schedule for non-point sources." Contrary to the Cities' position, the Regional Board did not adopt a "de minimus" load allocation for nonpoint sources. Rather, as the trial court found, the Regional Board found the trash pollution from nonpoint sources is de minimus compared to trash pollution from point sources. The TMDL states the "major source of trash in the [Los Angeles River] results from litter, which is intentionally or accidentally discarded in the watershed drainage areas."

In arguing the Trash TMDL is required to include a specific load allocation for nonpoint sources of pollution, the Cities rely on the 2000 EPA Guidance, which provides: "Load allocations for nonpoint sources *may* be expressed as specific allocations for specific discharges or as 'gross allotments' to nonpoint source discharger categories. Separate nonpoint source allocations *should* be established for background loadings. Allocations may be based on a variety *1431 of technical, economic, and political factors. The methodology used to set allocations *should* be discussed in detail." (Italics added.)

The 2000 EPA Guidance, however, states it does not impose legally binding requirements. Further, the load allocation for nonpoint sources is implicitly zero for trash. Federal regulations define a TMDL as the sum of waste load allocations for point sources, load allocations for nonpoint sources and natural backgrounds. (40 C.F.R. § 130.2(i) (2003).) Since "a TMDL defines the specified maximum amount of a pollutant which can be discharged into a body of water from all sources combined" **401(*American Wildlands v. Browner* (10th Cir.2001) 260 F.3d 1192, 1194), and the Trash TMDL specifies a zero numeric target for trash in Los Angeles River, load allocations are necessarily zero as well as waste load allocations.

Additionally, the Cities cite no authority for the proposition the Water Boards are required to identify an implementation program for nonpoint pollution sources. Again, "[w]here a point is merely asserted by counsel without any argument of or authority for its proposition, it is deemed to be without foundation and requires no discussion." (*People v. Ham* (1970) 7 Cal.App.3d 768, 783, 86 Cal.Rptr. 906, disapproved on another ground in *People v. Compton* (1971) 6 Cal.3d 55, 60, fn. 3, 98 Cal.Rptr. 217, 490 P.2d 537; *People v. Sierra* (1995) 37 Cal.App.4th 1690, 1693, fn. 2, 44 Cal.Rptr.2d 575.)

In any event, although the Clean Water Act focuses on both point and nonpoint sources of pollution, it is settled that the measure "does not require states to take regulatory action to limit the amount of nonpoint water pollution introduced into its waterways. While the [Clean Water Act] requires states to designate water standards and identify bodies of water that fail to meet these standards, ' "nothing in the [Clean Water Act] demands that a state adopt a regulatory system for nonpoint sources." ' " (*Defenders of Wildlife v. EPA, supra,* 415 F.3d at pp. 1124-1125, citing *American Wildlands v. Browner, supra,* 260 F.3d 1192, 1197 ["In the [Clean Water]

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Act, Congress has chosen not to give the EPA the authority to regulate nonpoint source pollution"]; *Appalachian Power Co. v. Train* (4th Cir.1976) 545 F.2d 1351, 1373 ["Congress consciously distinguished between point source and nonpoint source discharges, giving EPA authority under the [Clean Water] Act to regulate only the former"]; *City of Arcadia I, supra,* 265 F.Supp.2d at p. 1145 ["For nonpoint sources, limitations on loadings are not subject to a federal nonpoint source permitting program, and therefore any nonpoint source reductions can be enforced ... only to the extent that a state institutes such reductions as regulatory requirements pursuant to state ***1432** authority"].) "Nonpoint sources, because of their very nature, are not regulated under the NPDES [program]. Instead, Congress addressed nonpoint sources of pollution in a separate portion of the [Clean Water] Act which encourages states to develop areawide waste treatment management plans." (*Pronsolino v. Marcus, supra,* 91 F.Supp.2d at p. 1348, citing 33 U.S.C. § 1288; see also 33 U.S.C. § 1329.)

We conclude the court correctly ruled on this issue.

III

Uses To Be Made of Watershed

[25] The Cities next contend the Trash TMDL is invalid because the Water Boards "improperly relied on nonexistent, illegal and irrational 'uses to be made' of the [Los Angeles] River." (Emphasis omitted.) The Cities complain that the Trash TMDL states a purported beneficial use of one of numerous reaches of the river on the state's 303(d) list is "recreation and bathing, in particular by homeless people who seek shelter there," and the State Board chairman questioned the legality of such uses. The Cities also assert there is no evidence to support the Trash TMDL's finding that swimming is an actual use of the river in any location.

The Cities rely on section 303(d)(1)(A) of the Clean Water Act (33 U.S.C. § 1313(d)(1)(A)), which provides that in identifying impaired waters for its 303(d) list, states "shall establish a priority ranking for such waters, taking into account the severity of the pollution and the *uses to be made* of such waters." (Italics added.)****402** The Cities assert "an 'illegal' use cannot be a 'use to be made' for the water body."

Additionally, the Cities cite Water Code section 13241, which requires regional boards to establish water quality objectives in water quality control plans by considering a variety of factors, including "[p]ast, present, and probable future beneficial uses of water." (Wat.Code, § 13241, subd. (a).) They assert the "Water Boards acted contrary to law by basing the [Trash] TMDL on any uses of the [Los Angeles] River other than the actual 'uses to be made' of the River." (Emphasis omitted.)

The Cities, however, make no showing of prejudice. Swimming and bathing by the homeless are only two among numerous other beneficial uses that the Cities do not challenge, and there is no suggestion the numeric target of zero trash in the Los Angeles River would have been less stringent without consideration of the factors the Cities raise.

***1433** IV

Scientific Methodology

[26] Further, the Cities contend the Trash TMDL is invalid on the additional ground that before adopting and approving it the Water Boards failed to comply with the requisite data collection and analysis. The Cities rely on a federal regulation providing that "[s]tates must establish appropriate monitoring methods and procedures (including biological monitoring) necessary to compile and analyze data on the quality of waters of the United States and, to the extent practicable, ground-waters." (40 C.F.R. § 130.4(a) (2003).) "The State's water monitoring program shall include collection and analysis of

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physical, chemical and biological data and quality assurance and control programs to assure scientifically valid data" in developing, among other things, TMDLs. (*Id.*, § 130.4(b).)

The trial court rejected the Cities' position, finding they failed to establish the Water Boards' scientific data is inadequate or scientifically invalid. The court explained the Water Boards "have not failed to conduct ongoing studies, as they say, how else would [they] know the River is impaired by trash[?] And the Record reveals studies relied upon by the Boards."

This argument is a variation on the assimilative capacity study issue, and we similarly reject it. As the Water Boards point out, "trash is different than other pollutants.... The complex modeling and analytical effort that may be necessary for typical pollutants that may be present in extremely low concentrations have no relevance to calculating a trash TMDL." Further, the Trash TMDL does discuss sources of trash in the Los Angeles River. It states the "City of Los Angeles conducted an Enhanced Catch Basin Cleaning Project in compliance with a consent decree between the [EPA], the State of California, and the City of Los Angeles. The project goals were to determine debris loading rates, characterize the debris, and find an optimal cleaning schedule through enhancing basin cleaning. The project evaluated trash loading at two drainage basins[.]" It goes on to discuss the amounts and types of trash collected in the drainage basins between March 1992 and December 1994. The Cities cite no authority for the notion the Water Boards may not rely on data collected by another entity.

The Trash TMDL also states "[s]everal studies conclude that urban runoff is the dominant source of trash. The large amounts of trash conveyed by the urban storm water to the Los Angeles River is evidenced by the amount of ... trash that accumulates at the base of storm drains."

**403 *1434 Alternatively, the Cities contend a TMDL is not suitable for trash calculation. They rely on 33 United States Code section 1313(d)(1)(C), which provides: "Each State shall establish for [impaired] waters ... the total maximum daily load, for those pollutants which the [EPA] Administrator identifies ... as *suitable for such calculation.* Such load shall be established at a level *necessary* to implement the applicable water quality standards with seasonal variations and a margin of safety." (Italics added.)

The Cities also cite a 1978 EPA regulation that states a TMDL is "suitable for ... calculation" only under "proper technical conditions." (43 Fed.Reg. 60662, 60665 (Dec. 28, 1978) (italics omitted).) "Proper technical conditions" require "the availability of the analytical methods, modeling techniques and data base necessary to develop a technically defensible TMDL." (*Id.* at p. 60662.) The Cities assert the proper technical conditions do not exist, referring to the Trash TMDL's comment that "[e]xtensive research has not been done on trash generation or the precise relationship between rainfall and its deposition in waterways."

The Cities ignore the EPA's determination that a TMDL *may* be calculated for trash as a pollutant. It approved the Regional Board's Trash TMDL, and had previously approved a trash TMDL for the East Fork of the San Gabriel River. (See Cal.Code Regs., tit. 23, § 3933.) Thus, the Cities' view that the 1978 EPA regulation prohibits a TMDL for trash is unfounded. TMDL's for trash are relatively new, and there is no evidence that in 1978 the EPA contemplated their establishment.

We find irrelevant the Cities' discussion of the EPA's proposed July 2000 TMDL "rule," as their federal register citation is not a regulation and merely concerns the 2003 withdrawal of a rule that never took effect. (68 Fed.Reg. 13608, 13609 (Mar. 19, 2003) ["The July 2000 rule was controversial from the outset"].) In August 2001 the EPA delayed implementation of the July 2000 rule for further consideration, noting that some local government officials argued "some pollutants are not suitable

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for TMDL calculation." (66 Fed.Reg. 41817, 41819 (Aug. 9, 2001).) Nothing is said, however, about whether a trash TMDL is unsuitable for calculation, and again, the EPA has approved such TMDLs. The withdrawal of the proposed July 2000 rule left the existing rule regarding the establishment of a TMDL in place. (33 U.S.C. § 1313(d)(1)(C).)

V

APA Requirements

Lastly, the Cities contend the trial court erred by finding the Water Boards did not violate the APA. They assert the July 29, 2002, "clarification ***1435** memorandum" from the Regional Board to the EPA makes substantive changes to the Trash TMDL regulation-the inclusion of the Estuary in the Trash TMDL and designating an allocation of zero for nonpoint pollution sources-violates the notice and hearing provisions of the APA. The Cities also contend the Trash TMDL and the clarification memorandum "establish[ ] a regulation in violation of the APA's elements of 'clarity,' 'consistency,' and 'necessity,' as defined in [Government] Code section 11349."

The APA (Gov.Code, §§ 11340 et seq., 11370) "establishes the procedures by which state agencies may adopt regulations. The agency must give the public notice of its proposed regulatory action [citations]; issue a complete text of the proposed regulation with a statement of the reasons for it [citation]; give interested parties an opportunity to comment on ****404** the proposed regulation [citation]; respond in writing to public comments [citations]; and forward a file of all materials on which the agency relied in the regulatory process to the Office of Administrative Law [citation], which reviews the regulation for consistency with the law, clarity, and necessity [citations]." (*Tidewater Marine Western, Inc. v. Bradshaw* (1996) 14 Cal.4th 557, 568, 59 Cal.Rptr.2d 186, 927 P.2d 296.) "One purpose of the APA is to ensure that those persons or entities whom a regulation will affect have a voice in its creation [citation], as well as notice of the law's requirements so that they can conform their conduct accordingly [citation]." (*Id.* at pp. 568-569, 59 Cal.Rptr.2d 186, 927 P.2d 296.)

The APA does not apply to "the adoption or revision of state policy for water quality control" unless the agency adopts a "policy, plan, or guideline, or any revision thereof." (Gov.Code, § 11353, subds.(a), (b)(1).) The Water Boards contend that while the Trash TMDL and amendment adding it to the 1994 Basin Plan are policies or plans covered by the APA, the clarification memorandum is not because it does not revise the terms of the Trash TMDL.

We are not required to reach the issue, because assuming the APA is applicable the Cities' position lacks merit. As to the Estuary, we have determined the Trash TMDL sufficiently notified affected parties of its inclusion in the document as an impaired water body. Further, we have determined the load allocation for nonpoint sources of trash pollution is also necessarily zero, and the Trash TMDL is not required to include implementation measures for nonpoint sources. Accordingly, the clarification memorandum is not germane.[FN14]

FN14. We deny the Water Boards' June 16, 2005, request for judicial notice.

***1436** DISPOSITION

The judgment is affirmed insofar as it is based on the Trash TMDL's violation of CEQA, and on a rejection of each of the issues the Cities raised in their appeal. The judgment is reversed insofar as it is based on the Trash TMDL's lack of an assimilative capacity study, inclusion of the Estuary as an impaired water body, and a cost-benefit analysis under Water Code section 13267 or the consideration of economic factors under Water Code section 13241, and also insofar as it grants declaratory relief regarding the purported inclusion of non-

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navigable waters in the Trash TMDL.

The court's postjudgment order staying the Trash TMDL's implementation schedule is affirmed. The parties are to bear their own costs on appeal.

WE CONCUR: McINTYRE and IRION, JJ.
Cal.App. 4 Dist.,2006.
City of Arcadia v. State Water Resources Control Bd.
135 Cal.App.4th 1392, 38 Cal.Rptr.3d 373, 36 Envtl. L. Rep. 20,025, 06 Cal. Daily Op. Serv. 797, 2006 Daily Journal D.A.R. 1145

END OF DOCUMENT

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF SAN DIEGO

Central
330 West Broadway
San Diego, CA 92101

SHORT TITLE: CITIES OF ARCADIA ET AL vs STATE WATER RESOURCES CONTROL BOARD

CLERK'S CERTIFICATE OF SERVICE BY MAIL	CASE NUMBER: **GIC803631**

I certify that I am not a party to this cause. I certify that a true copy of the attached was mailed following standard court practices in a sealed envelope with postage fully prepaid, addressed as indicated below. The mailing and this certification occurred at San Diego, California, on 08/27/2008.

Clerk of the Court, by: M. Barham M. Barham, Deputy

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LOS ANGELES, CA 90013-1204

RICHARD GARY MONTEVIDEO
611 ANTON BLVD #1400
COSTA MESA, CA 92626-1950

☐ Additional names and address attached.

SUPERIOR COURT OF CALIFORNIA,
COUNTY OF SAN DIEGO
CENTRAL

MINUTE ORDER

Date: 08/26/2008 Time: 11:11:19 AM Dept: C-74

Judicial Officer Presiding: Judge Linda B. Quinn
Clerk: Mary Jean Barham

Bailiff/Court Attendant:
ERM:

Case Init. Date: 01/15/2003

Case No: GIC803631

Case Title: CITIES OF ARCADIA ET AL vs STATE WATER RESOURCES CONTROL BOARD

Case Category: Civil - Unlimited

Case Type: Writ of Mandate

Event Type: Ex Parte

Causal Document & Date Filed:

Appearances:

EX PARTE MINUTE ORDER

Respondents/Defendants filed their Second and Final Return to Peremptory Writ of Mandate on August 6, 2008. The Court has reviewed it, has received no response from Petitioners/Plaintiffs and now discharges the writ and dismisses this case.

Linda B. Quinn

United States
Environmental Protection
Agency

Office of Water
Regulations and Standards
Washington, DC 20460

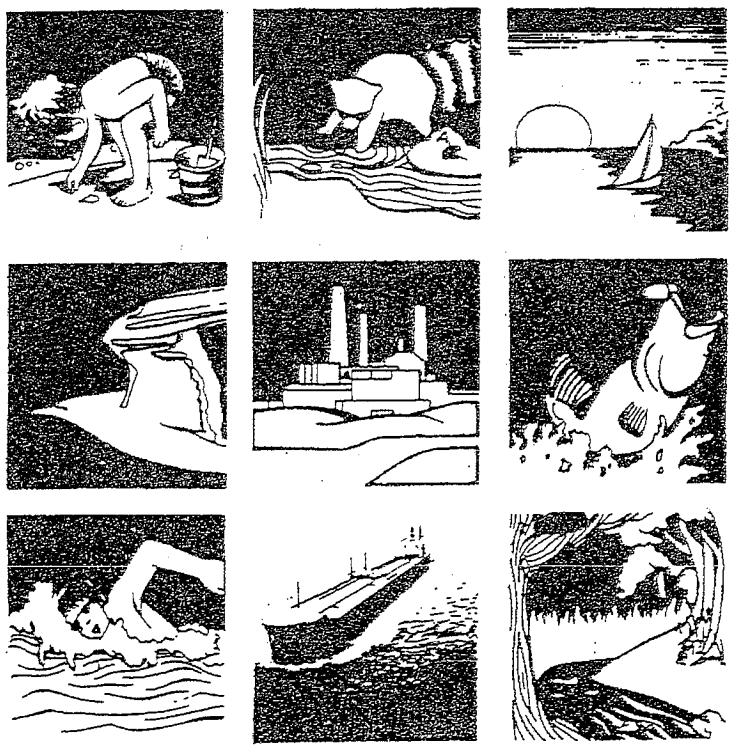
May 1, 1986

EPA

Water

EPA 440/5-86-001

QUALITY CRITERIA for WATER 1986



EL-725

TO INTERESTED PARTIES

Section 304(a)(1) of the Clean Water Act (33 U.S.C. 1314(a)(1) requires the Environmental Protection Agency (EPA) to publish and periodically update ambient water quality criteria. These criteria are to accurately reflect the latest scientific knowledge (a) on the kind and extent of all identifiable effects on health and welfare including, but not limited to, plankton, fish shellfish, wildlife, plant life, shorelines, beaches, aesthetics, and recreation which may be expected from the presence of pollutants in any body of water including ground water; (b) on the concentration and dispersal of pollutants, or their byproducts, through biological, physical, and chemical processes; and (c) on the effects of pollutants on biological community diversity, productivity, and stability, including information on the factors affecting rates of eutrophication and organic and inorganic sedimentation for varying types of receiving waters. These criteria are not rules and they do not have regulatory impact. Rather, these criteria present scientific data and guidance of the environmental effects of pollutants which can be useful to derive regulatory requirements based on considerations of water quality impacts. When additional data has become available, these summaries have been updated to reflect the latest Agency recommendations on acceptable limits for aquatic life and human health protection.

Periodically EPA and its predecessor agencies has issued ambient water quality criteria, beginning in 1968 with the "Green Book" followed by the 1973 publication of the "Blue Book" (Water Quality Criteria·1972). In 1976, the "Red Book" (Quality

For sale by t nent Printing Office

Criteria for Water) was published. On November 28, 1980 (45 FR 79318), and February 15, 1984 (49 FR 5831), EPA announced through Federal Register notices, the publication of 65 individual ambient water quality criteria documents for pollutants listed as toxic under section 307(a)(1) of the Clean Water Act. On July 29, 1985 (50 FR 30784), EPA published additional water quality criteria documents.

The development and publication of ambient water quality criteria has been pursued over the past 10 years and is an ongoing process. EPA expects to publish about 10 final criteria documents each year. Some of these will update and revise existing criteria recommendations and others will be issued for the first time.

In a continuing effort to provide those who use EPA's water quality and human health criteria with up-to-date criteria values and associated information, this document Quality Criteria for Water 1986 was assembled. This document includes summaries of all the contaminants for which EPA has developed criteria recommendations (Appendix A-C). The appropriate appendix is identified at the end of each summary. A more detailed description of these procedures can be found in the appropriate Appendix. Copies of this document can be obtained by contacting the U.S. Government Printing Office at:

U.S. Government Printing Office
Superintendent of Documents
N. Capitol and H Street N.W.
Washington, D.C. 20401

A fee is charged for this document.

Copies of the complete background ambient water quality

criteria documents containing all the data used to develop the criteria recommendations summarized herein and the "Red Book", including complete bibliographies are available only from:

National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161

Telephone: (703) 487-4650

The NTIS order numbers for the criteria documents can be found in the Index. A fee is charged for copies of these documents.

As new criteria are developed and existing criteria revised, updated criteria summaries will be made available once a year to those who purchase this document through the U.S. Government Printing office. You will automatically be placed on the mailing list to receive annual updates. The cost for receiving annual updates is included in the purchase price of the document.

~~Quality~~ Criteria for Water, 1986 is designed to be easily updated to reflect EPA's continuing work to present the latest scientific information and practices, Our planned schedule for future criteria development in the next few years is attached for your information.

The Agency is currently developing Acceptable Daily Intake (ADI) or Verified Reference Dose (RfD) values on a number of chemicals for Agency-wide use. Based upon this new analysis the values have changed significantly for 5 chemicals from those used in the original human health criteria calculation done in 1980. The chemicals affected are as follows:

chemical	1980 WQC	Draft RfD
1. cyanide	200 ug/L	.02 mg/kg/day
2. Ethylbenzene	1.4 mg/L	.01 mg/kg/day
3. Nitrobenzene	19.8 mg/L	.0005 mg/kg/day
4. Phenol	3.5 mg/L	0.1 mg/kg/day
5. Toluene	14.3 mg/L	0.3 mg/kg/day

FOR FURTHER INFORMATION CONTACT:

Dr. Frank Gostomski at the above address or by phoning (202) 245-3030.

It is EPA's goal to continue to develop and make available ambient water quality criteria reflecting the latest scientific practices and information. In this way we can continue to improve and protect the quality of the Nation's waters.

James M. Conlon

James M Conlon

Acting Director,
Office of Water Regulations
and Standards

DRAFT CRITERIA DOCUMENTS TO BE PROPOSED

LATE FY 86/EARLY ~~FY~~ 87

Diethyhexylphthalate
1,2,4, Trichlorobenzene
Silver
Phenanthrene
2,4,5, Trichlorophenol
Organotins
Tributyltin
Selenium (no saltwater criteria)
Hexachlorobenzene
Antimony III
Acrolein (no saltwater criteria)

~~LATE~~ ~~FY~~ 87/EARLY 88

Thallium (no saltwater criteria)
Tetrachloroethylene (no saltwater criteria)
Phenol
Toluene
Chloroform (no saltwater criteria)
Analine
Acrylontrile
Hexachlorocyclopentadiene (no saltwater criteria)
Dimethylphenol
Hexachlorobutadiene (no saltwater criteria)

- Both lists will incorporate aquatic and human health values.
- All above are toxic pollutants except for organotins and analine which are non-conventionals.

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Ammonia	PB 85-227114
Antimony	PB 81-117319
Arsenic	PB 85-227445
Asbestos	PB 81-117335
Bacteria	PB 86-158-045 & PB-263943
Barium	PB-263943
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Benzidine	PB 81-117343
Beryllium	PB 81-117350
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APPENDIX A Methodology for Developing Criteria

APPENDIX B Methodology for Developing Criteria

APPENDIX C Methodology for Developing Criteria

BIBLIOGRAPHY

SUMMARY CHART

AESTHETIC QUALITIES

CRITERIA:

All waters free from substances attributable to wastewater or other discharges that:

(1) settle to form objectionable deposits;

(2) float as debris, scum, oil, or other matter to form nuisances;

(3) produce objectionable color, odor, taste, or turbidity;

(4) injure or are toxic or produce adverse physiological responses in humans, animals or plants: and,

(5) produce undesirable or nuisance aquatic life.

RATIONALE:

Aesthetic qualities of water address the general principles laid down in common law. They embody the beauty and quality of water and their concepts may vary within the minds of individuals encountering the waterway. A rationale for these qualities cannot be developed with quantifying definitions; however, decisions concerning such quality factors can portray the best in the public interest.

Aesthetic qualities provide the general rules to protect water against environmental insults: they provide minimal freedom requirements from pollution; they are essential properties to protect the Nation's waterways.

(QUALITY CRITERIA FOR WATER, JULY 1976) PB-263943
SEE APPENDIX C FOR METHODOLOGY

Dear State Water Program Directors:

The purpose of this letter is to transmit to you the final Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits. The policy addresses issues relating to the type of effluent limitations that are most appropriate for National Pollutant Discharge Elimination System storm water permits to provide for the attainment of water quality standards. Since this policy only applies to water quality-based effluent limitations, it is not intended to affect technology-based limitations, such as those based on effluent guidelines or the permit writer's best professional judgement, that are incorporated into storm water permits. With this policy, the Office of Water is seeking to fulfill objectives of the 1996-1997 National Water Program Agenda for the Future (January 16, 1996), including reducing the threat of wet weather discharges to water quality, providing States and local governments with greater flexibility to solve wet weather problems, and identifying and taking appropriate steps to reduce the existing burden of the Storm Water Phase I program.

Numerous parties were involved in preparing this policy. In addition to receiving significant input from the Urban Wet Weather Flows Advisory Committee, EPA also consulted with State and Regional Storm Water Coordinators.

If you have questions regarding this policy, please contact William Hall at (202) 260-1458 or Bill Swietlik at (202) 260-9529. I thank you for your assistance.

Sincerely,

Robert Perciasepe
Assistant Administrator

Enclosure

MEMORANDUM

SUBJECT: Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits

FROM: Robert Perciasepe, Assistant Administrator

TO: EPA Water Management Division Directors

The purpose of this memorandum is to transmit to you the final Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits. The policy addresses issues relating to the type of effluent limitations that are most appropriate for National Pollutant Discharge Elimination System storm water permits to provide for the attainment of water quality standards. Since this policy applies only to water quality-based effluent limitations, it is not intended to affect technology-based limitations, such as those based on effluent guidelines or the permit writer's best professional judgement, that are incorporated into storm water permits. With this policy, the Office of Water is seeking to fulfill objectives of the 1996-1997 National Water Program Agenda for the Future (January 16, 1996), including reducing the threat of wet weather discharges to water quality, providing States and local governments with greater flexibility to solve wet weather problems, and identifying and taking appropriate steps to reduce the existing burden of the Storm Water Phase I program.

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If you have questions regarding this policy, please contact William Hall at (202) 260-1458 or Bill Swietlik at (202) 260-9529. I thank you for your assistance.

Attachment

INTERIM PERMITTING APPROACH FOR WATER QUALITY-BASED EFFLUENT LIMITATIONS IN STORM WATER PERMITS

In response to recent questions regarding the type of water quality-based effluent limitations that are most appropriate for National Pollutant Discharge Elimination System (NPDES) storm water permits, the Environmental Protection Agency (EPA) is adopting an interim permitting approach for regulating wet weather storm water discharges. Due to the nature of storm water discharges, and the typical lack of information on which to base numeric water quality-based effluent limitations (expressed as concentration and mass), EPA will use an interim permitting approach for NPDES storm water permits.

The interim permitting approach uses best management practices (BMPs) in first-round storm water permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards. In cases where adequate information exists to develop more specific conditions or limitations to meet water quality standards, these conditions or limitations are to be incorporated into storm water permits, as necessary and appropriate. This interim permitting approach is not intended to affect those storm water permits that already include appropriately derived numeric water quality-based effluent limitations. Since the interim permitting approach only addresses water quality-based effluent limitations, it also does not affect technology-based effluent limitations, such as those based on effluent limitations guidelines or developed using best professional judgement, that are incorporated into storm water permits.

Each storm water permit should include a coordinated and cost-effective monitoring program to gather necessary information to determine the extent to which the permit provides for attainment of applicable water quality standards and to determine the appropriate conditions or limitations for subsequent permits. Such a monitoring program may include ambient monitoring, receiving water assessment, discharge monitoring (as needed), or a combination of monitoring procedures designed to gather necessary information.

This interim permitting approach applies only to EPA; however, EPA also encourages authorized States and Tribes to adopt similar policies for storm water permits. This interim permitting approach provides time, where necessary, to more fully assess the range of issues and possible options for the control of storm water discharges for the protection of water quality. This interim permitting approach may be modified as a result of the ongoing Urban Wet Weather Flows Federal Advisory Committee policy dialogue on this subject.

Qs & As FOR INTERIM PERMITTING APPROACH FOR WATER QUALITY-BASED EFFLUENT LIMITATIONS IN STORM WATER PERMITS

QUESTION 1: Must EPA require that storm water dischargers, industrial or municipal, be subject to numeric water quality-based effluent limitations (expressed as concentration and mass) in order to attain water quality standards (WQS)?

ANSWER 1: No. Although National Pollutant Discharge Elimination System (NPDES) permits must contain conditions to ensure that water quality standards are met, this does not require the use of numeric water quality-based effluent limitations. Under the Clean Water Act (CWA) and NPDES regulations, permitting authorities may employ a variety of conditions and limitations in storm water permits, including best management practices, performance objectives, narrative conditions, monitoring triggers, action levels (e.g., monitoring benchmarks, toxicity reduction evaluation action levels), etc., as the necessary water quality-based limitations, where numeric water quality-based effluent limitations are determined to be unnecessary or infeasible.

ANALYSIS:

A. The Clean Water Act does not require numeric effluent limitations.

Section 301 of the CWA requires that discharger permits include effluent limitations necessary to meet State or Tribal WQS. Section 502 defines "effluent limitation" to mean any restriction on quantities, rates, and concentrations of constituents discharged from point sources. The CWA does not say that effluent limitations need be numeric. As a result, EPA and States have flexibility in terms of how to express effluent limitations.

B. EPA's regulations do not always require numeric effluent limitations.

EPA has, through regulation, interpreted the statute to allow for non-numeric limitations (e.g., "best management practices" or BMPs, see 40 CFR 122.2) to supplement or replace numeric limitations in specific instances that meet the criteria specified at 40 CFR 122.44(k). This regulation essentially codifies a court case addressing storm water discharges. NRDC v. Costle, 568 F.2d 1369 (D.C. Cir. 1977). In that case, the Court stated that EPA need not establish numeric effluent limitations where such limitations were infeasible.

C. EPA has interpreted the statute and regulations to allow BMPs in lieu of numeric limitations.

EPA has defended use of BMPs as a substitute for numeric limitations in litigation involving storm water discharges (CBE v. EPA, 91-70056 (9th Cir.)(brief on merits)) and in correspondence (Letter from Michael Cook, EPA, to Peter Lehner, NRDC, May 31, 1995). EPA has found that numeric limitations for storm water permits can be very

difficult to develop at this time because of the existing state of knowledge about the intermittent and variable nature of these types of discharges and their effects on receiving waters. Some storm water permits, however, currently do contain numeric water quality-based effluent limitations where adequate information exists to derive such limitations.

QUESTION 2: Has EPA provided guidance on a methodology for deriving numeric water quality-based effluent limitations?

ANSWER 2: Yes, but primarily for continuous wastewater discharges at low flow conditions in the receiving water, not intermittent wet weather discharges during high flow conditions. Regulations at 40 CFR 122.44(d) specify the requirements under which permitting authorities establish water quality-based effluent limitations when a facility has the "reasonable potential" to cause or contribute to an excursion of numeric or narrative water quality criteria. In addition, EPA guidance in the Technical Support Document for Water Quality-Based Toxics Control (TSD) and the NPDES Permit Writers Training Manual, supplemented with total maximum daily load (TMDL) and modeling guidance, supports issuing permits that include numeric water quality-based effluent limitations. This guidance was based on crafting numeric water quality-based effluent limitations using TMDLs, or calculations similar to those used in developing TMDLs, and wasteload allocations (WLAs) derived through modeling. EPA expects the Urban Wet Weather Flows Federal Advisory Committee (60 FR 21189, May 1, 1995) will review this issue at greater length and may provide recommendations on how to proceed.

QUESTION 3: Why can numeric water quality-based effluent limitations be difficult to derive for storm water permits?

ANSWER 3: Storm water discharges are highly variable both in terms of flow and pollutant concentrations, and the relationships between discharges and water quality can be complex. The water quality impacts of storm water discharges are related to the uses designated by States and Tribes in their WQS, the quality of the storm water discharge (e.g., conventional or toxic pollutants conveyed to the receiving water) and quantity of the storm water (e.g., erosion and loss of habitat caused by increased flows and velocity). Uses may be impacted by both water quality and water quantity. Depending on site-specific considerations, some of the water quality impacts of storm water discharges may be more related to the physical effects (e.g. stream bank erosion, streambed scouring, extreme temperature variations, sediment smothering) than the type and amount of pollutants present in the discharge. For municipal storm water discharges in particular, the current use of system-wide permits and a variety of jurisdiction-wide BMPs, including educational and programmatic BMPs, does not easily lend itself to the existing methodologies for deriving numeric water quality-based effluent limitations. These methodologies

were designed primarily for process wastewater discharges which occur at predictable rates with predictable pollutant loadings under low flow conditions in receiving waters. Using these methodologies, limitations are typically derived for each specific outfall to be protective of low flows in the receiving water. Because of this, permit writers have not made wide-spread use of the existing methodologies and models for storm water discharge permits. In addition, wet weather modeling is technically more difficult and expensive than the simple dilution models generally used in the permitting process.

QUESTION 4: Has EPA previously recognized the technical difficulty in deriving numeric water quality-based effluent limitations for storm water discharges?

ANSWER 4: Yes. EPA recognized the technical difficulty in deriving numeric water quality-based effluent limitations for wet weather discharges in its brief on the merits in Citizens for a Better Environment (CBE) v. United States Environmental Protection Agency, 91-70056 (9th Cir.) and in the Great Lakes Water Quality Guidance (58 FR 20841, April 16, 1993).

In the CBE case, EPA explained why it was technically infeasible to derive numeric water quality-based effluent limitations for the discharge of metals in storm water into South San Francisco Bay and asserted that a water quality-based effluent limitation could take the form of a narrative statement, such as a BMP, if it was infeasible to derive a numeric limitation. In explaining its arguments in the CBE case, EPA cited 40 CFR 122.44(k)(2), which provides that BMPs may be imposed in NPDES permits "to control or abate the discharge of pollutants when ... (2) [numeric effluent limitations are infeasible."

In the Great Lakes Water Quality Guidance, EPA did not extend the method for calculating wasteload allocations, the basis for numeric water quality-based effluent limitations, to storm water or combined sewer overflow (CSO) discharges because the varying nature of these discharges is inconsistent with the assumptions used in developing the guidance. The Great Lakes Water Quality Guidance defers to national guidance and policy on wet weather and does not seek to establish a separate and distinct set of wet weather requirements. EPA expects the Urban Wet Weather Flows Advisory Committee to provide recommendations about how to address the broader technical issues involved in achieving compliance with WQS in a wet weather context.

QUESTION 5: What are the potential problems of using standard methodologies to derive numeric water quality-based effluent limitations for storm water permits?

ANSWER 5: Correctly derived numeric water quality-based effluent limitations provide a greater degree of confidence that a discharge will not cause or contribute to an exceedance of the WQS, because numeric water quality-based effluent limitations are derived directly from the numeric component of those standards. In addition, numeric water quality-based effluent limitations can avoid the expense associated with overly protective treatment technologies because numeric water quality-based effluent limitations provide a more precisely quantified target for permittees. Potential problems of incorporating inappropriate numeric water quality-based effluent limitations rather than BMPs in storm water permits at this time are significant in some cases. Deriving numeric water quality-based effluent limitations for any NPDES permit without an adequate effluent characterization, or an adequate receiving water exposure assessment (which could include the use of dynamic modeling or continuous simulations) may result in the imposition of inappropriate numeric limitations on a discharge. Examples of this include the imposition of numeric water quality criteria as end-of-pipe limitations without properly accounting for the receiving water assimilation of the pollutant or failure to account for a mixing zone (if allowed by applicable State or Tribal WQS). This could lead to overly stringent permit requirements, and excessive and expensive controls on storm water discharges, not necessary to provide for attainment of WQS. Conversely, an inadequate effluent characterization could lead to water quality-based effluent limitations that are not stringent enough to provide for attainment of WQS. This could result because effluent characterization and exposure assessments for discharges with high variability of pollutant concentrations, loadings, and flow are more difficult than with process wastewater discharges at low flows.

QUESTION 6: How are water quality-based effluent limitations developed for combined sewer overflow (CSO) discharges?

ANSWER 6: The CSO Control Policy issued by EPA on April 19, 1994 (59 FR 18688) provides direction on compliance with the technology-based and water quality-based requirements of the CWA for communities with combined sewer systems. The CSO Policy provides for implementation of technology-based requirements (expressed as "nine minimum controls") by January 1, 1997.

In addition, under the CSO Policy, communities are also expected to develop long-term control plans that will provide for attainment of WQS through either the "presumption approach" or the "demonstration approach." Under the presumption approach, CSO controls would be presumed to attain WQS if certain performance criteria are met. A program that meets the criteria specified in the CSO policy is presumed to provide an adequate level of control to meet the water quality-based requirements of the CWA, provided the permitting authority determines that such presumption is reasonable based on characterization,

monitoring, and modeling of the system, including consideration of sensitive areas. Under the demonstration approach, the permittee would demonstrate that the selected CSO controls, when implemented, would be adequate to meet the water quality-based requirements of the CWA.

The CSO Policy anticipates that it will be difficult in the early stages of permitting to determine whether numeric water quality-based effluent limitations are necessary for CSOs, and, if so, what the limitations should be. For that reason, in the absence of sufficient data to evaluate the need for numeric water quality-based effluent limitations, the Policy recommends that the first phase of CSO permits ("Phase I") contain a narrative requirement to comply with WQS. Further, so-called "Phase II" permits would contain water quality-based effluent limitations, as provided in 40 CFR 122.44(d)(1) and 122.44(k), that may take the form of numeric performance or design standards, such as a certain number of overflow events or a certain percent volume capture. Generally, only after the long-term control plan is in place and after collection of sufficient water quality data (including applicable wasteload allocations developed during a TMDL process) would numeric water quality-based effluent limitations be included in the permit. This would likely occur only after several permitting cycles.

QUESTION 7: If BMPs alone are demonstrated to provide adequate water quality protection, are additional controls necessary?

ANSWER 7: No. If the permitting authority determines that, through implementation of appropriate BMPs required by the NPDES storm water permit, the discharges have the necessary controls to provide for attainment of WQS and any technology-based requirements, additional controls need not be included in the permit. Conversely, if a discharger (municipal or industrial) fails or refuses to adopt and implement adequate BMPs , the permitting authority may have to consider other approaches to ensure water quality protection.

If, however, the permitting authority has adequate information on which to base more specific conditions or limitations, such limitations are to be incorporated into storm water permits, as necessary and appropriate. Such conditions or limitations may include an integrated suite of BMPs, performance objectives, narrative standards, monitoring triggers, numeric water quality-based effluent limitations, action levels, etc. Storm water permits may also need to include additional requirements to receive State or Tribal 401 certifications.

QUESTION 8: What is EPA doing to develop information about the linkage between BMPs and water quality and to facilitate a watershed-based approach to storm water permitting?

ANSWER 8: The Agency has cooperative agreements with WERF (Water Environment Research Foundation) and ASCE (American Society of Civil Engineers) to research which BMPs are most effective under which circumstances. The results of this research should provide permitting authorities and permittees with information about how to evaluate the effectiveness of different kinds of BMPs in different circumstances and to select the most appropriate controls to achieve water quality objectives. EPA also has cooperative agreements with the Watershed Management Institute and other organizations to conduct research over the next two to four years that will examine the capability of storm water BMPs to improve receiving water quality and restore/protect the biological integrity of those waters. EPA expects the Urban Wet Weather Flows Federal Advisory Committee to provide recommendations on how to permit storm water discharges on a watershed basis.

QUESTION 9: The interim permitting approach states that permits should include monitoring programs to generate necessary information to determine the extent to which permits are providing for the attainment of water quality standards. What types of monitoring should be included and how much monitoring is necessary?

ANSWER 9: The amount and types of monitoring necessary will vary depending on the individual circumstances of each storm water discharge. EPA encourages dischargers and permitting authorities to carefully evaluate monitoring needs and storm water program objectives so as to select useful and cost-effective monitoring approaches. For most dischargers, storm water monitoring can be conducted for two basic reasons: 1) to identify if problems are present, either in the receiving water or in the discharge, and to characterize the cause(s) of such problems; and 2) to assess the effectiveness of storm water controls in reducing contaminants and making improvements in water quality.

Under the NPDES storm water program, large and medium municipal separate storm sewer system permittees are required to conduct monitoring. EPA recommends that each such municipal permittee design the monitoring effort to be supportive of the goals and objectives of its storm water management program when developing such a program for the term of its NPDES permit. To accomplish this, a municipal permittee may use a variety of storm water monitoring tools including receiving water chemistry; receiving water biological assessments (benthic invertebrate surveys, fish surveys, habitat assessments, etc.); effluent monitoring; including chemical, whole effluent and visual examinations; illicit connections screening; and combinations thereof, or other methods. Techniques that assess receiving waters will help to identify the degree to which storm water discharges are contributing to any water quality

problems. Techniques that assess storm water discharge characteristics will help to identify potential causes of any identified water quality problems. The municipal permittee, in conjunction with the applicable NPDES permitting authority, should determine which monitoring approaches would be most appropriate given the objectives of the storm water management program. If municipal permittees conduct ambient monitoring, it may be most cost-effective to pool resources with other organizations (including, for example, other municipalities, States, and Tribes) conducting monitoring within the same watershed. This could be best accomplished through a coordinated watershed monitoring strategy.

For industrial storm water dischargers, monitoring may be required under the terms of an NPDES permit for storm water discharges. For those industrial storm water permits that do require monitoring, this is typically done to characterize contaminants that might be found in the industrial runoff and/or to assess the effectiveness of the industrial storm water pollution prevention plan in reducing these contaminants. This typically involves end-of-pipe chemical-specific monitoring. End-of-pipe monitoring may be more appropriate for an industrial facility than for a municipal permittee, given the industrial facility's more discrete site characteristics, which make management strategies such as collection and treatment more feasible. Industries, for the most part, have readily defined storm water conveyances into which runoff flows from discrete drainage areas. Industries may more readily identify and control existing on-site sources of storm water contamination or provide collection and treatment within these discrete drainage areas to control pollutant concentrations in their storm water discharges.

EPA and other organizations are currently working to improve approaches for monitoring storm water and the potential effects upon water quality. These new approaches are called storm water program "environmental indicators." Environmental indicators are designed to be more meaningful monitoring tools that storm water dischargers can use to conduct storm water monitoring for the purposes described above. A manual describing each of the recommended storm water program environmental indicators is being prepared by the Center for Watershed Protection in Silver Spring, Maryland. That manual is expected to be ready by the end of August 1996 and should provide useful information for storm water dischargers contemplating the need to develop a cost-effective, meaningful storm water monitoring program. In addition, EPA expects the Urban Wet Weather Flows Federal Advisory Committee to provide recommendations on how to better monitor storm water and other wet weather discharges using a watershed approach.

QUESTION 10: Does this interim permitting approach apply to both storm water discharges associated with industrial activity and storm water discharges from municipal separate storm sewer systems?

ANSWER 10: Yes. The interim permitting approach is applicable to both discharges from municipal separate storm sewer systems and storm water discharges associated with industrial activity (as defined by 40 CFR 122.26(b)(14)). The interim permitting approach would not affect, however, permits that already incorporate appropriately derived numeric water quality-based effluent limitations. Since the interim permitting approach only addresses water quality-based effluent limitations, it also does not affect technology-based effluent limitations, such as those based on effluent limitations guidelines or developed using best professional judgement, that are incorporated into storm water permits. In addition, particularly for some industries, adequate information may already have been collected with which to assess the reasonable potential for a storm water discharge to cause or contribute to an excursion of a WQS, and from which a numeric water quality-based effluent limitation can be (or has been) appropriately derived. An adequate amount of storm water pollutant source information may also exist with which to assess the effectiveness of the industrial storm water control measures in complying with the limitations and in reducing storm water contaminants for protecting water quality.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

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(2) DWQ

RECEIVED
JUL 29 2008
SWRCB
EXECUTIVE OFFICE

July 24, 2008

Ms. Dorothy Rice
Executive Director
State Water Resources Control Board
P.O. Box 100
Sacramento, CA 95812-0100

RECEIVED
AUG 21 2008
DIVISION OF WATER QUALITY

Dear Ms. Rice:

Thank you for submitting the total maximum daily loads (TMDLs) to address trash in twelve waterbodies in the Los Angeles region. The submittal was dated May 12, 2008. California's action was completed with approval by the Office of Administrative Law on July 1, 2008. California adopted these TMDLs to address the following waterbody-pollutant combinations identified on the State's 2006 Clean Water Act Section 303(d) list:

- Tujunga Wash – trash
- Los Angeles River Reach 5 – trash
- Los Angeles River Reach 4 – trash
- Los Angeles River Reach 3 – trash
- Los Angeles River Reach 2 – trash
- Los Angeles River Reach 1 – trash
- Burbank Western Channel – trash
- Verdugo Wash (Reach 1) – trash
- Verdugo Wash (Reach 2) – trash
- Arroyo Seco (Reach 1) – trash
- Arroyo Seco (Reach 2) – trash
- Rio Hondo (Reach 1) – trash

Based on EPA's review of the TMDL submittal, I have concluded the TMDLs adequately address the pollutants of concern, and will, upon implementation, result in attainment of applicable water quality standards. The TMDLs include allocations as needed, take into consideration seasonal variations and critical conditions, and provide an adequate margin of safety. The State provided adequate opportunities for the public to review and comment on the TMDLs. All required elements are adequately addressed; therefore, the TMDLs are hereby approved pursuant to Clean Water Act Section 303(d)(2).

Printed on Recycled Paper

The State's submittal also contains a detailed plan for implementing the TMDLs. Current federal regulations do not define TMDLs as containing implementation plans; therefore, EPA is not taking action on the implementation plan provided with the TMDLs. However, EPA generally concurs with the State's proposed implementation approaches.

The enclosed review discusses the basis for this approval decision. We appreciate the State and Regional Boards' work to complete and adopt these TMDLs and look forward to our continuing partnership in TMDL development. If you have questions concerning this approval, please call me at (415) 972-3572 or Janet Hashimoto at (415) 972-3452.

Sincerely yours,

John Ong for

Alexis Strauss, Director
Water Division

Enclosure

cc: Tracy Egoscue, Los Angeles RWQCB

City of Calabasas

Receiving Water Limitation Report
Part 2-Section C Attachment

The City completed the contracted Study Report on Infiltration and Bioremediation of Urban Runoff to Las Virgenes Creek pursuant to SWRCB Agreement No. 01-231-550-0. Based on the results of the water quality monitoring conducted during August and September 2003, it was determined that two MS4 outfalls, identified as P.D. No. 1851 (A.E. Wright Site) and P.D. 2055 (Cold Springs Site), are contributing to the violation of Total and Fecal Coliform water quality standards in Las Virgenes Creek. The Study Report is attached hereto and incorporated by reference.

The City immediately applied for an amendment to the SWRCB contract agreement to expand the scope of work and budget to provide for siting, design and construction of water quality improvement projects to filter and infiltrate dry weather flows from the identified MS4 outfalls per recommendations made in the Study Report. Pursuant to Amendment No. 1 to SWRCB Agreement No. 01-231-550-0, approved on August 10, 2004, the City is now in the process of designing said improvements. The attached "Exhibit A-1 Work to be Performed" from said agreement details the scope of work and project schedule for design and construction of these improvements. The project includes pre- and post-construction water quality monitoring with construction to occur during the spring of 2005 and final report to be filed in March 2006.

Receiving Water Limitations Compliance Report

Part 2.3 of the Permit requires the permittees to submit a Receiving Waters Limitations (RWL) compliance report upon a determination that discharges are causing or contributing to an exceedance of an applicable water quality standard. In compliance with this requirement, the County is submitting this RWL compliance report based on the exceedances of bacteria water quality standards at various shoreline monitoring locations along Santa Monica Bay. This should not be construed, however, that any of the exceedances are caused by discharges from the County or the Flood Control District, and no such inference should be drawn.

A description of the pollutants that are in exceedance and an analysis of possible sources:

Pollutant of Concern:

Indicator Bacteria (Total Coliform, Fecal Coliform, and Enterococcus) at various shoreline monitoring locations along Santa Monica Bay.

Potential sources:

Sources of indicator bacteria are numerous, variant and oftentimes unidentifiable. Total coliform can be attributed to the decay of any organic matter. Soils, decaying leaves, and animals are all potential sources of total coliform. Fecal coliform can originate in the intestines of any warm blooded animal including birds, domestic pets, humans, or other wildlife. Enterococcus also originates from the intestinal tracts of warm-blooded animals, but can additionally live within the intestines of some fish species. Fluctuations in bacteria levels are not only related to the variety of sources, but studies have established correlations to seemingly innocuous factors such as tide stage, rack-line, moon phase, and season.

A plan to comply with the RWL (Permit, Part 2):

Dry Weather

In the South Santa Monica Bay (east of Topanga Creek south to Palos Verdes Peninsula), low flow diversions will be operated to eliminate MS4 contributions to bacteria exceedances. A low flow diversion collects dry weather urban runoff and pumps it to the sanitary sewer system for treatment. To date, the Los Angeles County Flood Control District (District) has constructed 13 diversions. The District will construct another 2 diversions by April 2007.

In the North Santa Monica Bay (Topanga Creek west to the County border), discharge from the District MS4 is known to contribute to bacteria exceedances at only one location: Marie Canyon. A low flow diversion is not possible at this location due to the absence of a regional sewage system. The District, with funding from Prop 13, is constructing a multi-stage ultraviolet disinfection system to eliminate high bacteria levels from the discharge. Construction should be completed by July 2007.

Wet Weather
Public agencies along Santa Monica Bay formed four Jurisdictional Groups, and each group created an Implementation Plan for the Santa Monica Bay Beaches Wet-Weather Bacteria Total Maximum Daily Load (TMDL). These plans outline a number of activities and projects that will reduce multiple pollutants including bacteria. However, these Implementation Plans were not created to meet the requirements of the Receiving Water Limitations. The TMDL appropriately allows 17 wet-weather bacteria exceedances based on the number of naturally occurring exceedances at a reference watershed. The plans are intended to meet the TMDL target no later than July 2021.

Changes to the SQMP to eliminate water quality exceedances:

No changes are recommended at this time.

Enhanced monitoring to demonstrate compliance:

Additional monitoring is not necessary. The current monitoring protocol is sufficient to determine the presence of elevated bacteria levels along Santa Monica Bay. This protocol is outlined in the TMDL Coordinated Shoreline Monitoring Plan.

Results of Implementation:

Dry Weather
Low Flow Diversions have proven very successful at reducing bacteria levels at shoreline monitoring locations near a storm drain outfall. It is anticipated that once all diversions are constructed and operational, the MS4 will no longer contribute to dry weather bacteria exceedances during the summer months. After diversions are modified and/or permitted to operate during the winter months, the MS4 should not contribute to dry weather bacteria exceedances during these months by winter 2009.

Wet Weather
The wet-weather Implementation Plans are intended to meet the 25% bacteria exceedance reduction targets set within the TMDL by July 2009.

City of Calabasas

Receiving Water Limitation Report

FY 06-07

Part 2-Section C Attachment

The City completed the Infiltration and Bioremediation of Urban Runoff to Las Virgenes Creek pursuant to SWRCB Agreement No. 01-231-550-0. Based on the results of the water quality monitoring conducted during August and September 2003, it was determined that two MS4 outfalls, identified as P.D. No. 1851 (A.E. Wright Site) and P.D. 2055 (Cold Springs Site), are contributing to the violation of Total and Fecal Coliform water quality standards in Las Virgenes Creek. Upon completion of the project, a Monitoring Plan was prepared and approved by the SWRCB. Since April 2007, water sample are being collected at the outfall on a weekly basis to measure the effectiveness of the project. The report and the data collected will be submitted to the RWQCB as additional voluntary effort by the city to eliminate sources of pollution.

During this reporting period, the City conducted an independent pollution source investigation on Las Virgenes Road to determine sources of pollution that contribute to this creek. A similar effort was made on Dry Canyon and McCoy creeks that are the headwaters of LA River within the City limits. The report and the data collected were submitted to the RWQCB in August 2006.

RECEIVING WATER LIMITATIONS COMPLIANCE REPORT

Submitted by:

County of Los Angeles Department of Public Works
On behalf of the Los Angeles County Flood Control District
Reporting Period July 1, 2006 to June 30, 2007

October 15, 2007

Part 2.3 of the Permit requires the permittees to submit a Receiving Water Limitations (RWL) Compliance Report upon determination that discharges are causing or contributing to an exceedance of an applicable water quality standard. Nothing in this repot should be construed that the County or the District is the source of any exceedance of an applicable water quality standard. Monitoring, however, indicates that there have been exceedances that are coming from unknown sources that could be natural or anthropogenic. The District therefore voluntarily submits this report to assist the Regional Board in identifying the sources of the exceedances detected at the monitoring stations and to address those exceedances.

This report addresses the following:

1. A description of the pollutants that are in exceedance and an analysis of possible sources;
2. A plan to comply with the RWL (Permit, Part 2);
3. Changes to the SQMP to eliminate water quality exceedances;
4. Enhanced monitoring to demonstrate compliance; and
5. Results of implementation.

The District looks forward to discussing these matters with Regional Board staff.

1. A description of the pollutants that are in exceedance and an analysis of possible sources.

The 2006-07 Annual Monitoring Report submitted to the Regional Board on August 15, 2007, included a detailed description of the pollutants that are in exceedance as well as an analysis of possible sources. The Monitoring Report's Section 4 noted the following:

Table 1. Constituents for which at least 75 percent of samples exceeded applicable water quality standards for each watershed based on mass emission monitoring results during wet weather.

Constituents	Watershed						
	San Gabriel River	Coyote Creek	Los Angeles River	Dominguez Channel	Ballona Creek	Malibu Creek	Santa Clara River
Enterococcus	X	X	X	X	X	X	X
Fecal Coliform	X	X	X	X	X	X	X
Total Coliform	X	X	X	X	X		X
Total Aluminum	X	X	X	X	X	X	X
Total Copper	X	X	X	X	X	X	X
Total Lead		X	X	X	X		
Total Zinc		X	X	X	X		
Ammonia		X		X	X	X	X
Cyanide			X	X			

Table 2. Constituents for which at least 75 percent of samples exceeded applicable water quality standards for each watershed based on mass emission monitoring results during dry weather.

Constituents	Watershed						
	San Gabriel River	Coyote Creek	Los Angeles River	Dominguez Channel	Ballona Creek	Malibu Creek	Santa Clara River
Enterococcus	X			X	X		X
Fecal Coliform	X				X		
Total Copper	X	X	X	X	X	X	X
Cyanide		X	X				
Chloride							X
Ammonia	X	X	X	X			
Sulfate						X	
Total Dissolved Solids		X			X		

Table 3. Constituents for which at least 75 percent of samples exceeded applicable water quality standards for each watershed based on San Gabriel River Watershed Tributary site monitoring results during wet weather.

Constituents	Watershed					
	Dalton/Walnut Creek (SGR)	Puente Creek (SGR)	Upper San Jose Creek (SGR)	Maplewood Channel (CC)	North Fork Coyote Creek (CC)	SD 21 (Artesia-Norwalk Drain) (CC)
Enterococcus	X	X	X	X	X	X
Fecal Coliform	X	X	X	X	X	X
Total Coliform	X	X	X	X	X	X
Total Aluminum	X	X	X	X	X	X
Total Copper	X	X	X	X	X	X
Total Lead		X		X	X	X
Total Zinc		X	X	X	X	X
Ammonia		X		X	X	X

Table 4. Constituents for which at least 75 percent of samples exceeded applicable water quality standards for each watershed based on San Gabriel River Watershed Tributary site monitoring results during dry weather.

Constituents	Watershed					
	Dalton/Walnut Creek (SGR)	Puente Creek (SGR)	Upper San Jose Creek (SGR)	Maplewood Channel (CC)	North Fork Coyote Creek (CC)	SD 21 (Artesia-Norwalk Drain) (CC)
Enterococcus	X	X		X		
Fecal Coliform		X		X		X
Total Coliform		X		X		X
Total Copper	X	X	X	X	X	X
Ammonia	X	X	X		X	X
Cyanide					X	
Total Dissolved Solids					X	X

14-750

Water quality sampling conducted in Legg Lake detected elevated levels of bacteria indicators, ammonia, and metals, as shown in Table 5 below.

Table 5. Results from water quality sampling conducted at Legg Lake on September 6, 2006.

Constituent	North Lake	Middle Lake	South Lake
Total Coliform	X	X	X
Fecal Coliform	X	X	X
Fecal Enterococcus	X	X	X
Ammonia	X	X	X
Total Copper	X		
Total Lead	X		
Total Zinc	X		

As the possible sources, sources of bacteria vary, and could include birds, wildlife and other animals, runoff from homeless encampments, sanitary sewer leaks and spills, illicit connections of sanitary lines, discharges from recreational vehicle holding tanks, or malfunctioning septic tanks, among other things. A July 2007 report by ENSR International for USEPA New England Region 1, *Mitigation Measure to Address Pathogen Pollution in Surface Waters: A TMDL Implementation Guidance Manual for Massachusetts*, discusses these potential sources.

An article titled *Residential Sources of Contamination* on EPA's website states that elevated levels of chloride may be a result of fertilizers, animal waste, industrial wastes, minerals, or seawater. It also indicates that many metals, such as aluminum, silver, iron, and zinc, could be a result of natural deposits.

According to the report *Regulating Copper in Urban Stormwater Runoff* by G. Fred Lee, Ph.D. and Anne Jones-Lee, Ph.D., Copper can come from brake pads or industrial (such as the textile industry) and mining sources. A metals source study is discussed in the article *Loadings of Lead, Copper, Cadmium, and Zinc in Urban Runoff from Specific Sources* by A.P. Davis, M. Shokouhian, and S. Ni. The study concludes that significant levels of metals were found from urban areas, especially in highway runoff. The abstract identifies important sources, such as building siding for lead, copper, cadmium, and zinc, vehicle brake emissions for copper and tire wear for zinc. Atmospheric deposition was also identified as an important source of cadmium, copper, and lead. Details behind those findings can be found in the May 2005 Technical Report from SCCWRP entitled, *Contributions of Trace Metals From Atmospheric Deposition to Stormwater Runoff in a Small Impervious Urban Catchment.* A 2005 online article by Scorecard, The Pollution Information Site, *Aluminum and Compounds*, indicated that Aluminum is one of the most abundant metals in the earth's crust. It does not exist as pure aluminum, but forms compounds primarily with silica, oxygen, and fluorine. Natural sources include bauxite and alum. The mostly urbanized Los Angeles Basin has, at best, only trace amounts of aluminum compounds in its soil. The most likely sources of aluminum in stormwater would be alum in water treatment plants, bentonite

15-761

in water purification systems, metal working industries, and some pesticides.

The Agency for Toxic Substances and Disease Registry, Division of Toxicology, in Atlanta, Georgia prepared a *Public Health Statement, Cyanide*. In it, a few of the major sources of cyanides included vehicle exhaust and cyanide-containing pesticides.

Large quantities of greenish rock with amphiboles and sediment are found near the Mass Emission station in the Malibu Creek Watershed. The hillside is mainly composed of what appears to be very decomposed, somewhat grainy, greenish marine or lagoonal sediment/glauconite and less decomposed, greenish-brown shale with clear fossils and embedded detritus. These sediments are known to be sulfur bearing. Representative field samples gathered initially had a distinct moderate sulfur (musty, rotten eggs) odor. Sulfate concentrations can be largely attributable to the presence of eroded sulfur-rich sediment. Fungal and bacterial processes within the creek and surrounding areas may facilitate the release of sediment bound sulfur into the water column. Another possible sulfur source may be effluent from the nearby Tapia Wastewater Treatment Plant, found just upstream from the sampling site. Sulfur is used in wastewater processes such as flocculation. However, other sampling stations close to wastewater treatment plants did not show highly elevated sulfur concentrations. Tests and/or a review of effluent reports would be necessary to determine if the Plant's effluent was a significant contributor to the raised sulfur concentrations of these waters.

One significant exceedance of oil and grease was found at the Dalton/Walnut Creek tributary site during this monitoring period. Sources of oil and grease included oil and other lubricating agents leaking from vehicles and being washed during storms from roads, parking lots, gasoline stations and other areas of intense automobile use as reported in an article on *Pollutants and Stormwater Runoff* by J. A. Arnold, S.W. Coffey, D.E. Line, J. Spooner, Extension Biological and Agricultural Engineer Specialists, and D.W. Moody, U.S. Geological Survey, included in a paper titled *Urban Integrated Pest Management* for the North Carolina Cooperative Extension Service, College of Agriculture and Life Sciences, North Carolina State University.

According to the New York Department of Health (http://www.health.state.ny.us/environmental/emergency/chemical_terrorism/ammonia_tech.htm), Ammonia exists naturally in the environment and is also an important commercial and industrial chemical. It is used in agriculture (fertilizers), as a refrigerant, in water treatment processes, in cleaning products and in the manufacture of many products including other chemicals, plastics, textiles, explosives and pesticides. Ammonia is produced by the decomposition of organic matter. One particular ammonia source of interest is wastewater treatment plants. According to *Water Supply and Pollution Control*, by Warren Viessman, Jr. and Mark J. Hammer, there is an average of 24 mg/L of ammonia-nitrogen (NH3-N) in biologically treated domestic wastewater that has not undergone denitrification.

As mentioned in the Basin Plan, the watersheds with excessive TDS exceedances are often impaired (by high levels of minerals) and there is not sufficient historic data to

designate objectives based on natural background conditions. The effluent limits applied in those watersheds were based upon guidelines in the Basin Plan that are intended to be protective of the MUN Beneficial Use. Site-specific objectives have not yet been determined.

2. A Plan to Comply with the Receiving Water Limitations

Achieving compliance with the RWL requires an understanding of the cause-effect relationship between management actions and receiving water quality. To improve this understanding, a plan is proposed that relies primarily on concepts presented in the draft White Paper on stormwater quality management recently prepared by the California Stormwater Quality Association (CASQA) and described in an August 15, 2007, letter from Geoff Brosseau (CASQA, Executive Director) to Xavier Swamikannu (LARWQCB, Chief of Stormwater Permitting). The District appreciates CASQA's efforts to advance the science and regulation of stormwater management and believes the concepts outlined in the draft White Paper provide a roadmap toward better water quality protection.

The proposed plan includes two components: 1) establish quantitative program effectiveness measures for the District and County's stormwater program, and 2) design and implement a monitoring program to better understand the relative urban runoff contribution to the receiving water problems[1].

First, the District proposes to establish quantitative program effectiveness measures for its stormwater program under the 2008 Permit, which should result in more tangible triggers on which SQMP revisions can be based. In the past, revisions to the SQMP have not been practical due to a limited understanding of the causal relationship between management actions and receiving water quality. The goal is to strive to move beyond Level 1 – documenting activities – outcome level, on which the program has relied upon in the past.

Second, answering Management Question 3 of the Model Program is important because, although there are discharges to the MS4 system that might contribute to receiving water impairments, insufficient data exists to assess the magnitude or extent of this possible contribution. The Permit's core monitoring program is designed to

[1] This corresponds to Management Question 3 in the Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California (Model Program) developed by the Stormwater Monitoring Coalition in 2004. The Model Program presents five management questions that, when addressed, use adaptive triggers to expand a monitoring program in a logical and systematic way to move from assessment monitoring to source identification. The five management questions posed in the Model Program are:

1. "Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?"
2. What is the extent and magnitude of the current or potential receiving water problems?"
3. "What is the relative urban runoff contribution to the receiving water problems?"
4. "What are the sources to urban runoff that contribute to receiving water problems?"
5. "Are conditions in the receiving waters getting better or worse?"

answer Management Question 1 and to some extent Management Question 2. The District proposes to design a countywide monitoring program to better understand the relative urban runoff contribution to the receiving water problems.

Table 6. Time schedule to design a monitoring program to better understand the relative urban runoff contribution to the receiving water problems.

	Duration (weeks)	2007			2008									
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
I. Monitoring Program Design														
I.1 Prepare scope of work	6													
I.2 Negotiate and award contract	6													
I.3 Prepare draft monitoring plan	12													
I.4 Regional Board review	6													
I.5 Finalize monitoring plan and obtain Regional Board approval	6													
II. Monitoring Program Implementation														
II.1 Prepare scope of work	4													
II.2 Negotiate and award contract	4													
II.3 Mobilize to begin phased implementation	4													
II.4 Ready to initiate monitoring program	-													

Serving as a model for the proposed monitoring program, the District is conducting a voluntary $430,000 water quality study in the Ballona Creek watershed. The purpose of the study is to assess the relative pollutant loading from the District's stormdrain system within the watershed. Extensive monitoring was performed at nine end-of-pipe locations during both dry and wet weather. The result of this study is being integrated into the implementation planning process for the watershed's metals and toxic pollutant TMDLs.

In addition to the proposed plan, the District continues to design and implement regional projects using watershed management principles, resulting in multi-faceted benefits to its citizens, including reducing stormwater and urban runoff pollution. For example, in 2006, the District

- Completed construction of the Sun Valley Park Drain and Infiltration Project;
- Completed construction of the Rio Hondo Spreading Grounds Phase II Enhancement Project;
- Initiated construction of the Tuxford Green Drain Project;
- Initiated construction of the Dominguez Gap Wetlands Enhancement Project, and
- Initiated construction on the Bell and Cudahy Greenway project.
- Initiated the development of a project concept report for a multi-use project in the area surrounding the Oxford Flood Control Basin in Marina del Rey.
- Initiated a bacteria source investigation project in the North Santa Monica Bay watersheds.

In 2008, the District will initiate the Tujunga Wash Restoration Project.

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The District also continues to implement best management practices and capital improvement projects intended to reduce the possibility that urban runoff might contribute to bacteria impairments in receiving waters. Following is a partial list of accomplishments and projects in progress during this reporting period:

- In Malibu Creek watershed -
  - Submitted an Integrated TMDL Implementation Plan on January 24, 2007.
  - In collaboration with other agencies within the watershed, performed an extensive monitoring program to assess water quality within the watershed.
- In Santa Monica Bay –
  - Developed a Regional Watershed Implementation Plan through extensive stakeholder collaboration to address the needs of the North Santa Monica Bay watersheds in relation to the Municipal Stormwater NPDES Permit, current and emerging TMDLs, and Assembly Bill 885.
  - Completed the construction of a multistage disinfection system at Marie Canyon Stormdrain in Malibu on July 31, 2007. This innovative project filters and disinfects dry weather runoff through the use of ultraviolet light. The system became fully operational on October 11, 2007.
  - Constructed a total of 5 low-flow stormdrain diversions within the urban watersheds of Santa Monica Bay. This brings the total to 15 low-flow diversions operational in Santa Monica Bay.
  - In collaboration with other municipalities in Santa Monica Bay, a total of 25 Nonstructural and Public Education Programs have been identified and will be implemented by the end of year 2013. All other considered Nonstructural and Public Education Programs will be studied and those that are feasible will be implemented.
  - In collaboration with other municipalities in Santa Monica Bay, a total of 32 Subregional Structural Programs (20 committed and 12 pilot projects) have been identified and will be implemented by the end of year 2013. All other considered Subregional Structural Programs will be studied and those that are feasible will be implemented.
- In Marina del Rey –
  - Two water circulators were installed in Basin D in October 2006 to induce water circulation at Mothers' Beach.
  - A low-flow diversion was installed in December 2006 at the intersection of Washington Boulevard and Thatcher Avenue to divert dry-weather urban runoff to a sanitary sewer system.

- A low-flow diversion was installed in December 2006 at the Boone-Olive Pump Station to divert dry-weather urban runoff to a sanitary sewer system.
- Five bio-retention filters were installed in the watershed in December 2006 to filter bacteria from urban runoff.
- Construction of a stormwater collection system began in April 2007 to capture low flows and stormwater runoff away from the back of Mothers' Beach and redirect them to Basin C. This project was completed on August 9, 2007.
- A low-flow diversion for the Oxford Pump Station is in design. Construction is estimated to be completed in July 2008.
- Initiated a Sediment Characterization Study in September 2007 to identify the extent and thickness of sediment contamination within Marina del Rey Harbor.
- Initiated two Project Concept Reports for the installation of bio-retention filters in parking lots within the Marina del Rey watershed.
- Began implementation of enhanced public education program to increase public knowledge of stormwater pollution.
- Continued the process to install cured-in place pipe liners in the County-owned sanitary sewer pipes surrounding Marina del Rey. To-date, over 80 percent of the pipes has been lined.

- In Ballona Creek –
  - Researched and designed a full capture trash BMP for use throughout the County of Los Angeles – 216 of these devices are currently proposed for the unincorporated areas of the watershed.

Finally, a project concept report is being prepared to address Legg Lakes' water quality issues. We are also coordinating with stakeholders to comply with requirements of the trash TMDL.

3. Changes to the Stormwater Quality Management Plan

For the reasons described above, no changes to the SQMP are recommended at this time beyond those made in the County's Report of Waste Discharge (ROWD) submitted to the Regional Board in June 2006.

4. Enhanced Monitoring to Demonstrate Compliance

No enhanced monitoring to demonstrate compliance is proposed at this time.

5. Results of Implementation

No results to report at this time.

City of Calabasas

Receiving Water Limitation Report

FY 07-08

Part 2-Section C Attachment

On March 4, 2008 the Los Angeles Regional Water Quality Control Board (Board) sent to the City a notice that Board staff believed the City had violated waste discharge regulations as established in the Board's Order 01-182 and as amended in Order R4-2006-0074 and R4-2007-0042. Additionally, the Board required the City to respond to these allegations. The City responded timely to these allegations and believes that the NOV and Order were improperly issued. The City has petitioned the Board to retract these alleged violations.

CITY OF LOS ANGELES
CALIFORNIA

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May 21, 2008

2008 MAY 21 PM 3:29

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
LOS ANGELES REGION

Ms. Tracy J. Egoscue, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
Junipero-Serra Building
320 W. Fourth Street, Suite 200
Los Angeles, CA 90013

Response to Order and Notice of Violation Dated March 4, 2008 regarding the Summer Dry Weather Bacteria Waste Load Allocations in Santa Monica Bay Beaches, Marina del Rey Harbor Mother's Beach and Back Basins (Violation of Order No. 01-182 as Amended by Order No. R4-2006-0074 and Order No. R4-2007-0042, NPDES Permit No. CAS004001, WDID 4B19018801)

Dear Ms. Egoscue:

This letter and the attached City of Los Angeles' Detailed Report (DR) provide the required information in response to the Order and Notice of Violation (NOV), dated March 4, 2008, about the subject matter.

As stated in the NOV, the Los Angeles Regional Water Quality Control Board (Regional Board) has concluded that the City of Los Angeles (City), jointly with other permittees, was in violation of waste discharge requirements. The exceedances occurred at 27 shoreline and harbor monitoring locations on 851 days. This included 1,393 instances where the bacteria water quality objectives were exceeded for the summer monitoring periods of September 14 through October 31, 2006 and April 1 through October 31, 2007.

The Regional Board Order required the City to submit information evaluating and documenting these reported violations by May 21, 2008 (Original due date was extended by 30 days by the Regional Board in a letter dated April 16, 2008).

The City has been and will continue to be strongly committed to improving the water quality of its receiving waters as demonstrated by the City's proactive actions and programs. In collaboration with other responsible agencies, the City has taken the lead and participated in the implementation of several structural and institutional measures for improving the water quality in Santa Monica Bay and Marina del Rey Harbor. Specifically, in relation to compliance with the bacteria water quality standards and objectives for these water bodies, the City has:

- Completed the construction of eight Low Flow Diversions (LFDs) in the Santa Monica Bay watershed that divert MS4 discharges from major storm drains to the sanitary sewer system prior to September 14, 2006.
- Constructed, in partnership with the City of Santa Monica, the Santa Monica Urban Runoff Recycling Facility (SMURRF) to divert, treat and recycle urban runoff.
- Worked with other responsible agencies in Marina del Rey watershed to implement two LFDs at Marina del Rey Harbor for diversion of MS4 discharges; a third LFD will be completed in 2009.
- Implemented a city-wide institutional program for pollution source control, including reduction of bacteria pollution in the Santa Monica Bay and Marina del Rey Harbor watersheds. This program has been expanded over the years and includes targeted catch basin cleaning, street sweeping, restaurant and grocery store trash management, illicit discharge/illicit connection inspection and enforcement, extensive public outreach, etc.
- Implemented an aggressive sewer system management system including sewer inspection, cleaning and response which has led to a 70 percent reduction in sanitary sewer overflows, a 66 percent reduction in number of overflows reaching receiving waters. It has improved response time to overflows to an average of less than 30 minutes.
- Upgraded the sewer system in the Pacific Palisades area and along Pacific Coast Highway, including pumping stations, construction of emergency storage tank, construction of a new force main and new gravity sewers in area prone to erosion and land slides.
- Implemented an aggressive program to enhance the management and permitting of Onsite Wastewater Treatment Systems (OWTS), also known as septic tanks.

The City has further demonstrated its commitment to water quality improvement and the protection of Santa Monica Bay by upgrading its LFDs to operate throughout the year for compliance with winter dry weather requirements and improving reliability. The estimated cost of the upgrades is about $35 million. This is in addition to the implementation of several water quality projects funded by the City's Proposition "O" to improve water quality and enhance reuse such as, the Westchester – LAX Stormwater BMP, Temescal Canyon Park Stormwater BMP, Penmar Water Quality Improvement & Runoff Reuse, Imperial Highway Sunken Median Stormwater BMP, Grand Avenue Tree Wells Project, and the Mar Vista Recreation Center Stormwater BMP.

The City conducted a thorough and detailed review of the monitoring data and operational records for the locations cited in the NOV. As part of the monitoring, the City documents observations of flow from storm drains and the overall conditions of the area in the vicinity of the sampling locations. The following is a summary of the findings as discussed in the attached DR:

- Exceedances at MdRH-1, 2, and 3: These locations are along the Marina Beach in Basin D. The City does not discharge to Basin D (**DR, Page 3, Section 1b-5**).
- Exceedances at MdRH-5, 6(D), 6(S), and 7: These locations are in Basin E and the City discharges to this Basin. With the County of Los Angeles as the lead agency, responsible agencies have implemented several BMPs, including: sewer lining (1993-2005); five bioretention filters (completed in January 2007); two LFDs (operational since March 2007), (**DR, Page 3, Section 1b-5**). In addition, a special scientific study conducted by Weston Solutions as a consultant to Los Angeles County (submitted to the LARWQCB in 3/15/08 by LACDPW) suggests that the majority of the bacterial load to Marina del Rey Harbor is from to non-human sources such as local birds, etc. (**DR, Page 3, Section 1b-5**).
- Exceedances at MdRH-9: This location is in Basin F. The City does not discharge to Basin F (**DR, Page 3, Section 1b-5**).
- Exceedances at SMB 1-18: In Jurisdiction 1, the City's land area that drains to SMB 1-18 is 21 acres and consists almost entirely of natural areas and open space. Due to the City's small tributary area (1.3% of the total area) and its undeveloped natural condition, the other responsible agencies of Jurisdiction 1 agreed to exclude the City from participation in implementation plan development for the Santa Monica Bay Beaches Wet-Weather TMDL (**DR, Page 1, Section 1b-1**).
- Exceedances at SMB 2-01: This LFD is operated by the County of Los Angeles (**DR, Page 2, Section 1b-2**). Construction of the LFD was completed on April 10, 2007. Flow from the SMB 2-01 stormdrain was observed after this date during startup. This LFD is now fully operational with no flow being observed from the stormdrain.
- Exceedances at SMB 2-02, 06, 07, 10, 11, 12, 13, and 15: In Jurisdiction 2, the City's LFDs are at SMB 2-06, 07, and 13 (**DR, Page 2, Section 1b-2**). Construction of these LFDs was completed before September 14, 2006. The LFDs were operational during the NOV reporting period and flow from the corresponding stormdrains has not been observed. For SMB 2-02, there one observation of possible flow that may have been caused by high tide. The County of Los Angeles operates LFDs at SMB 2-02, 10, 11, 13 and 15 (**DR, Page 2, Section 1b-2**). The County's LFDs were in operation before September 14, 2006, and no flow from the storm drains was observed during the NOV reporting period.
- Exceedances at SMB 3-01, 02, and 03: In Jurisdiction 3, the City does not discharge to these locations (**DR, Page 2, Section 1b-3**).
- Exceedances at SMB 3-04, 05, 06, 07, and 08: In Jurisdiction 3, the City operates an LFD at SMB 3-08 (**DR, Page 2, Section 1b-3**). This LFD was in operation during the NOV reporting period, and flow from the stormdrain was not observed. Likewise, LFDs from the County of Los Angeles (at SMB 3-05, 06, and 07) and the City of Santa Monica (at SMB 3-04) were operational during the NOV reporting period, and flows from the corresponding stormdrains were not been observed (**DR, Page 2, Section 1b-3**).
- Exceedances at SMB 7-07: Jurisdiction 7 is designated as an anti-degradation subwatershed. The SMB 7-07 sampling location is within Jurisdiction 7. A small amount of flow (less than about 1 gallon per minute) has been observed, which is a typical dry-weather flow at this location (**DR, Page 2, Section 1b-4**). However, even though there is a small and continuous flow from the SMB 7-07 stormdrain, the bacterial standards were met on 35 days out of a total of 44 monitoring days during the NOV period.

- Exceedances at SMB BC-01: The REC-1 stations nearest to SMB BC-01 are SMB 2-09 and SMB 2-10. Whereas SMB BC-01 is listed for 209 exceedances, SMB 2-09 was fully compliant and not included in the NOV. For SMB 2-10, the LFD was fully operational during the NOV reporting period. In addition, SMB BC-01 is not used as a recreational area (pacific Bridge). Compliance at SMB BC-01 should be based on the compliance requirements of the Ballona Creek, Ballona Estuary and Sepulveda Channel Bacteria TMDL by 2013 (**DR, Page 6, Section 4**).
- The NOV uses a different calculation method for geometric mean than is specified in CMPs for the Santa Monica Bay Beaches and Marina Del Rey Harbor Mother's Beach and Basins Bacteria TMDLs. Irrespective of the potential causes of the exceedances of the geometric mean limits, the NOV reports 746 days with geometric mean exceedances as compared with the CMP method resulting in 570 days (**DR, Page 7, Section 5**).
- Exceedances of the single sample and geometric mean limits have been observed at the Leo Carillo Reference Beach during summer dry weather. This may suggest that sources other than MS4 discharges have contributed to the exceedances reported in the NOV (**DR, Page 7, Section 5**). This should be considered in the evaluation of the causes of the exceedances.
- Bacteria counts have been observed to be higher at the 50 yards sampling location as compared to the point zero sampling location (**DR, Page 4, Section 1c-1**). The point zero sampling location may have high variability. This should be considered as part of the evaluation of the causes of the exceedances.
- At three locations (SMB 2-07, 3-04 and 3-05), ponds have been observed in front of the stormdrain outfalls about 500 feet from the shoreline and no discharge from the stormdrains. These ponds may have been caused by high tides. Their presence may have attracted beach recreation and birds, potentially causing accumulation of bacteria indicators and contributing to the exceedances at the sampling location (**DR, Page 4, Section 1c-3**). This should be considered as part of the evaluation of the causes of the exceedances.

The validity of the underlying bacteria objective and its applicability to stormwater has recently been called into question in Minute Order in *Cities of Arcadia, et al v. SWRCB and LARWQCB*, Orange County Superior Court Case No. 06CCO2974 (03/13/2008), (**DR, Page 7, Section 5**).

The data and the analysis in this response and the attached DR suggests that 837 out of the 851 exceedance days reported in the NOV may not have been caused by discharges from the City's MS4. The City requests the Regional Board to continue to work with the City and the other permittees in a collaborative manner using the iterative process to investigate, identify and address the bacteria sources that may have caused the exceedances.

If you have any questions or require additional information, please contact Dr. Shahram Kharaghani at (213) 485-0587, Shahram.Kharaghani@lacity.org.

Sincerely,

for / Enrique C. Zaldivar, Director
Bureau of Sanitation

Attachment
cc: Nancy Sutley, Mayor's Office
Michael Mullin, Mayor's Office
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Rafael Prieto, CLA
Charles Modica, CLA
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Daniel Garcia, City of El Segundo
Ray Tahir, City of Inglewood
Alan Rigg, City of Palos Verdes Estates
John Hunter, John Hunter and Associate
Jerry Fulwood, City of Culver City

Certification Statement

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 21st day of May, 2008

at Los Angeles, CA

Printed Name ADEL HAKEKHALIL Title ASSISTANT DIRECTOR

City Name City of Los Angeles

(Signature) _____

CITY OF LOS ANGELES' DETAIL REPORT (DR)

Response to Order and Notice of Violation Dated March 4, 2008 regarding the Summer Dry Weather Bacteria Waste Load Allocations in Santa Monica Bay Beaches, Marina del Rey Harbor Mother's Beach and Back Basins (Violation of Order No. 01-182 as Amended by Order No. R4-2006-0074 and Order No. R4-2007-0042, NPDES Permit No. CAS004001, WDID 4B19018801).

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD LOS ANGELES REGION
2008 MAY 21 PM 3:29

WATERSHED PROTECTION DIVISION
BUREAU OF SANITATION
CITY OF LOS ANGELES

MAY 21, 2008

14-774

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1. SOURCES OF EXCEEDANCES

1a. Details of Dry-weather Discharges from MS4

Appendix 1 shows the monitoring locations in Santa Monica Bay and Marina del Rey Harbor. The City of Los Angeles (City) lies within portions of Santa Monica Bay Jurisdictions 1, 2, 3 and 7. Appendix 2 summarizes several parameters for each "noncompliant" shoreline site in Santa Monica Bay: location; estimate of flow through storm drain; size and design of storm drain; construction completion date of Low Flow Diversion (LFD) and lead agency; drainage area of subwatershed; major land uses; proximity to the surf; and presence of ponding. These data have been compiled by the City of Los Angeles Environmental Monitoring Division (EMD) and Watershed Protection Division (WPD). Flows in Appendix 2 estimate flow through LFDs for diversion of summer dry-weather runoff to the sanitary sewer system.

1b. Details Regarding Existing Treatment

The City, Los Angeles County, and the City of Santa Monica have implemented a total of 23 LFDs to divert summer dry-weather runoff that would otherwise discharge into Santa Monica Bay (SMB). LFDs are located at all "noncompliant" shoreline locations, except SMB 1-18, SMB 7-07, and SMB BC-01. Appendix 3 summarizes the characteristics of the LFDs, their locations, responsible agencies, and corresponding monitoring stations. The current design capacity of the LFDs reflects the desire to divert all urban runoff during summer dry-weather. Therefore, stormdrains with operational LFDs do not discharge to the ocean from the MS4 during summer dry-weather, suggesting that the observed exceedances at these locations may be caused by other sources (Section 1c). The selection of storm drains for LFDs and the needed capacities were determined through several studies:

- The Storm Drain LFD Master Plan (1996) identified the 23 major storm drains along the shoreline for implementation of LFDs; and
- A source investigation study in the Santa Monica Canyon and Temescal Canyon subwatersheds (WPD, 2001), which could not identify the major sources of bacteria. Nevertheless, the study recommended that diverting urban runoff from these locations to the sanitary sewer collection system was the most effective method for eliminating bacteria discharges from the MS4.

Specific details regarding existing treatment at "noncompliant" locations are presented below.

1b-1. SMB 1-18/ Shoreline monitoring locations

This site is outside the City boundary and located in Jurisdiction 1, where the County of Los Angeles acts as the lead agency. The City's area in Jurisdiction 1 is 21 acres, located in Topanga State Park in the Topanga subwatershed. The City's area within this jurisdiction is largely natural, undeveloped open space with a water storage tank on approximately 0.3 acres. Responsible agencies have agreed to exempt the City from Jurisdiction 1 for development of the implementation plan for the Santa Monica Bay Beaches Wet-Weather Bacteria TMDL (Appendix 4).

1b-2. SMB 2-01, 2-02, 2-06, 2-07, 2-10, 2-11, 2-13, 2-15/ Shoreline monitoring locations

The City is the lead agency for Jurisdiction 2 and operates three LFDs at the following locations with reported exceedances (Appendix 3): Temescal Canyon (SMB 2-06), Santa Monica Canyon (SMB 2-07), and Imperial Highway (SMB 2-13). Additionally, the City has four LFDs at the following compliant locations in Jurisdiction 2: Marquez Avenue (SMB 2-03), Bay Club Drive (SMB 2-05), Palisades Park, and Thornton Avenue (no dedicated monitoring stations). The City's LFDs were constructed and in operation before September 14, 2006, the start of the reporting period of the NOV. Currently, the operation of these LFDs runs from April 1 through October 31, but upgrades are being planned for year-round operation (Section 3). The City's Wastewater Collection Services Division (WCSD) continuously inspects and maintains the LFDs. Inspection and operational records do not indicate any interruption in LFD operation during the NOV reporting period. In addition, EMD, during weekly/daily monitoring, found no evidence of MS4 discharges from the City's stormdrains with LFDs. Hence, it is tentatively concluded that: a) the City's LFDs have been in operation during the NOV reporting period and there have been no discharges from the City's MS4; and b) exceedances at SMB 2-06, 2-07, and 2-13 could possibly have been caused by sources other than MS4 discharges.

The County of Los Angeles operates five LFDs at the following "noncompliant" locations (Appendix 3): Castlerock (SMB 2-01), Santa Ynez (SMB 2-02), North Westchester (SMB 2-11), Imperial Highway (SMB 2-13), and Arena Pump Plant (SMB 2-15). All LFDs were in operation before September 14, 2006, except for the LFD at Castlerock, which was completed on April 10, 2007. The County of Los Angeles has one additional LFD at Pulga Canyon (no monitoring station).

1b-3. SMB 3-01, 3-02, 3-03, 3-04, 3-05, 3-06, 3-06, 3-07, 3-08/ Shoreline monitoring locations

The City of Santa Monica is the lead agency for Jurisdiction 3 and operates four LFDs at the following "noncompliant" locations (Appendix 3): Montana Avenue (SMB 3-01), Wilshire Boulevard. (SMB 3-02), Santa Monica Pier (SMB 3-03), and Pico Kenter (SMB 3-04). The County of Los Angeles also operates three LFDs in Jurisdiction 3 at Ashland Avenue (SMB 3-05), Rose Avenue (SMB 3-06), and Brooks Avenue (SMB 3-07). Please refer to the responses of the County of Los Angeles and the City of Santa Monica.

The City only operates one LFD in Jurisdiction 3 at Venice Pavilion (SMB 3-08). This LFD was in operation before September 14, 2006, and no evidence exists of MS4 dicharges during the NOV reporting period.

The City's MS4 does not discharge to SMB 3-01, SMB 3-02 and SMB 3-03 and, therefore, is not responsible for exceedance days at these locations.

1b-4. SMB 7-07/ Shoreline monitoring location

This monitoring location is in Jurisdiction 7, which is designated as an anti-degradation subwatershed. The outfall and its tributary area are located in the City's San Pedro District, but

the stormdrains are all owned by the County of Los Angeles. The City of Rancho Palos Verdes, which acts as lead agency for Jurisdiction 7, conducted an investigation on March 14, 2008. A small amount of flow (less than about one gallon per minute) has been observed, which is a typical dry-weather flow at this location. However, even though there is a small and continuous flow from the SMB 7-07 stormdrain, the bacterial standards were met on 35 days out of a total of 44 monitoring days during the NOV period (Appendix 5).

The City's institutional program (Section 2) includes the area tributary to SMB 7-07.

1b-5. MdRH-1, 2, 3, 5, 6 (D), 6 (S), 7, 9 (S)/ Harbor monitoring locations

The NOV reports 8 locations with exeedances in Marina del Rey Harbor. The County of Los Angeles is the lead agency for implementation of the Marina del Rey Harbor Mothers' Beach and Back Basins Bacteria TMDL and the City is one of the responsible agencies. Several Best Management practices (BMPs) and mitigation measures have been implemented to comply with TMDL requirements (Appendix 6), including two LFDs. A third LFD at Oxford Basin has not yet been constructed due to several setbacks, including a delay of a permit needed from the California Coastal Commission. Baring any further regulatory delays, the County expects this project to be completed by the next dry season.

The City does not have any drainage to MdRH-1, MdRH-2, MdRH-3 (Mother's Beach - abandoned line, local drainage only, no City of LA drainage), and MdRH-9 (Basin F).

1c. Results of Source Investigations

As part of the Implementation Plan development for the Santa Monica Bay Beaches (SMBB) Bacteria TMDL, the City has performed several investigations to characterize the discharges from its MS4 as discussed in Section 1b. In addition, the City's EMD routinely records observations at the monitoring sites visited during routine monitoring. As shown in Appendix 7, several local sources of bacteria exist that are not related to the MS4, but that could potentially contribute to the exceedances at shoreline locations, including: seaweed, beach refuse, ocean debris, animals and birds, and recreational activities. This information is not available for the shoreline locations monitored by the County Department of Health Services. Ponding at the stormdrain outlets at Santa Monica Canyon (SMB 2-07) and Pico-Kenter (SMB 3-04) may also have been a contributing source of bacteria, as it has been observed that these ponds attract beach recreation and birds.

In addition, the County of Los Angeles completed in December 2006 a non-point source study for Marina del Rey Harbor. This study showed that:

- Each back basin (or monitoring location) has very low tidal flushing and each of the three back basins maintains its own local sources of bacteria; and
- The prevailing species that contribute to bacteria pollution in the harbor's back basins are birds and other animals that are generally found in greater numbers in Marina Del Rey than upstream in the City's portion of the watershed. The Dry-Weather Ribotyping Summary for

Basins D, E, and F in Appendix 8 shows that the majority of the bacterial load to Marina del Rey Harbor may be attributed to non-human sources such as local birds, etc.

1c-1 Bacteria Levels at Reference Beach (Point Zero vs. 50 Yard)

Monitoring results for the Leo Carrillo Reference Beach are summarized in Appendices 9 and 10. It is important to note that:

- The reference beach has had exceedances during summer dry-weather period in 2005 and 2006 (Appendix 9); and
- The level of bacteria is sometimes higher at 50 yards south than at the point zero (January – April, 2008), (Appendix 10).

1c-2. California Department of Parks and Recreation

The City has expressed concern that, despite determination by the Regional Board staff, the California Department of Parks and Recreation has jurisdiction over the State Beaches, but has not participated in the implementation of the SMBB Bacteria TMDL. The lack of such plan could increase the beaches' vulnerability to local sources of bacteria and potential exceedances.

1c-3. High Tide Effect

Several storm drain outlets are often fully or partially submerged during high tide, including Castlerock (SMB 2-01), Santa Ynez (SMB 2-02), Temescal Canyon (SMB 2-06), Culver (SMB 2-10), North Westchester (SMB 2-11), and Imperial Highway (SMB 2-13). As shown in Appendix 11, samples during high tide are often collected at the shoreline adjacent to the stormdrain, instead of at point zero. The exceedances observed at those sampling events also suggest that local beach conditions (birds, human activities, etc.) may be factors that contribute to the exceedances. In addition, high tides may cause the formation of berms and ponds at some of the locations (SMB 2-07 and SMB 3-04).

2. DETAILED DESCRIPTION OF REMEDIAL ACTIONS

Prior to the incorporation of the summer dry-weather requirements into the LA MS4 Permit, the City, Los Angeles County, and the City of Santa Monica implemented 23 LFDs to divert summer dry-weather runoff from the MS4s for treatment at the Hyperion Treatment Plant and SMURFF. As discussed under item 1b, these LFDs were in full operation before September 14, 2006, except the LFDs at Castlerock, Wilshire, and Montana (Appendix 3).

The City's WPD and EMD routinely analyze dry-weather bacteria data to assess instances of exceedances. These analyses have focused on exceedances of the single-sample limits for indicator bacteria in summer dry-weather runoff (exceedances of the geometric mean limits are discussed separately in Section 3). Whenever the single-sample limits were exceeded, EMD returned to the shoreline location to take an additional sample within 48 hours and, if needed, after 96 hours according to the procedures for accelerated sampling specified in the Coordinated Monitoring Plan (CMP) for the SMBB Bacteria TMDL. Accelerated sampling results indicate, in

many cases, that exceedances of single sample limits were incidental (perhaps due to natural variation or other causes) and not indicative of an LFD malfunctioning.

In September 2007, a local paper reported a potential discharge from the MS4 at the LFD at Temescal Canyon (SMB 2-06). In response, WPD immediately inspected the location, but could not confirm that such a discharge had indeed occurred. However, as a precautionary measure, WPD and WCSD closely monitored the City's LFDs to ensure continuous and proper LFD operation during the summer period.

The LFDs represent only one measure among many that the City has implemented. The City has implemented an extensive program of institutional measures for pollution source control that supports reduction of bacterial discharges from the City portions in the Santa Monica Bay and Marina del Rey watersheds:

- Catch Basin Cleaning: The City has implemented a citywide program for cleaning catch basins typically at least three to four times a year.
- Public Education: The City provides residents and businesses with pollution prevention information and tips that allow stormwater pollution's biggest contributors to become aware of the impact of the problem. The City Stormwater Public Education Program consists of:
  - Mass Media Advertising Campaign involving coordination with governmental agencies and/or community based organizations in the County of Los Angeles to place advertisements in targeted community papers and outdoor media (billboards/bus shelters);
  - Targeted Public Outreach targeting gardeners, home-improvement and automotive do-it-yourselfers and pet owners by delivering messages designed to motivate behavior changes (e.g., dog walkers cleaning up after their pets);
  - School Education involving assembly programs, classroom presentations and beach and community clean-ups;
  - Business Outreach providing businesses with activities and programs designed to motivate behavior change and allow business establishments to meet the requirements of the adopted NPDES Municipal Stormwater Permit; and
  - Public Agency Employee Training offering public agency employees training courses and materials pertaining to the target pollutants of the City's outreach efforts, including litter (trash), paint, pesticides, fertilizer, and pet waste.
- Street Maintenance: The City provides a wide range of street cleaning activities, including:
  - Sweeping streets in commercial, industrial, and residential areas on a daily, weekly, and monthly basis;
  - Special cleaning before and after parades and civic events;
  - Cleaning of pedestrian tunnels and public stairways;
  - Maintenance of all trash receptacles;
  - Removal of small concentrations of litter and illegally dumped debris from public streets and alleys; and
  - Emergency response to illicit discharges.
- Improved Restaurant and Grocery Store Trash Management: Uncontained waste from restaurants and grocery stores can become a pathway for bacteria to enter the storm drain system. The City frequently inspects restaurants and grocery stores to increase the awareness

of these facilities' operators on the importance of trash management and to cite violators. These measures were implemented prior to the incorporation of the TMDL summer dry weather requirements into the LA MS4 Permit and are ongoing.

3. DETAILED DESCRIPTION OF ADDITIONAL PREVENTIVE ACTIONS

To comply with winter dry-weather runoff requirements, the City is upgrading the capacity of its 8 existing LFDs to accommodate the higher flow associated with winter dry-weather urban runoff. As part of this upgrade, backup pumps and power generators will be installed to improve performance and reliability of operation. The estimated cost for upgrading the City's LFDs is about $35 million and completion is expected by November 2009.

In addition, the City will work with the Los Angeles County Department of Beaches and Harbors and other agencies to address the potential adverse impacts of ponding at shoreline locations that have reported exceedances.

4. SITE SMB BC-01

The REC-1 monitoring locations nearest to SMB BC-01 are SMB 2-09 and SMB 2-10. Whereas SMB BC-01 is listed for 209 exceedances, SMB 2-09 was fully compliant and not included in the NOV and the LFD at SMB 2-10 was fully operational during the NOV reporting period. In addition, SMB BC-01 is not used as a recreational area.

Compliance at SMB BC-01 should be based on the compliance requirements of the Ballona Creek, Ballona Estuary and Sepulveda Channel Bacterial TMDL (BC Bacteria TMDL) by 2013. Several documents support this understanding:

Reference: Regional Board Staff Report for the SMBB Bacteria TMDL, 1/11/02, Section 8.4, p.28.
"...To estimate the cost of implementing the TMDL, staff has compiled (1) the capital cost of diversion the remaining 10 major storm drains and the operation and maintenance (O&M) cost of diverting all the major storm drains entering Santa Monica Bay during the period from April 1 to October 31, (2) the additional O&M cost to divert the 27 major storm drains during dry weather through the year, and (3) the cost to address dry weather runoff from natural creeks. The cost for beaches drained by the Malibu Creek watershed and Ballona Creek watershed are not addressed below, as there are separate TMDLs for bacteria for these two systems. As such, cost considerations will be considered in the individual bacteria TMDL for these two systems...." (emphasis added)

Reference: Regional Water Quality Control Board Meeting, 9/14/06, Transcript, pgs. 362-363.
The meeting addressed the amendment of the LA MS4 permit to incorporate summer dry weather waste load allocations established in the SMBB Bacteria TMDL and the Marina del Rey Harbor Mothers' Beach and Back Basin Bacteria TMDL, as follows:

"....SENIOR STAFF COUNSEL LEVY: In like regard, Mr. Chair, Mr. Tahir from the City of Inglewood asked a question about whether or not this amendment would apply to the City of Inglewood. And the answer is that Inglewood does not discharge directly to Santa Monica Bay. They discharge to Ballona Creek. While Ballona Creek is covered by the TMDL, it's not covered by this amendment to the MS-4 permit because the MS-4 permit only addresses discharges directly to Santa Monica Bay.
CHAIRPERSON NAHAI: I was going to ask the question about Inglewood. Thank you for responding to that....." (emphasis added)

Reference: CMP for SMBB Bacteria TMDL, April 2004, Section 3.10, pgs. 3-29.
"...Therefore, the Regional Board staff believes it would be premature to require submittal of TMDL compliance plans and set interim compliance targets for these beach locations prior to developing the overall TMDL compliance plans and schedules for the proposed Malibu Creek Watershed Bacteria TMDL and the forthcoming Ballona Creek Watershed Bacteria TMDL..." (emphasis added)

In addition, in meetings held between Regional Board staff and the Technical Steering Committee during the development of the CMP for the SMBB Bacteria TMDL, the City understood that: a) monitoring at SMB BC-01 was initially to be used to collect data for observation purposes; b) monitoring at this location was to be transferred from the CMP for the SMBB Bacteria TMDL and incorporated into the CMP for the BC Bacteria TMDL, once the latter TMDL was in effect; and c) data collected at SMB BC-01 under the CMP for the SMBB Bacteria TMDL would later serve as a historical baseline upon commencement of sampling under the CMP for the BC Bacteria TMDL.

5. GEOMETRIC MEAN LIMIT EXCEEDANCES

As an additional comment, the City notes that the calculation methodology for the rolling-30 day geometric mean in the NOV is different from the method in the approved CMP for the SMBB Bacteria TMDL and MdRH Mother's Beach and Back Basins Bacteria TMDL:

- In the NOV, the Regional Board only uses the last available sampling data (for locations sampled on weekly schedule).
- The method in the CMP assigns weekly test results to the remaining days of the week, after which the 30-day rolling geometric mean is calculated.

As a result, the NOV reports a significantly larger number of exceedances of the geometric mean limits than if the CMP method had been used. For instance, the number of exceedances of the geometric mean limit for enterococcus at Temescal Canyon (SMB 2-06) is 82 in the NOV, but using the CMP method would have resulted in 61 exceedances. This is a reduction of 26% at SMB 2-06, but can be up to 90% at other locations (Appendix 12).

Additional comments:

- The EPA has stated: *"....the geometric mean is a more relevant value for ensuring that appropriate actions are taken to protect and improve water quality...."*. The City has already been proactive in taking appropriate actions in protecting and improving water quality, and will continue those efforts.
- Studies by the Southern California Coastal Water Research Project (SCCWRP) have strongly suggested that the current bacteria indicators used to determine compliance may not be accurate and are overly conservative in addressing health risk for swimmers and beach goers.
- In addition, the validity of the underlying bacteria objective and its applicability to stormwater has recently been called into question in Minute Order in *Cities of Arcadia, et al v. SWRCB and LARWQCB*, Orange County Superior Court Case No. 06CCO2974 (03/13/2008).
- On several occasions in the past, the City has expressed concerns that a single case of exceeding a single-sample limit could trigger a series of exceedance days of the corresponding geometric mean limit, even though the actual water quality may already have returned to a situation of no risk to public health and the environment as evidenced by compliance with all single-sample limits. The City has suggested that a better approach for geometric mean limits could be to assess compliance on the basis of a calendar month. This option is now a suggested alternative for consideration by the Regional Board in the TMDL reopener.
- The City further believes that, as the TMDL reconsideration period is in progress, it would be premature to hold the agencies cited in the NOV responsible for exceedances of the geometric mean limits until all concerns with the use of these limits and the method of calculation have been addressed. The TMDL reopener should also consider that geometric mean limits are sometimes exceeded at the reference beach (Appendix 9).
- The geometric mean has some value in assessing compliance by reducing the large variability of single sample results, and some epidemiological studies are based on geometric mean data. It can be questioned, however, to use a 30-day geometric mean estimate to determine an exceedance on any given day. Geometric mean exceedances are more appropriate for identifying locations with a systemic problem that needs to be addressed. Even then, a site-specific evaluation is required because, as noted here, the geometric mean limit is sometimes exceeded at the reference beach. Therefore, the City recommends that a task force with all stakeholders represented, including experts, be formed to assess an appropriate method to utilize geometric mean data for compliance evaluation of bacteriological data.

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APPENDICES

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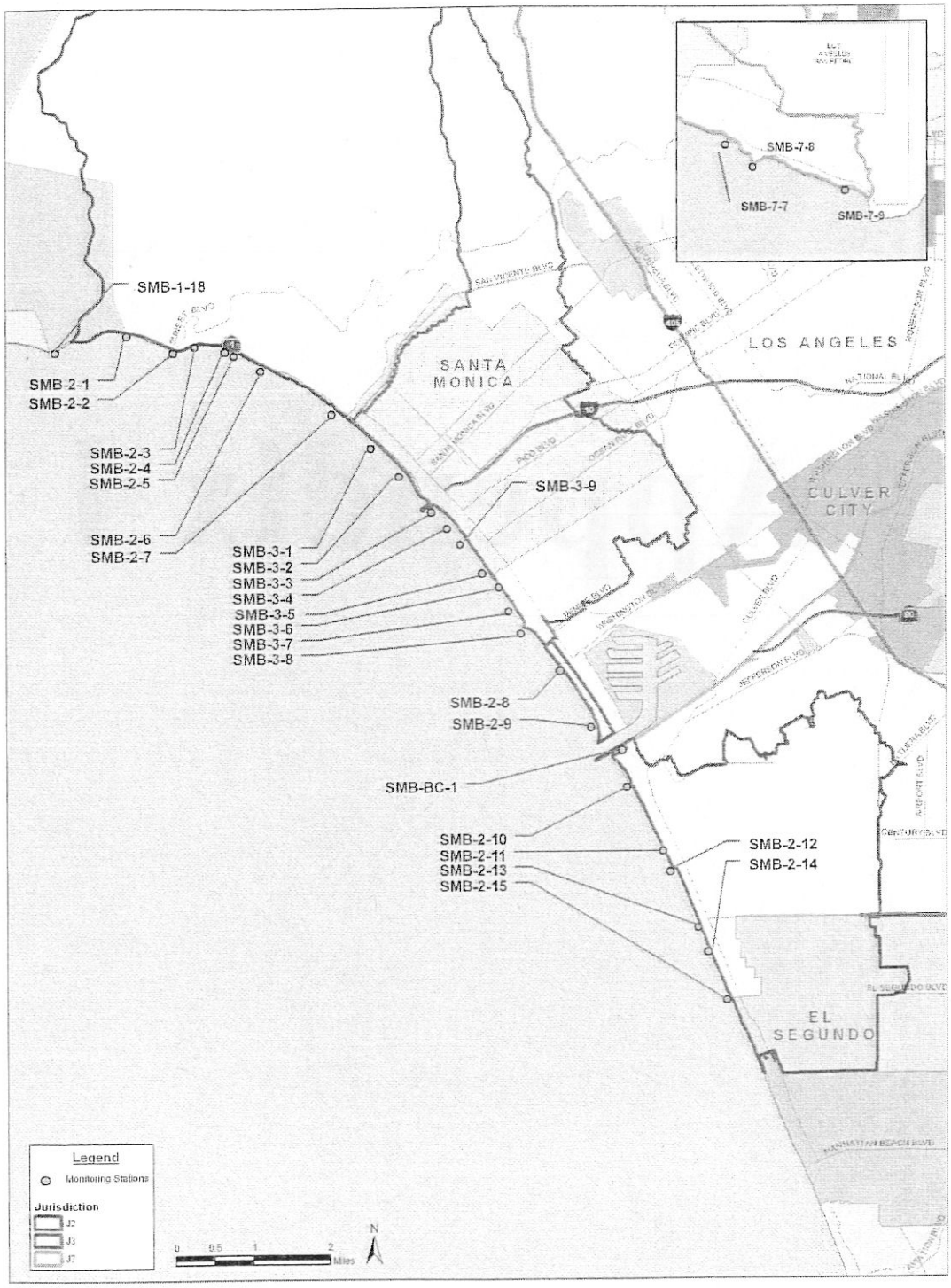
Appendix 2: Summary of Shoreline Locations with Identified in NOV
Appendix 3: Characteristics of Low Flow Diversion
Appendix 4: Jurisdiction 1 Land Contribution Exclusion Memo
Appendix 5: Observations at SMB 7-07 by County of Los Angeles Sanitation District
Appendix 6: Summary of BMPs/Mitigation Measures at Marina del Rey
Appendix 7: Observations at Exceedance Locations
Appendix 8: Dry Weather Host Sources for Marina del Rey Basin C, D, and F Combined
Appendix 9: Exceedances at Reference Beach (2005 and 2006)
Appendix 10: Bacteria Levels at Point Zero vs. 50 Yards, Leo Carillo Beach
Appendix 11: High Tide Effect
Appendix 12: Summary of Exceedance Days: 20-Day Geometric Mean Calculation by RB vs. CMP Method

Appendix 1

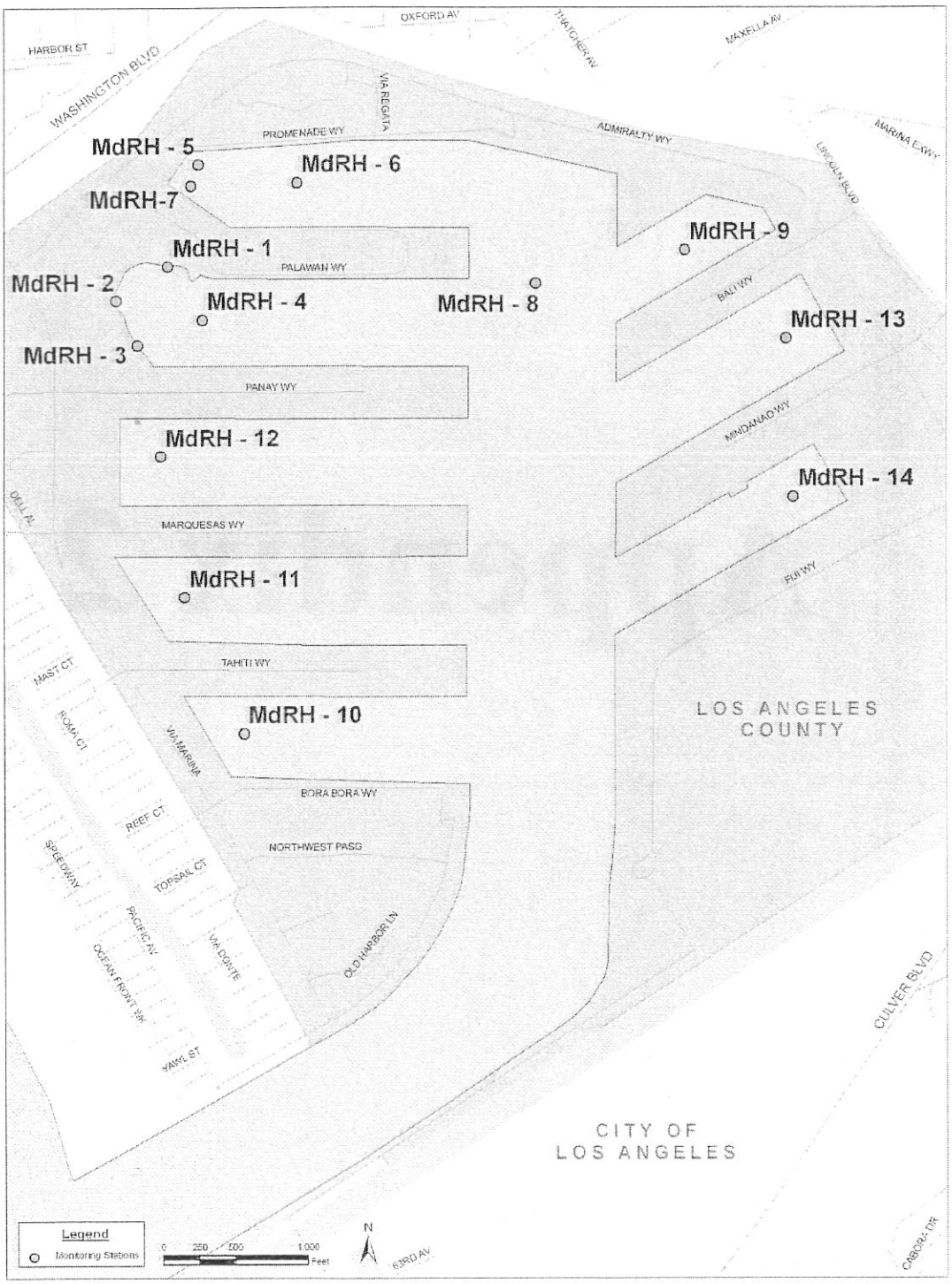
Appendix 1. Compliance Monitoring Locations Shoreline and Harbor

Compliance Monitoring Locations (Shoreline)



Appendix 1 – 2 of 2

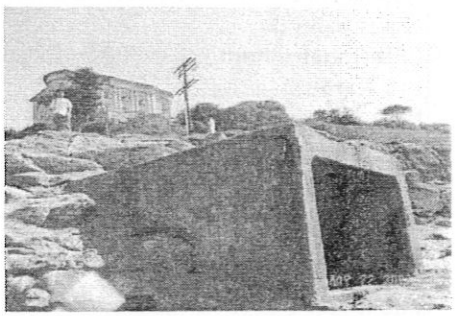
Compliance Monitoring Locations (Harbor/Marina del Rey)

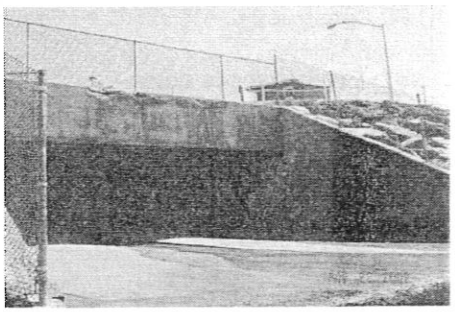


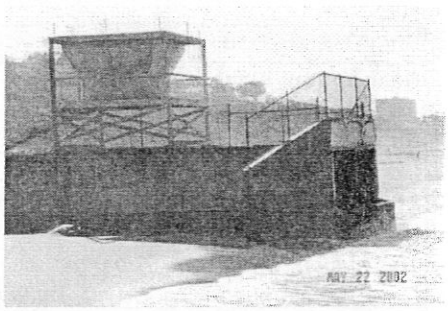
Appendix 2

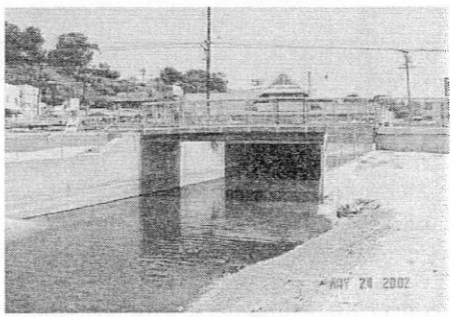
Appendix 2. Summary of Shoreline Locations Identified in NOV

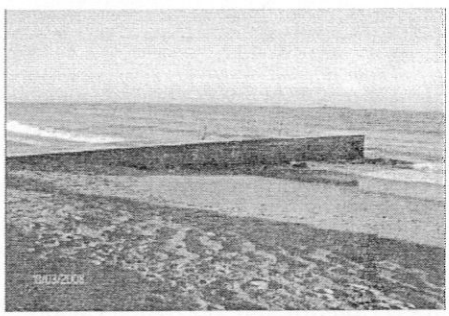
Site ID: SMB-1-18	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the wave wash of Topanga Canyon **Summer Dry Flow Estimate:** Not available **LFD Constructed:** N/A **No. of exceedances days:** 10 *This station is within the Topanga Canyon watershed in LA County outside the City's boundary except for one small undeveloped DWP parcel with a water tower, City of LA was excluded from participation in Jurisdiction 1*	Topanga Canyon with total area of 12,575 acres including natural open space (89.8%)	Ponded

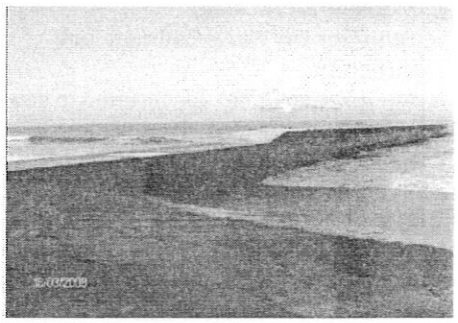
Site ID: SMB-2-01	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: In front of the Castlerock/Parker Mesa storm drain, which is a 60" x 96" box structure **Summer Dry Flow Estimate and direction:** Approximate 0.167 cfs diverted to sewer via LFD **LFD Constructed:** 11/5/2006 County of Los Angeles **No. of exceedances days:** 75	Castlerock with total area of 4,982 acres including natural open space (82%)	Zero - rocky cliff, no ponding 

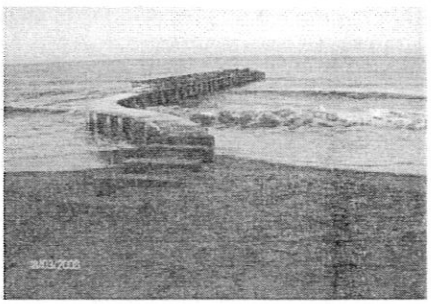
Site ID: SMB-2-02	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the mouth of Santa Ynez storm drain, which is a 72" x 240" box outlet **Summer Dry Flow Estimate and direction:** Approximate 1.876 cfs diverted to sewer via LFD **LFD Constructed:** 6/22/2006 County of Los Angeles **No. of exceedances days:** 1	Santa Ynez with total area of 1,203 acres including natural open space (46%)	Zero - no ponding 

Site ID: SMB-2-06	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the wave wash of Temescal Canyon storm drain, which is a 72" x 72" outlet box **Summer Dry Flow Estimate and direction:** Approximate 1.300 cfs divert to sewer via LFD **LFD Constructed:** 6/23/2003 by City of Los Angeles **No. of exceedances days:** 89	Pulga Canyon with total area of 1,984 acres including natural open space (74%)	Zero - no ponding 

Site ID: SMB-2-07	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the wave wash of Santa Monica Canyon , which is a 480" x 144" channel **Summer Dry Flow Estimate and direction:** Approximate 5.00 cfs diverted to divert to sewer via LFD **LFD Constructed:** 6/10/2003 by City of Los Angeles **No. of exceedances days:** 10	Santa Monica Caynon with total area of 10,125 acres including natural open space (77%)	Approximate 500 feet of sandy beach ponding 

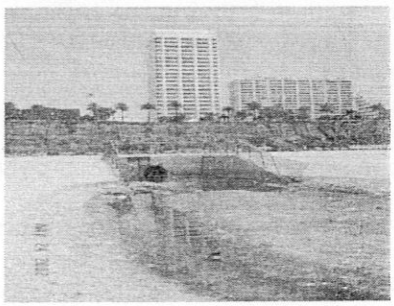
Site ID: SMB-2-10	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the wave wash of Culver storm drain **Summer Dry Flow Estimate and direction:** Diverted to sewer via LFD **LFD Constructed:** 4/15/2001 by County of Los Angeles **No. of exceedances days:** 1	Dockweiler with total area of 6,879 acres, including transportation (30%)	Zero - no ponding 

Site ID: SMB-2-11	Subwatershed:	Proximity to surf/presence of ponding
Description: At the mouth of the North Westchester storm drain, which is a 120" x 144" concrete box structure **Summer Dry Flow Estimate and direction:** Approximate 1.159 cfs diverted to sewer via LFD **LFD Constructed:** 4/5/2004 by County of Los Angeles **No. of exceedances days:** 1	Dockweiler with total area of 6,879 acres including transportation (30%)	Zero - no ponding 

Site ID: SMB-2-13	Subwatershed:	Proximity to surf/presence of ponding
Description: At the Imperial Highway storm drain, which is a 84" x 120" box structure **Summer Dry Flow Estimate and direction:** Approximate 0.101 and 0.267 cfs diverted to sewer via 2 LFDs **LFD Constructed:** 4/17/2006 by County of Los Angeles **LFD Constructed:** 6/29/2003 by City of Los Angeles **No. of exceedances days:** 1	Dockweiler with total area of 6,879 acres including 30% transportation	Zero - no ponding 

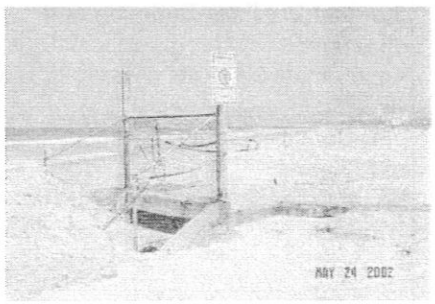
Site ID: SMB-2-15	Subwatershed:	Proximity to surf/presence of ponding
Description: At the oulet of Grand Boulevard storm drain, which is an 18" drain **Summer Dry Flow Estimate and direction:** Approximate 0.111 cfs diverted to sewer via LFD **LFD Constructed:** 3/3/2006 by City of Los Angeles **No. of exceedances days:** 1	Dockweiler with total area of 6,879 acres including transportation (30%)	Zero - no ponding Photograph unavailable

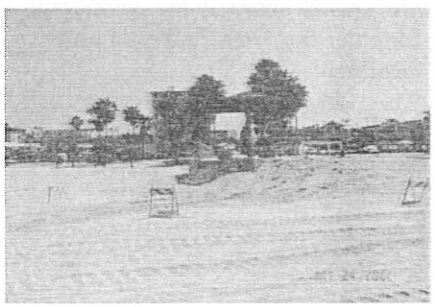
Site ID: SMB-3-01	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the wave wash of Montana storm drain **Summer Dry Flow Estimate and direction:** Approximate 0.503 cfs diverted to sewer via LFD **LFD Constructed:** 7/31/2007 by City of Santa Monica **No. of exceedances days:** 67 *No City of Los Angeles drainage*	Santa Monica with total area of 8,850 acres including of natural open space (13%)	The outfall completely backfilled with sand approximate 480 feet from the high tide line. Photograph unavailable

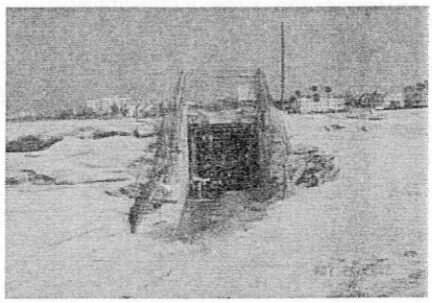
Site ID: SMB-3-02	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the wave wash of Wilshire storm drain **Summer Dry Flow Estimate and direction:** Approximate 0.503 cfs diverted to sewer via LFD **LFD Constructed:** 1/7/2008 by City of Santa Monica **No. of exceedances days:** 26 *No City of Los Angeles drainage*	Santa Monica with total area of 8,850 acres including of natural open space (13%)	The outfall approximate 480 feet from the high tide line. 

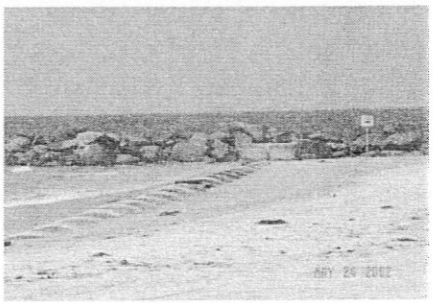
Site ID: SMB-3-03	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the south of the end of Santa Monica Pier **Summer Dry Flow Estimate and direction:** Diverted to SMURRF **LFD Constructed:** 2/1/2001 by City of Santa Monica divert to Santa Monica Urban Runoff Treatment Facility **No. of exceedances days:** 236 *No City of Los Angeles drainage*	Santa Monica with total area of 8,850 acres including of natural open space (13%)	The outfall approximate 190 feet east from the high tide line. Photograph unavailable

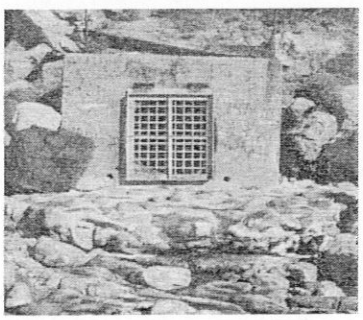
Site ID: SMB-3-04	Subwatershed:	Proximity to surf/presence of ponding
Description: At the wave wash of Pico-Kenter storm drain **Summer Dry Flow Estimate and direction:** Diverted to SMURRF **LFD Constructed:** 2/1/2001 by City of Santa Monica divert to Santa Monica Urban Runoff Treatment Facility **No. of exceedances days:** 15	Santa Monica with total area of 8,850 acres including of natural open space (13%)	The outfall approximate 600 feet east from the high tide line.

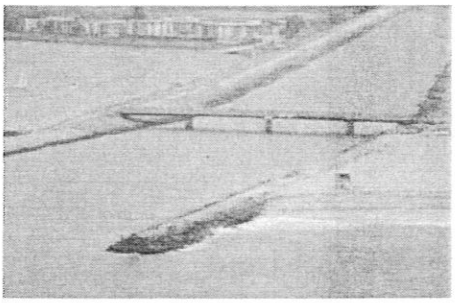
Site ID: SMB-3-05	Subwatershed:	Proximity to surf/presence of ponding
Description: At the wave wash of Asland storm drain **Summer Dry Flow Estimate and direction:** Approximate 0.200 cfs diverted to sewer via LFD **LFD Constructed:** 5/6/2006 by County of Los Angeles **No. of exceedances days:** 4	Santa Monica with total area of 8,850 acres including of natural open space (13%)	The outfall approximate 20 feet east from the high tide line. 

Site ID: SMB-3-06	Subwatershed:	Proximity to surf/presence of ponding
Description: At the wave wash of Rose Avenue storm drain **Summer Dry Flow Estimate and direction:** Approximate 0.111 cfs diverted to sewer via LFD **LFD Constructed:** 6/14/2005 by County of Los Angeles **No. of exceedances days:** 2	Santa Monica with total area of 8,850 acres including of natural open space (13%)	The outfall approximate 350 feet from the surf zone. 

Site ID: SMB-3-07	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the wave wash of Brooks Avenue storm drain **Summer Dry Flow Estimate and direction:** Approximate 0.223 cfs diverted to sewer via LFD **LFD Constructed:** 4/15/2001 by County of Los Angeles **No. of exceedances days:** 3	Santa Monica with total area of 8,850 acres including of natural open space (13%)	The outfall approximate 200 feet from the surf zone. 

Site ID: SMB-3-08	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the wave wash of Venice Pavillion outlet **Summer Dry Flow Estimate and direction:** Approximate 0.440 cfs diverted to sewer via LFD **LFD Constructed:** 6/10/2003 by City of Los Angeles **No. of exceedances days:** 3	Santa Monica with total area of 8,850 acres including of natural open space (13%)	The outfall is directly adjacent to the surf zone 

Site ID: SMB-7-07	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the wave wash of storm drain outfall shown in the photograph **Summer Dry Flow Estimate and direction:** 0.002 228 cfs (less than 1 gallon per minute) **No. of exceedances days:** 9	Palos Verdes Peninsula with total area of 10,023 acres including of natural open space (13%)	The site is separated from the surf zone by approximately 50 feet of rocky shoreline. 

Site ID: SMB-BC-01	**Subwatershed:**	**Proximity to surf/presence of ponding**
Description: At the wave wash of Ballona Creek **Summer Dry Flow Estimate and direction:** Not available **No. of exceedances days:** 119 *Coordinated Monitoring Plan for Ballona Creek Bacterial is being developed*	Ballona Creek with total area of 81,980 acres including of natural open space (15.4%)	Zero - no ponding 

Appendix 3

Appendix 3

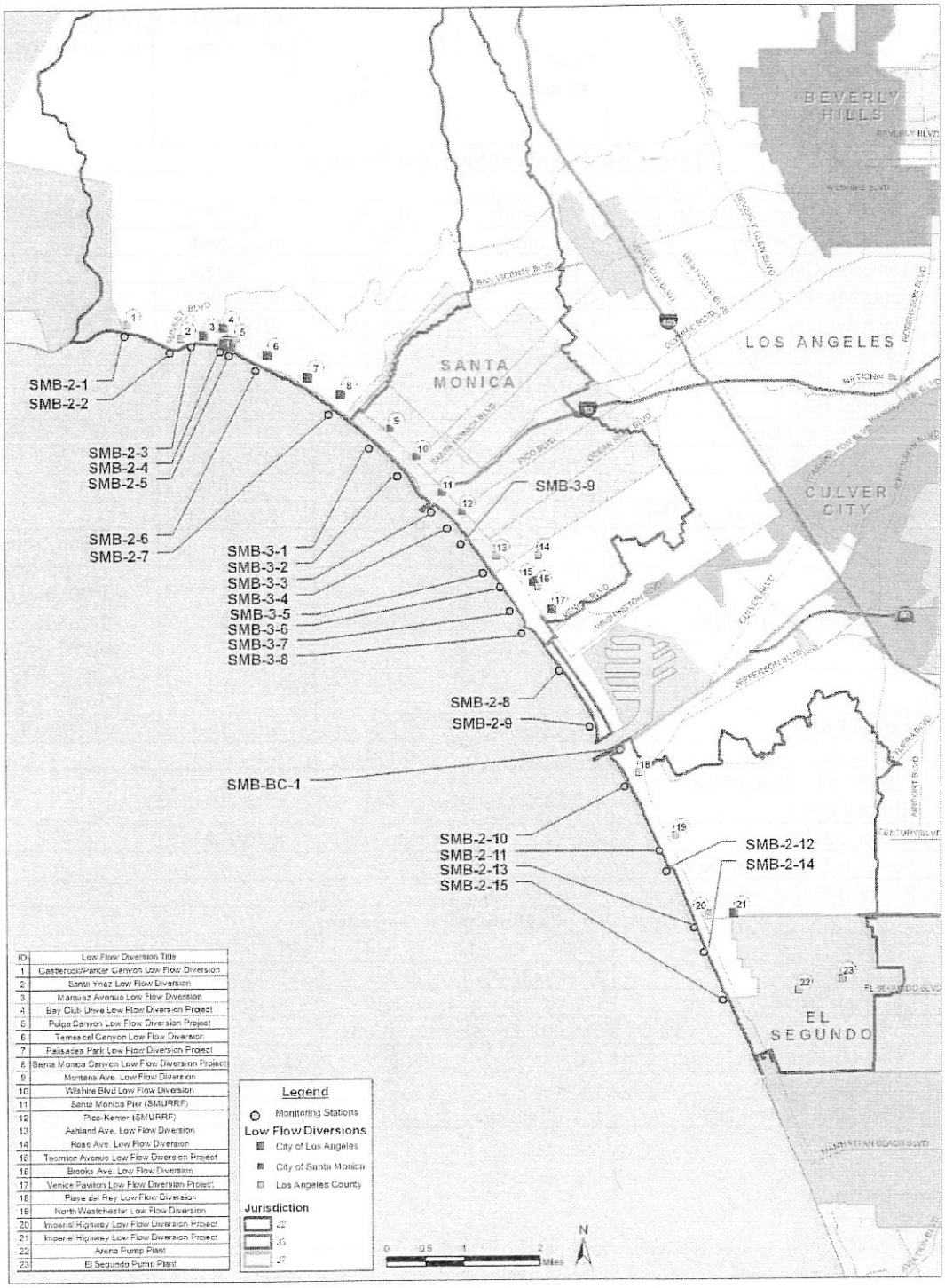
Appendix 3. Characteristics of Low Flow Diversion

Location	LFD Name	Lead Agency	Summer Dry Weather		
			Daily discharge Flow (CFS)	Const. Comp. Date[1]	Not in Operation [2]
LFDs at Noncompliant Shoreline Locations					
SMB 1-18	See Jurisdiction 1 in the report				
SMB 2-01	Castlerock/Parker Canyon	LA County	0.167	4/10/2007	4/1/07 to 4/10/07
SMB 2-02	Santa Ynez Canyon	LA County	1.876	6/22/2006	
SMB 2-06	Temescal Canyon	CLA	1.300	6/23/2003	
SMB 2-07	Santa Monica Canyon	CLA	5.000	6/10/2003	
SMB 2-10	Playa del Rey	LA County	unknown	4/15/2001	9/14/06 to 10/31/06
SMB 2-11	North Westchester	LA County	1.159	7/29/2004	
SMB 2-13	Imperial Hwy	LA County	0.267	4/17/2006	
	Imperial Hwy	CLA	0.101	6/29/2003	
SMB 2-15	Arena Pump Plant	LA County	0.111	6/13/2006	9/14/06 to 10/03/06
SMB 3-01	Montana Ave.	CSM	0.503	7/31/2007	
SMB 3-02	Wilshire Blvd	CSM	0.503	1/7/2008	
SMB 3-03	Santa Monica Pier (SMURRF)	CSM	unknown	2/1/2001	
SMB 3-04	Pico-Kenter (SMURRF)	CSM	unknown	2/1/2001	7/20/06, 7/25/06 to 7/27/06, 8/30/06, 9/13/06 to 10/3/06, 10/24/06 to 10/25/06, 4/2/07 to 4/6/07, 4/9/07 to 4/12/07 and 5/16/07 to 5/18/07
SMB 3-05	Ashland Ave.	LA County	0.200	6/10/2006	4/1/07 to 4/24/07
SMB 3-06	Rose Ave.	LA County	0.111	6/14/2005	
SMB 3-07	Electric Ave. Pump Plant (Brooks Ave.)	LA County	0.223	4/15/2001	
SMB 3-08	Venice Pavilion	CLA	unknown	6/10/2003	
SMB 7-07	See Jurisdiction 7 in the report				
SMB BC-01	See Jurisdiction 8 in the report				
LFDs at Compliant Shoreline Locations					
SMB 2-03	Marquez Avenue	CLA	0.030	4/14/2006	
SMB 2-04	Pulga Canyon	LA County	0.290	6/22/2004	4/1/07 to 4/4/07
SMB 2-05	Bay Club Drive	CLA	0.060	1/24/2001	
LFDs Without Shoreline Locations					
	Palisades Park	CLA	0.060	11/28/2000	
	Thornton Avenue	CLA	0.070	6/22/1999	
	El Segundo Pump Plan	LA County	0.111	6/13/2006	9/14/06 to 9/29/06

Note:

LA County: Los Angeles County
CLA: City of Los Angeles
Const. Comp. Date[1]: Construction completion date; start operation for diverting summer dry weather runoff
Not in Operation[2]: Information provided by County of Los Angeles, and City of Santa Monica

Map with Locations of LFDs (names) and Sampling Stations (numbers)



ID	Low Flow Diversion Title
1	Castlerock/Parker Canyon Low Flow Diversion
2	Santa Ynez Low Flow Diversion
3	Marquez Avenue Low Flow Diversion
4	Bay Club Drive Low Flow Diversion Project
5	Pulga Canyon Low Flow Diversion Project
6	Temescal Canyon Low Flow Diversion
7	Palisades Park Low Flow Diversion Project
8	Santa Monica Canyon Low Flow Diversion Project
9	Montana Ave. Low Flow Diversion
10	Wilshire Blvd Low Flow Diversion
11	Santa Monica Pier (SMURRF)
12	Pico-Kenter (SMURRF)
13	Ashland Ave. Low Flow Diversion
14	Rose Ave. Low Flow Diversion
15	Thornton Avenue Low Flow Diversion Project
16	Brooks Ave. Low Flow Diversion
17	Venice Pavilion Low Flow Diversion Project
18	Playa del Rey Low Flow Diversion
19	North Westchester Low Flow Diversion
20	Imperial Highway Low Flow Diversion Project
21	Imperial Highway Low Flow Diversion Project
22	Arena Pump Plant
23	El Segundo Pump Plant

Appendix 4

Appendix 4. Jurisdiction 1 Land Contribution Exclusion Memo

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC WORKS
"Enriching Lives"

JAMES A. NOYES, Director

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
www.ladpw.org

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

December 10, 2003

IN REPLY PLEASE REFER TO FILE: WM-7

Mr. Shahram Kharaghani
Program Manager
Watershed Protection Division
City of Los Angeles
Department of Public Works
2714 Media Center Drive, MS 756
Los Angeles, CA 90065

SK
MFS
WKT
SHN
SSP
MEM
JNA
File

Dear Mr. Kharaghani:

SANTA MONICA BAY BEACHES WET-WEATHER BACTERIA TOTAL MAXIMUM DAILY LOAD JURISDICTIONAL GROUP 1 CITY OF LOS ANGELES LAND CONTRIBUTION EXCLUSION

Thank you for your letter of November 6, 2003, requesting not to participate in the development of the Santa Monica Bay Beaches Wet-Weather Bacteria Total Maximum Daily Load (TMDL) implementation plan for Jurisdictional Group 1 and notifying us of your intentions regarding the compliance monitoring cost-sharing agreement.

Although the TMDL does not require that a coordinated implementation plan be developed, we appreciate the notification of your intention not to participate. We will not request a letter of intent to participate in the development of the implementation plan from your city for Jurisdictional Group 1. We do look forward to working with your city on TMDL implementation plans in other Jurisdictional Groups.

We support your proposal to exclude the natural areas and open space attributed to California State Parks and Recreation for the purposes of compliance monitoring. We will consider only the 0.3 acres of your storage tanks as the city's contributing area upon the Los Angeles Regional Water Quality Control Board's issuance of revised land area tables provided in the TMDL staff report. We would appreciate your assistance and participation in working with the Regional Board to ensure the exclusion of all natural areas and open space within Santa Monica Bay watersheds subject to the TMDL. We believe that it is important for your city to be involved in the revision of the land area tables provided in the TMDL staff report and the addition of consistent language within the TMDL regarding natural areas and open space.

RECEIVED
DEC 15 2003

We look forward to working with your city and other Jurisdictional Group 1 responsible agencies to identify the most cost-effective approaches and financial plan to meet TMDL requirements. If you have any questions, please contact Mr. Dan Lafferty at (626) 458-4325 or by e-mail at dlaff@ladpw.org.

Very truly yours,

JAMES A. NOYES
Director of Public Works

ROD H. KUBOMOTO
Assistant Deputy Director
Watershed Management Division

CT:kk
P:\wmpub\BMD Watershed\North Santa Monica Bay Watersheds\Jurisdiction 1\LA_land contrib_letter.doc

cc: Los Angeles Regional Water Quality Control Board (Renee DeShazo)
Santa Monica Bay Bacteria TMDL Jurisdiction 1 Responsible Agencies

Appendix 5

Appendix 5. Observations at SMB 7-07 by County of Los Angeles Sanitation District

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
JOINT WATER POLLUTION CONTROL PLANT
SMBBB TMDL SPECIAL STUDY
(NON-COMPLIANCE & NON-NPDES PERMIT REQUIRED)

DATE: 4/2/2009

Site Id:	SMB-7-7	Site Id:	SMB-0-5
Time	9:58:00 AM	Time	9:37:00 AM
Water Color	Green	Drain Color	None Detected
Turbidity	Clear	Drain Turbidity	Clear
Odor	No	Odor	No
Sewage Grease	None	Sewage Grease	None
Fecal Matter	None	Fecal Matter	None
Sewage Garbage	None	Sewage Garbage	None
Tar/Oil	None	Tar/Oil	None
Garbage	Trace	Garbage	Trace
Kelp Deposits	Trace	Kelp Deposits	Light
Storm Drain Flow	Low Flow	Storm Drain Flow	Low Flow
Storm Drain Reaches Surf	Y	Storm Drain Reached Surf	Y
Bathers In Water	0	Bathers In Water	0
Bathers Onshore	0	Bathers Onshore	0

Remarks:

Observations By:
T. Finn

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
JOINT WATER POLLUTION CONTROL PLANT
SMBBB TMDL SPECIAL STUDY
(NON-COMPLIANCE & NON-NPDES PERMIT REQUIRED)

DATE: 7/30/2007

Site Id:	SMB-7-7
Time	10:10:00 AM
Water Color	Green
Turbidity	Clear
Odor	No
Sewage Grease	None
Fecal Matter	None
Sewage Garbage	None
Tar/Oil	None
Garbage	None
Kelp Deposits	Trace
Storm Drain Flow	Low Flow
Storm Drain Reaches Surf	Y
Bathers in Water	0
Bathers Onshore	0

Site Id:	SMB-D-9
Time	8:29:00 AM
Drain Color	None Detected
Drain Turbidity	Clear
Odor	No
Sewage Grease	None
Fecal Matter	None
Sewage Garbage	None
Tar/Oil	None
Garbage	Trace
Kelp Deposits	Trace
Storm Drain Flow	Low Flow
Storm Drain Reaches Surf	Y
Bathers In Water	0
Bathers Onshore	0

Remarks:

Observations By:
J.Finn

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
JOINT WATER POLLUTION CONTROL PLANT
SMBBB TMDL SPECIAL STUDY
(NON-COMPLIANCE & NON-NPDES PERMIT REQUIRED)

DATE: 8/1/2007

Site Id:	SMB 7.7
Time	8:41:00 AM
Water Color	Green
Turbidity	Clear
Odor	No
Sewage Grease	None
Fecal Matter	None
Sewage Garbage	None
Tar/Oil	None
Garbage	Trace
Kelp Deposits	None
Storm Drain Flow	Medium Flow
Storm Drain Reaches Surf	Y
Bathers In Water	0
Bathers Onshore	3

Site Id:	SMB-O-9
Time	
Drain Color	
Drain Turbidity	
Odor	
Sewage Grease	
Fecal Matter	
Sewage Garbage	
Tar/Oil	
Garbage	
Kelp Deposits	
Storm Drain Flow	
Storm Drain Reaches Surf	
Bathers In Water	
Bathers Onshore	

Remarks:
SMB 7.7 Resampled due to extenuating public health exceedance on 07/30/07.
Raingage not read.
@ SMB 7.7: cloudy, ~75 degrees (F),
wind ~ 2mph, 1.9 ft flooding.

Observations By:
E.Crisostomo

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
JOINT WATER POLLUTION CONTROL PLANT
SMBBB TMDL SPECIAL STUDY
(NON-COMPLIANCE & NON-NPDES PERMIT REQUIRED)

DATE: 7/31/2007

Site Id:	SMB-7-7
Time	11:01:00 AM
Water Color	Green
Turbidity	Clear
Odor	No
Sewage Grease	None
Fecal Matter	None
Sewage Garbage	None
Tar/Oil	None
Garbage	Trace
Kelp Deposits	None
Storm Drain Flow	Low Flow
Storm Drain Reaches Surf	Y
Bathers In Water	0
Bathers Onshore	2

Site Id:	SMB-O-9
Time	8:45:00 AM
Drain Color	None Detected
Drain Turbidity	Clear
Odor	No
Sewage Grease	None
Fecal Matter	None
Sewage Garbage	None
Tar/Oil	None
Garbage	Trace
Kelp Deposits	None
Storm Drain Flow	Medium Flow
Storm Drain Reaches Surf	Y
Bathers In Water	0
Bathers Onshore	0

Remarks:
SMB-7-7 1 day exclude

Observations By:
C.Crosslame

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
JOINT WATER POLLUTION CONTROL PLANT
SMBBB TMDL SPECIAL STUDY
(NON-COMPLIANCE & NON-NPDES PERMIT REQUIRED)

DATE: 5/7/2007

Site Id	SMB-7-7
Time	11:00:00 AM
Water Color	Green
Turbidity	Clear
Odor	No
Sewage Grease	None
Fecal Matter	None
Sewage Garbage	None
Tar/Oil	None
Garbage	Trace
Kelp Deposits	None
Storm Drain Flow	Low Flow
Storm Drain Reaches Surf	Y
Bathers In Water	11
Bathers Onshore	2

Site Id	SMB-O-9
Time	8:43:00 AM
Drain Color	None Detected
Drain Turbidity	Clear
Odor	No
Sewage Grease	None
Fecal Matter	None
Sewage Garbage	None
Tar/Oil	None
Garbage	Trace
Kelp Deposits	None
Storm Drain Flow	Medium Flow
Storm Drain Reaches Surf	Y
Bathers In Water	0
Bathers Onshore	0

Remarks:

Observations By:
C.Crosstorno

Note: No exceedance in this day

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
JOINT WATER POLLUTION CONTROL PLANT
SMBBB TMDL SPECIAL STUDY
(NON-COMPLIANCE & NON-NPDES PERMIT REQUIRED)

DATE: 6/11/2007

Site Id:	SMB-7-7
Time	10:35:00 AM
Water Color	Green
Turbidity	Clear
Odor	No
Sewage Grease	None
Fecal Matter	None
Sewage Garbage	None
Tar/Oil	None
Garbage	Trace
Kelp Deposits	None
Storm Drain Flow	Low Flow
Storm Drain Reaches Surf	Y
Bathers In Water	0
Bathers Onshore	0

Site Id:	SMB O-9
Time	8:42:00 AM
Drain Color	None Detected
Drain Turbidity	Clear
Odor	No
Sewage Grease	None
Fecal Matter	None
Sewage Garbage	None
Tar/Oil	None
Garbage	None
Kelp Deposits	None
Storm Drain Flow	Low Flow
Storm Drain Reaches Surf	Y
Bathers In Water	0
Bathers Onshore	0

Remarks:

Observations By:
C.Crissotemo

Note: No exceedance in this day

COUNTY SANITATION DISTRICTS OF LOS ANGELES COUNTY
JOINT WATER POLLUTION CONTROL PLANT
SMBBB TMDL SPECIAL STUDY
(NON-COMPLIANCE & NON-NPDES PERMIT REQUIRED)

DATE: 6/18/2007

Site Id:	SMB-7-7	Site Id:	SMB-0-9
Time	10:50:00 AM	Time	8:35:00 AM
Water Color	Grey	Drain Color	Green
Turbidity	Clear	Drain Turbidity	Clear
Odor	No	Odor	No
Sewage Grease	None	Sewage Grease	None
Fecal Matter	None	Fecal Matter	None
Sewage Garbage	None	Sewage Garbage	None
Tar/Oil	None	Tar/Oil	None
Garbage	None	Garbage	None
Kelp Deposits	Trace	Kelp Deposits	Light
Storm Drain Flow	Low Flow	Storm Drain Flow	Low Flow
Storm Drain Reaches Surf	Y	Storm Drain Reaches Surf	Y
Bathers In Water	0	Bathers In Water	0
Bathers Onshore	0	Bathers Onshore	0

Remarks:

Observations By:
S. Mizoguchi

Note: No exceedance in this day

Appendix 6

Appendix 6. Summary of BMPs/Mitigation Measures at Marina del Rey

Location	Site ID	Single Sample RWL1 Violations	Geo Mean RWL1 Violations	* BMP/ Mitigation Measures	Observation
Mother's Beach	MdRH-1	19	32	Sewer Lining Two Water Circulators Storm Water Collection System	Beach Refuse, Ocean Debris, Animals & Birds
	MdRH-2	6	0		Beach Refuse, Ocean Debris
	MdRH-3	1	0		Beach Refuse
Basin E	MdRH-5	3	28	Sewer Lining 5 Bio-Retention Filters LFD Project No.5243 LFD Project No.3874	Ocean Debris & Oil
	MdRH-6 (D)	0	12		N/A
	MdRH-6 (S)	1	49		Beach Refuse, Water Color-Green
	MdRH-7	4	37		High Salinity
Basin F	MdRH-9(S)	10	0	Sewer Lining	Water Color-Green

BMP/Mitigation Measures

Sewer Lining	Lead Agency-Los Angeles County Total Length of Marina Sewers Lined from 1993 to 2005=11.82 Miles
Two Water Circulators	Lead Agency-Los Angeles County Two water circulators with 55-inch diameter banana propellers Installed in October 2006, at a Depth of 10 feet, in Basin D
Storm Water Collection System	Lead Agency-Los Angeles County Completed in August 2007 To redirect all storm water flows from Basin D into Basin C
5 Bio-Retention Filters	Lead Agency-Los Angeles County Completed on January 24, 2007 1. Bio-Retention Filter-Garfield Avenue 2. Bio-Retention Filter-Garfield Avenue 3. Bio-Retention Filter-Abbot Kinney 4. Bio-Retention Filter-Coeur D' Alene 5. Bio-Retention Filter-Coeur D' Alene Installed upstream of Project No.5243 as an additional measure to prevent pollutants from entering Basin E.
LFD Project No.5243	Lead Agency-Los Angeles County Constructed in December 2006 Operational Since March 2007 Installed at the Intersection of Washington and Thatcher Avenue to divert dry-weather runoff to a sanitary sewer.
LFD Project No.3874	Lead Agency-Los Angeles County Constructed in December 2006 Operational Since March 2007 Installed at Boone-Olive Pump Plant to divert dry-weather runoff to a sanitary sewer.

Appendix 7

Appendix 7. Observations at Exceedance Locations

Monitoring Stations	Exceedance Date of Single Sample	Observations
MdRH-1	*No City of Los Angeles drainage*	
MdRH-2	*No City of Los Angeles drainage*	
MdRH-3	*No City of Los Angeles drainage*	
MdRH-5	8/13/2007	Drain Position-Submerged, PH-7.63, Salinity-30.5, Weather Condition-Fair, Wind Direction-W, Wind Speed-4MPH, Sea Conditions-Calm, Air Temp-21, Surf Temp-23
	9/4/2007	Drain Position-Submerged, PH-7.79, Salinity-29.6, Weather Condition-Fair, Sea Conditions-Calm, Air Temp-29, Surf Temp-26
	9/5/2007	Weather Condition-Cloudy, Sea Conditions-Calm, Air Temp-23, Surf Temp-21
	9/6/2007	Ocean Debris-Small Amount, Oil-Small Amount, Weather Condition-CLDY, Wind Direction-W, Wind Speed-4MPH, Sea Conditions-Calm, Air Temp-23, Surf Temp-22
MdRH-6 (D)	*No exceedance in single sample*	
MdRH-6 (S)	8/13/2007	Beach Refuse-Small Amount, Water Color-Green, Weather Condition-Fair, Wind Direction-W, Wind Speed-4MPH, Sea Conditions-Calm, Air Temp-21, Surf Temp-23
MdRH-7	8/13/2007	Beach Refuse-Small Amount, Drain Position-Submerged,PH-7.72, Salinity-31.5, Weather Condition-Fair, Wind Direction-W, Wind Speed-4MPH, Sea Conditions-Calm, Air Temp-21, Surf Temp-23
	8/27/2007	Drain Position-Submerged, Weather Condition-P-CLDY, Wind Direction-SE, Wind Speed-4MPH, Sea Conditions-Calm, Air Temp-20, Surf Temp-24
	10/1/2007	Drain Position-Submerged, PH-7.64, Salinity-30, Weather Condition-Fair, Wind Direction-SW, Wind Speed-3MPH, Sea Conditions-Calm, Air Temp-20, Surf Temp-20
MdRH-9 (S)	*No City of Los Angeles drainage*	
SMB 1-18	*See SMB 1-18 in the report*	

Monitoring Stations	Exceedance Date of Single Sample	Observations
SMB 2-01	**Before LFD Constructed**	
	9/14/2006	Small amount of seaweed, medium flow, storm drain flow reach surf, sea conditions waves 0.5 feet height
	9/16/2006	Moderate amount of seaweed, small amount of xxcrement, heavy flow, storm drain flow reach surf, 1 to 5 bathers, sea conditions waves 1.5 feet height
	9/20/2006	Heavy flow, small amount of ocean debris, heavy flow, storm drain flow reach surf, sea conditions waves 2.5 feet height
	9/22/2006	Heavy flow, small amount of ocean debris, heavy flow, storm drain flow reach surf, sea conditions waves 1.0 feet height
	9/26/2006	Heavy flow, heavy flow, storm drain flow reach surf, sea conditions waves 1.0 feet height
	9/28/2006	Heavy flow, small amount of ocean debris, heavy flow, storm drain flow reach surf, sea conditions waves 1.5 feet height
	9/30/2006	Heavy flow, small amount of ocean debris, heavy flow, storm drain flow reach surf, sea conditions waves 2.0 feet height
	10/10/2006	No information available
	10/12/2006	Small amount of ocean debris, 1 to 5 animals/birds on the shoreline, medium flow, storm drain flow reach surf, sea conditions waves 1.5 feet height
	10/17/2006	Small amount beach refuse, medium flow, storm drain flow reach surf, sea conditions waves 2.0 feet height
	10/19/2006	Small amount beach refuse, small amount of excrement, heavy flow, storm drain flow reach surf, sea conditions waves 1.5 feet height
	10/21/2006	Small amount beach refuse, heavy flow, storm drain flow reach surf, sea conditions waves 1.0 feet height
	10/28/2006	Small amount beach refuse, heavy flow, storm drain flow reach surf, sea conditions waves 1.5 feet height
	4/10/2007	Small amount beach refuse, small amount of ocean debris, 1 to 5 animals/birds on the shoreline, heavy flow, storm drain flow reach surf, sea conditions waves 1.0 feet height
	After LFD Constructed	
	4/12/2007	Small amount beach refuse, heavy flow, storm drain flow reach surf, sea conditions waves 1.0 feet height
	7/10/2007	Small amount beach refuse, small amount of ocean debris, medium flow, storm drain flow reach surf, sea conditions waves 1.0 feet height
	7/17/2007	Small amount beach refuse, small amount of ocean debris, small amount of seaweed, low flow, storm drain flow reach surf, sea conditions waves 1.0 feet height
	7/19/2007	Small amount beach refuse, small amount of ocean debris, small amount of seaweed, low flow, storm drain flow reach surf, sea conditions waves 1.5 feet height
	7/31/2007	Small amount beach refuse, moderate amount of ocean debris, small amount of seaweed, 1 to 5 animals/birds on the shoreline, no flow, sea conditions waves 2.0 feet height
	9/4/2007	Moderate amount of beach refuse, small amount of ocean debris, small amount of seaweed, low flow, storm drain flow reach surf, sea conditions wases 2.0 feet height
	9/11/2007	Small amount of beach refuse, small amount of ocean debris, low flow, storm drain flow reach surf, sea conditions waves 1.0 feet height

Note: This location is highly impacted by high tide. The observed flow during 4/12/2007 to 9/11/2007 may be due to high tide effect. LA County operates the LFD. No malfunctioning or interruption of LFD reported.

Monitoring Stations	Exceedance Date of Single Sample	Observations
SMB 2-02	9/4/2007	*No information available (DHS sampling)*
SMB 2-06	6/4/2007	*No information available (DHS sampling)*
	7/30/2007	
	8/6/2007	
	9/4/2007	
	10/22/2007	

EE-3S-15

Monitoring Stations	Exceedance Date of Single Sample	Observations
SMB 2-07	9/15/2006	Small amount of beach refuse, small amount of ocean debris, large amount of seaweed, moderate amount of tar, ponded, sea conditions waves 1.5 feet height
	8/28/2007	Small amount of beach refuse, small amount of ocean debris, small amount of seaweed, 1 to 5 animals/birds on the shoreline, no flow, sea conditions wase 1.0 feet height
	9/8/2007	Small amount of beach refuse, small amount of ocean debris, small amount of seaweed, ponded, sea conditions waves 2.0 feet height
	9/26/2007	Large amount of beach refuse, moderate amount of ocean debris, moderate amount of seaweed, low flow, sea conditions waves 2.0 feet height
	9/29/2007	Moderate amount of beach refuse, moderate amount ocean debris, large amount of seaweed, small amount of tar, ponded, storm drain flow reach surf, sea conditions waves 0.5 feet height
	10/2/2007	Large amount of beach refuse, large amount of ocean debris, moderate amount of seaweed, 50 to 100 animals/birds on the shoreline, small amount of excrement, ponded, sea conditions waves 1.0 feet height
	10/4/2007	Moderate amount of beach refuse, large amount of ocean debris, small amount of seaweed, 1 to 5 animals/birds on the shoreline, no flow, sea conditions waves 1.5 feet height
	10/11/2007	Large amount of beach refuse, large amount of ocean debris, small amount of seaweed, ponded, sea conditions waves 1.0 feet height
	10/25/2007	Moderate amount of beach refuse, large amount of ocean debris, small amount of seaweed, heavy foam, ponded, sea conditions waves 2.0 feet height
	10/26/2007	Small amount of beach refuse, moderate amount of ocean debris, small amount of seaweed, ponded, sea conditions waves 1.0 feet height

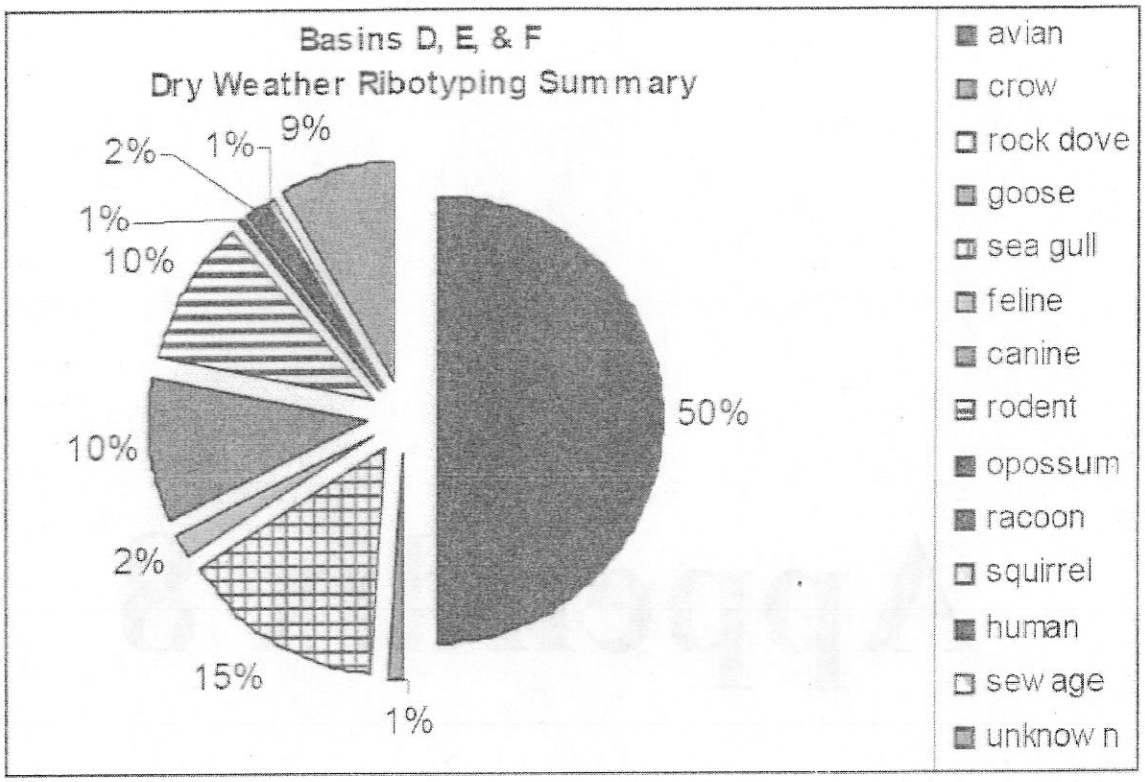
Note: Pond formation frequently occurring at this site which can flow to the ocean by waves.

Monitoring Stations	Exceedance Date of Single Sample	Observations
SMB 2-10	10/17/2006	Small amount of beach refuse, large amount of ocean debris, small amount of seaweed, small amount of tar, 1 to 5 animals/birds on the shoreline, sea conditions waves 2.0 feet height
SMB 2-11	10/17/2006	Moderate amount of beach refuse, large amount of ocean debris, moderate amount of seaweed, large amount of tar, 1 to 5 animals/birds on the shoreline, sea conditions waves 2.0 feet height
SMB 2-13	10/17/2006	Small amount of beach refuse, moderate amount of ocean debris, small amount of seaweed, large amount of tar, sea conditions waves 2.0 feet height
SMB 2-15	5/14/2007	*No information available (DHS sampling)*
SMB 3-01	*No City of Los Angeles drainage*	
SMB 3-02	*No City of Los Angeles drainage*	
SMB 3-03	*No City of Los Angeles drainage*	
SMB 3-04	10/19/2006	Small amount of beach refuse, small amount of ocean debris, small amount of seaweed, sea conditions waves 1.5 feet height
	4/24/2007	Moderate amount of beach refuse, moderate amount of ocean debris, large amount of seaweed, small amount of tar, 5 to 10 animals/birds on the shoreline, ponded, sea conditions waves 1.0 feet height
	4/25/2007	Small amount of beach refuse, small amount of ocean debris, large amount of seaweed, small amount of tar, heavy foam, ponded, sea conditions waves 2.5 feet height
	6/20/2007	Small amount of beach refuse, small amount of ocean debris, moderate amount of seaweed, no flow, sea conditions waves 1.5 feet height
	6/30/2007	Small amount of beach refuse, moderate amount of ocean debris, small amount of seaweed, small amount of tar, sea conditions waves 0.5 feet height
	7/6/2007	Small amount of beach refuse, small amount of ocean debris, small amount of seaweed, sea conditions waves 2.0 feet height
	8/16/2007	Small amount of beach refuse, moderate amount of ocean debris, moderate amount of seaweed, small amount of tar, no flow, sea condition waves 0.5 feet height
	8/18/2007	Small amount of beach refuse, small amount of ocean, moderate amount of seaweed, small amount of tar, no flow, sea conditions 1.0 feet height
	9/28/2007	Moderate amount of beach refuse, moderate amount of ocean debris, moderate amount of seaweed, small amount of tar, ponded, stormdrain flow did not reach surf, sea conditions waves 0.8 feet height
	10/18/2007	Large amount of beach refuse, moderate amount of ocean debris, moderate amount of seaweed, low flow, storm drain flow reach surf, sea conditions waves 1.0 feet height
	10/23/2007	Moderate amount of beach refuse, small amount of ocean debris, moderate amount of seaweed, 5 to 10 bathers, 5 to 10 animals/birds on the shoreline, ponded, reverse flow wave flowing into storm drain, sea conditions waves 2.0 feet height
	10/24/2007	Large amount of beach refuse, moderate amount of ocean debris, small amount of seaweed, heavy flow, storm drain flow reach surf, sea conditions waves 1.0 feet height
	10/25/2007	Small amount of beach refuse, moderate amount of ocean debris, moderate amount of seaweed, 50 to 100 animals/birds on the shoreline, heavy flow, storm drain flow reach surf, sea condition waves 2.0 feet height
	10/26/2007	Moderate amount of beach refuse, moderate amount of ocean debris, moderate, some amount of foam, heavy flow, storm drain flow reach surf, sea conditions waves 1.5 feet height
	10/30/2007	Moderate amount of beach refuse, small amount of ocean debris, moderate amount of seaweed, small amount of tar, 1 to 5 bathers, 5 to 10 animals/birds on the shoreline, heavy flow, storm drain flow reach surf, sea conditions waves 2.0 feet height

Monitoring Stations	Exceedance Date of Single Sample	Observations
SMB 3-05	10/11/2006	Small amount of beach refuse, moderate amount of ocean debris, moderate amount of seaweed, sea conditions: waves 1.0 feet height
	7/31/2007	Moderate amount of beach refuse, moderate amount of ocean debris, small amount of seaweed, 1 to 5 bathers, 1 to 5 animals/birds on the shoreline, storm drain buried in the sand, sea conditions: waves 2.0 feet height
	9/15/2007	Small amount of beach refuse, moderate amount of ocean debris, moderate amount of seaweed, small amount of excrement, storm drain buried in the sand, sea conditions: waves 2.0 feet height
	10/26/2007	Small amount of beach refuse, moderate amount of ocean debris, moderate amount of seaweed, ponded, sea conditions: waves 1.5 feet height
SMB 3-06	6/19/2007	Small amount of beach refuse, small amount of ocean debris, small amount of seaweed, 1 to 5 bathers, 20 to 50 animals/birds on the shoreline, sea conditions: waves 1.0 feet height
	7/31/2007	Small amount of beach refuse, moderate amount of ocean debris, small amount of seaweed, 50 to 100 bathers, storm drain buried in the sand, sea conditions: waves 2.0 feet height
SMB 3-07	5/21/2007	*No information available (DHS sampling)*
	6/25/2007	
	7/30/2007	
SMB 3-08	7/31/2007	Moderate amount of beach refuse, large amount of ocean debris, moderate amount of seaweed, small amount of tar, 5 to 10 bathers, 1 to 5 animals/birds on the shoreline, sea conditions: waves 2.0 feet height
	8/2/2007	Small amount of beach refuse, large amount of ocean debris, small amount of seaweed, 5 to 10 bathers, 5 to 10 animals/birds on the shoreline, sea conditions: waves 0.5 feet height
	10/23/2007	Large amount of beach refuse, moderate amount of ocean debris, large amount of seaweed, small amount of tar, 1 to 5 animals/birds on the shoreline, sea conditions: waves 2.0 feet height
SMB 7-07	4/2/2007	*See SMB 7-07 in the report*
	7/30/2007	
	8/1/2007	
	10/1/2007	
SMB BC-01		*See SMB BC-01 in the report*

Appendix 8

Appendix 8. Dry Weather Host Sources for Marina del Rey Basin C, D, And F Combined



Note: Mother's Beach and Back Basins Bacteria TMDL Non-Point Source Study, submitted to the LARWQCB on 3/15/07 by LACDPW

Appendix 9

Appendix 9. Exceedances at Reference Beach (2005, and 2006)

SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-1-1 (OLD DHS 010)
Leo Carillo Beach, Malibu
SUMMER - SEASON

April 2005

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1													
2													
3													
4	1376	379	97	0.28				1376	379	97			
5								1376	379	97			
6	173	<10	10	0.06				173	10	10			
7								173	10	10			
8								173	10	10			
9								173	10	10			
10								173	10	10			
11	1019	20	211	0.02				1019	20	211			
12								1019	20	211			
13	160	<10	41	0.06				160	10	41			
14								160	10	41			
15								160	10	41			
16								160	10	41			
17								160	10	41			
18	594	52	168	0.09				594	52	168			
19								594	52	168			
20	74	<10	<10	0.14				74	10	10			
21								74	10	10			
22								74	10	10			
23								74	10	10			
24								74	10	10			
25	63	<10	<10	0.16				63	10	10			
26								63	10	10			
27								63	10	10			
28								63	10	10			
29								63	10	10			
30					271	23	39	63	10	10	170	16	24
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Exceedance

SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-1-1 (OLD DHS 010)
Leo Carillo Beach, Malibu
SUMMER - SEASON

May 2005

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1					271	23	39	63	10	10	164	15	23
2	4884	121	598	0.02	389	29	55	4884	121	598	184	16	26
3					389	29	55	4884	121	598	205	18	29
4	8664	546	601	0.06	490	30	69	8664	546	601	218	18	30
5					490	30	69	8664	546	601	232	18	32
6	4200	67	130	0.02	730	38	95	4200	67	130	258	19	35
7					730	38	95	4200	67	130	287	20	38
8					730	38	95	4200	67	130	319	22	42
9					730	38	95	4200	67	130	355	23	45
10					730	38	95	4200	67	130	395	25	50
11					696	42	85	4200	67	130	414	26	49
12					696	42	85	4200	67	130	434	27	48
13					889	53	96	4200	67	130	484	29	50
14					889	53	96	4200	67	130	540	30	52
15					889	53	96	4200	67	130	602	32	54
16	3448	3448	52	1.00	1078	97	88	3448	3448	52	667	39	54
17					1078	97	88	3448	3448	52	738	48	55
18	160	160	<10	1.00	894	114	59	160	160	10	707	50	50
19					894	114	59	160	160	10	677	52	45
20					1355	170	79	160	160	10	694	57	45
21					1355	170	79	160	160	10	712	62	45
22					1355	170	79	160	160	10	731	68	45
23	528	52	<10	0.10	1184	144	59	528	52	10	780	72	45
24					1184	144	59	528	52	10	833	76	45
25					1931	224	79	528	52	10	894	80	45
26					1931	224	79	528	52	10	960	85	45
27					1931	224	79	528	52	10	1031	90	45
28					1931	224	79	528	52	10	1106	95	45
29					1931	224	79	528	52	10	1187	100	45
30					1931	224	79	528	52	10	1275	106	45
31	538	211	52	0.39	1608	222	74	538	211	52	1369	117	48
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Exceedance

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SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-1-1 (OLD DHS 010)
Leo Carillo Beach, Malibu
SUMMER - SEASON

June 2005

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1					1337	246	53	538	211	52	1272	119	44
2					1337	246	53	538	211	52	1182	121	41
3					920	210	32	538	211	52	1077	118	37
4					920	210	32	538	211	52	982	114	35
5					629	279	23	538	211	52	917	118	34
6	1669	10	52	0.01	765	143	27	1669	10	52	889	111	32
7					765	143	27	1669	10	52	862	104	32
8					765	143	27	1669	10	52	836	98	31
9					765	143	27	1669	10	52	811	92	30
10					765	143	27	1669	10	52	786	86	29
11					765	143	27	1669	10	52	762	81	28
12					765	143	27	1669	10	52	739	76	27
13	839	31	<10	0.04	777	111	23	839	31	10	701	74	25
14					777	111	23	839	31	10	664	72	23
15					576	56	19	839	31	10	634	62	22
16					576	56	19	839	31	10	604	53	20
17					794	43	23	839	31	10	639	50	20
18					794	43	23	839	31	10	675	47	20
19					794	43	23	839	31	10	713	45	20
20	173	<10	85	0.06	586	32	30	173	10	85	715	41	22
21					586	32	30	173	10	85	717	37	24
22					601	28	39	173	10	85	691	35	25
23					601	28	39	173	10	85	666	33	27
24					601	28	39	173	10	85	641	32	29
25					601	28	39	173	10	85	618	30	31
26					601	28	39	173	10	85	595	28	34
27	2909	160	41	0.06	824	40	39	2909	160	41	630	29	35
28					824	40	39	2909	160	41	667	30	37
29					824	40	39	2909	160	41	706	32	39
30					916	27	37	2909	160	41	747	31	38
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Exceedance

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SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-1-1 (OLD DHS 010)
Leo Carillo Beach, Malibu
SUMMER - SEASON

July 2005

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1					916	27	37	2909	160	41	790	31	38
2					916	27	37	2909	160	41	836	31	38
3					916	27	37	2909	160	41	884	30	38
4					916	27	37	2909	160	41	935	30	37
5	1014	51	41	0.05	935	30	38	1014	51	41	955	29	37
6					809	40	35	1014	51	41	940	30	37
7					809	40	35	1014	51	41	924	32	36
8					809	40	35	1014	51	41	909	34	36
9					809	40	35	1014	51	41	894	36	36
10					809	40	35	1014	51	41	879	38	36
11	<10	<10	<10	1.00	336	30	27	10	10	10	741	38	34
12					336	30	27	10	10	10	625	38	32
13					267	30	35	10	10	10	539	36	32
14					267	30	35	10	10	10	465	35	32
15					267	30	35	10	10	10	401	34	32
16					267	30	35	10	10	10	346	32	32
17					267	30	35	10	10	10	299	31	32
18	<10	<10	10	1.00	139	24	27	10	10	10	258	30	32
19					139	24	27	10	10	10	222	29	32
20					131	30	20	10	10	10	202	29	30
21					131	30	20	10	10	10	184	29	28
22					131	30	20	10	10	10	167	29	26
23					131	30	20	10	10	10	152	29	24
24					131	30	20	10	10	10	138	29	22
25	<10	<10	<10	1.00	78	24	18	10	10	10	126	29	21
26					78	24	18	10	10	10	114	29	19
27					32	15	14	10	10	10	95	26	18
28					32	15	14	10	10	10	78	24	18
29					32	15	14	10	10	10	65	22	17
30					32	15	14	10	10	10	54	20	16
					32	15	14	10	10	10	44	18	15
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Exceedance

SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-1-1 (OLD DHS 010)
Leo Carillo Beach, Malibu
SUMMER - SEASON

May 2006

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1	1067	30	1067	0.03	446	14	60	1067	30	1067	224	11	15
2					446	14	60	1067	30	1067	239	11	18
3					446	14	60	1067	30	1067	255	11	21
4					446	14	60	1067	30	1067	270	12	25
5					446	14	60	1067	30	1067	284	12	29
6					446	14	60	1067	30	1067	299	13	33
7					446	14	60	1067	30	1067	313	13	37
8	443	195	443	0.44	445	28	99	443	195	443	316	14	41
9					445	28	99	443	195	443	320	16	44
10					664	39	211	443	195	443	333	17	50
11					664	39	211	443	195	443	346	19	57
12					664	39	211	443	195	443	361	21	64
13					664	39	211	443	195	443	375	23	73
14					664	39	211	443	195	443	390	26	83
15	594	161	594	0.27	646	55	274	594	161	594	410	28	95
16					646	55	274	594	161	594	431	31	109
17	620	231	620	0.37	641	74	322	620	231	620	454	35	125
18					641	74	322	620	231	620	478	38	143
19	740	67	740	0.09	656	73	370	740	67	740	506	41	165
20					656	73	370	740	67	740	535	44	191
21					656	73	370	740	67	740	567	46	220
22					656	73	370	740	67	740	600	49	254
23					656	73	370	740	67	740	635	53	293
24					656	73	370	740	67	740	672	56	338
25					664	108	664	740	67	740	676	60	381
26					664	108	664	740	67	740	680	64	430
27					664	108	664	740	67	740	684	68	485
28					664	108	664	740	67	740	688	72	547
29					664	108	664	740	67	740	692	77	617
30	8164	74	8164	0.01	1008	101	1008	8164	74	8164	754	82	754
31					997	129	997	8164	74	8164	807	85	807
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Violation

EXHIBIT 4 - 326

SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-1-1 (OLD DHS 010)
Leo Carillo Beach, Malibu
SUMMER - SEASON

June 2006

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1	7701	465	74	0.06	1402	160	646	7701	465	74	862	93	739
2					1402	160	646	7701	465	74	921	102	676
3	6800	430	31	0.06	1757	184	419	6800	430	31	980	111	601
4					1757	184	419	6800	430	31	1042	122	534
5	2187	110	30	0.05	1805	173	301	2187	110	30	1067	127	474
6					1805	173	301	2187	110	30	1093	133	421
7					2207	170	285	2187	110	30	1153	130	385
8					2207	170	285	2187	110	30	1216	128	352
9					2207	170	285	2187	110	30	1282	125	321
10					2207	170	285	2187	110	30	1353	123	294
11					2207	170	285	2187	110	30	1426	121	269
12	5794	987	496	0.17	2490	211	306	5794	987	496	1554	127	270
13					2490	211	306	5794	987	496	1693	134	271
14	2987	238	109	0.08	3047	222	247	2987	238	109	1787	136	256
15					3047	222	247	2987	238	109	1886	138	242
16	>13000	350	210		4457	234	216	13000	350	210	2087	140	233
17					4457	234	216	13000	350	210	2310	142	225
18					5760	280	181	13000	350	210	2541	150	216
19	24192	173	121	0.01	6892	263	172	24192	173	121	2854	155	203
20					6892	263	172	24192	173	121	3206	160	191
21	2909	134	10	0.05	6262	244	125	2909	134	10	3356	163	166
22					6262	244	125	2909	134	10	3513	167	143
23					6262	244	125	2909	134	10	3677	171	124
24					6262	244	125	2909	134	10	3848	175	108
25					6262	244	125	2909	134	10	4028	179	93
26	63	30	10	0.48	3953	198	97	63	30	10	3711	174	81
27					3953	198	97	63	30	10	3418	170	70
28					3953	198	97	63	30	10	3149	165	61
29					3647	221	60	63	30	10	2677	160	48
30					3647	221	60	63	30	10	2277	156	39
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Violation

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SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-1-1 (OLD DHS 010)
Leo Carillo Beach, Malibu
SUMMER - SEASON

July 2006

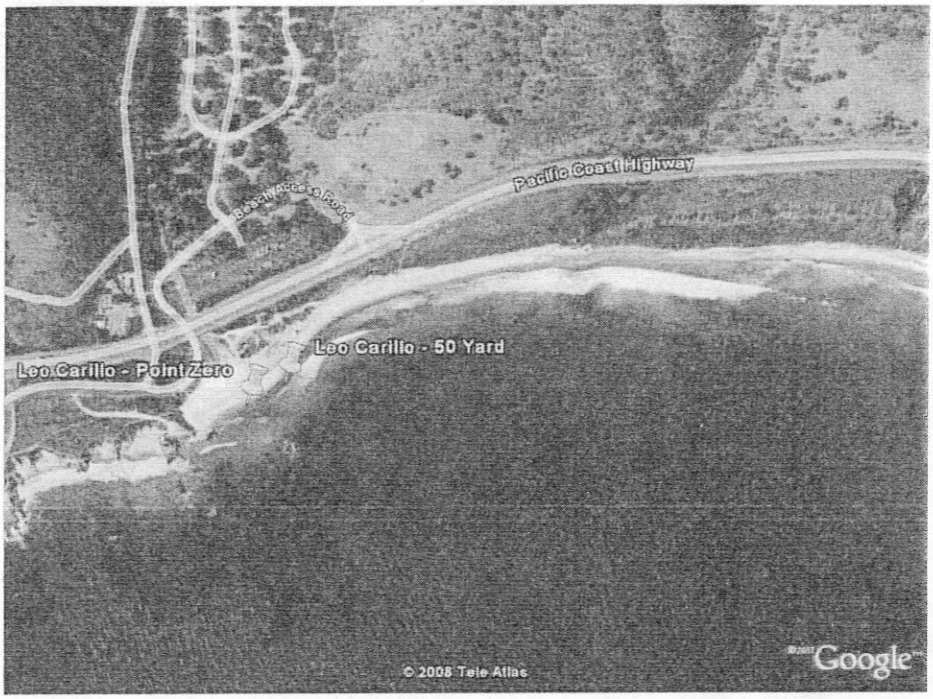
DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1					3322	201	58	63	30	10	1940	142	36
2					3322	201	58	63	30	10	1652	130	34
3					2999	181	63	63	30	10	1414	119	33
4					2999	181	63	63	30	10	1209	109	31
5	10	10	10	1.00	1389	128	54	10	10	10	1011	100	30
6					1389	128	54	10	10	10	844	93	29
7					1389	128	54	10	10	10	706	85	28
8					1389	128	54	10	10	10	590	79	27
9					1389	128	54	10	10	10	493	73	26
10	85	20	10	0.24	980	102	44	85	20	10	442	69	25
11					980	102	44	85	20	10	397	65	24
12					760	73	31	85	20	10	345	57	21
13					760	73	31	85	20	10	299	50	19
14					605	60	25	85	20	10	266	46	17
15					605	60	25	85	20	10	236	42	16
16					328	43	16	85	20	10	200	39	14
17	359	31	122	0.09	333	40	23	359	31	122	177	36	14
18					333	40	23	359	31	122	157	33	14
19	121	10	10	0.08	138	25	15	121	10	10	132	30	13
20					138	25	15	121	10	10	110	27	12
21					75	18	16	121	10	10	99	25	12
22					75	18	16	121	10	10	89	23	12
23					75	18	16	121	10	10	80	21	12
24	31	20	10	0.65	65	18	15	31	20	10	69	20	12
25					65	18	15	31	20	10	59	18	12
26					65	17	16	31	20	10	58	18	12
27					65	17	16	31	20	10	57	18	12
28					65	17	16	31	20	10	55	18	12
29					65	17	16	31	20	10	54	17	12
30					65	17	16	31	20	10	53	17	12
	10	10	10	1.00	47	15	15	10	10	10	50	17	12
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Violation

21-323

Appendix 10

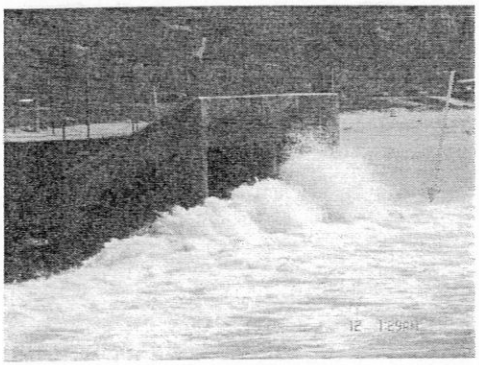
Appendix 10. Bacteria Levels at Point zero vs. 50 yards, Leo Carillo Beach



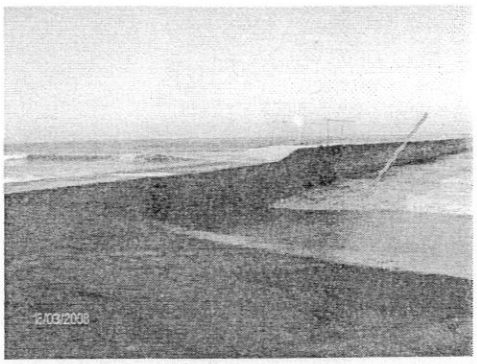
Date	Point zero			50 yards		
	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Enterococcus
1/14/2008	744	10	10	928	10	10
1/22/2008	10	10	10	41	10	10
1/28/2008	10,462	74	85	11,199	211	109
2/19/2008	605	41	10	504	31	41
2/25/2008	1,169	20	10	1,721	31	31
3/3/2008	11,199	10	20	24,196	169	10
3/5/2008	24,196	10	52	4,611	10	10
3/10/2008	933	86	10	209	41	10
3/17/2008	235	31	10	63	41	10
3/24/2008	4,884	10	10	327	31	10
3/31/2008	345	10	10	97	10	10
4/7/2008	8,164	52	131	24,196	63	213
4/9/2008	840	41	10	382	10	10
4/14/2008	9,804	31	52	52	10	10
4/21/2008	3,654	31	63	61	10	28

Appendix 11

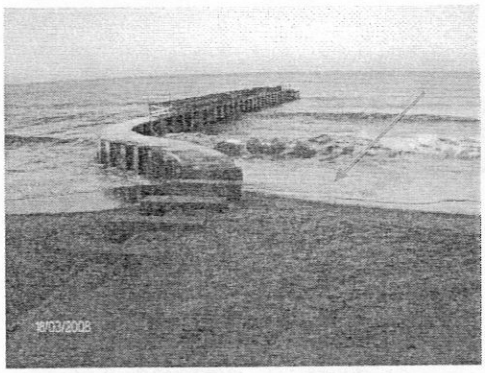
APPENDIX 11. High Tide Effect (samples from ankle depth at arrow points during high tide)



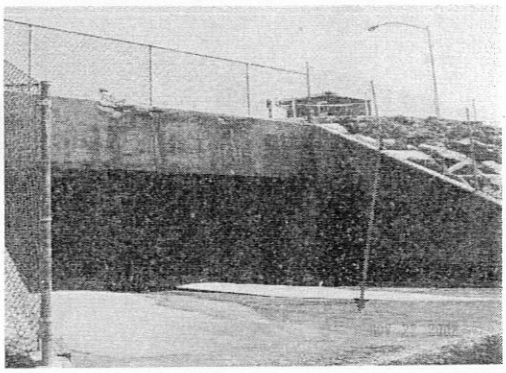
Temascal Canyon (SMB 2-6)



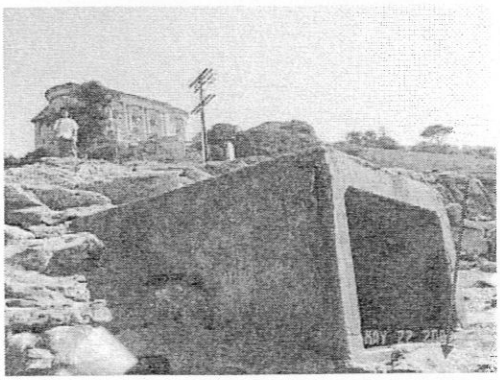
Westchester (SMB 2-11)



Imperial HWY (SMB2-13)



Santa Ynez (SMB2-2, high tide backwash flow)



Castlerock (SMB2-01, significantly impacted by high tide backwash flow)

Appendix 12

Appendix 12. Summary of Exeedance Days: 30-Day Geometric Mean Calculation by RB vs. CMP Method

Locations	CLA Drainage Other Remarks	30-Day Geometric Mean Exceedance Days		Total Days of Exceedance by Site	
		RB	CMP	RB	CMP
Shoreline Monitoring Locations					
SMB 1-18	See jurisdiction 1	0	0	10	10
SMB 2-01	Yes	69	48	75	56
SMB 2-02	Yes	0	0	1	1
SMB 2-06	Yes	87	61	89	65
SMB 2-07	Yes	0	0	10	10
SMB 2-10	Yes	0	0	1	1
SMB 2-11	Yes	0	0	1	1
SMB 2-13	Yes	0	0	1	1
SMB 2-15	Yes	0	0	1	1
SMB 3-01	No drainage	63	41	67	46
SMB 3-02	No drainage	24	1	26	6
SMB 3-03	No drainage	227	215	236	226
SMB 3-04	Yes	0	0	15	15
SMB 3-05	Yes	0	0	4	4
SMB 3-06	Yes	0	0	2	2
SMB 3-07	Yes	0	0	3	3
SMB 3-08	Yes	0	0	3	3
SMB 7-07 *	Yes	5	0	9	4
BC-1	See jurisdiction 8	113	112	119	118
Harbor Monitoring Stations					
MdRH- 1	No drainage	32	35	42	41
MdRH- 2	No drainage	0	0	6	6
MdRH- 3	No drainage	0	0	1	1
MdRH- 5	Yes	28	0	29	3
MdRH- 6 (D)	Yes	12	13	12	13
MdRH- 6 (S)	Yes	49	39	49	40
MdRH- 7	Yes	37	5	38	8
MdRH- 9 (S)	No drainage	0	0	1	1
Total		746	570	851	686

30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV

30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan

* Courtesy of Los Angeles County Sanitation Districts

SMB 2-06 Temescal Canyon

	Single Sample RWL Exceedances				30-day Geometric Mean RWL Exceedances			Total RWL Exceedances by Site	Total days of Exceedances
	Total Coliform	E.coli	Enterococcus	Total Coliform (Fecal:Total Coliform Ratio>0.1)	Total Coliform	E.coli	Enterococcus		
RB Calculation (without artificial days)	0	0	5	1	5	0	82	93	89
CLA Calculation (as specified in approved CMP)	0	0	5	1	0	0	61	67	65

- RB Calculation (without artificial days): Regional Board's calculation of geometric mean from NOV
- CLA Calculation (as specified in approved CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan

SSS-11-12

SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-2-6 (OLD DHS 103)
Temescal stormdrain, Los Angles
SUMMER - SEASON

June 2007

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1					121	13	14	211	31	41	97	12	12
2					121	13	14	211	31	41	103	12	13
3					121	13	14	211	31	41	110	13	13
4	2142	20	288	0.01	214	14	26	2142	20	288	126	13	15
5					214	14	26	2142	20	288	145	13	17
6	20	10	10	0.50	170	14	26	20	10	10	140	13	17
7					170	14	26	20	10	10	135	13	17
8					170	14	26	20	10	10	130	13	17
9					170	14	26	20	10	10	125	13	17
10					170	14	26	20	10	10	120	13	17
11	860	85	97	0.10	223	19	32	860	85	97	131	14	18
12					223	19	32	860	85	97	143	15	19
13					270	22	41	860	85	97	154	16	21
14					270	22	41	860	85	97	167	17	22
15					270	22	41	860	85	97	180	19	24
16					270	22	41	860	85	97	194	20	26
17					270	22	41	860	85	97	210	22	28
18	323	<10	20	0.03	278	19	36	323	10	20	219	22	29
19					278	19	36	323	10	20	229	22	30
20					302	22	47	323	10	20	234	22	30
21					302	22	47	323	10	20	238	22	31
22					302	22	47	323	10	20	242	22	32
23					302	22	47	323	10	20	247	22	32
24					302	22	47	323	10	20	252	22	33
25	295	31	10	0.11	301	23	36	295	31	10	256	22	33
26					301	23	36	295	31	10	260	23	33
27					301	23	36	295	31	10	264	24	33
28					323	22	35	295	31	10	267	24	32
29					323	22	35	295	31	10	270	24	30
30					323	22	35	295	31	10	273	24	29
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Exceedance

SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-2-6 (OLD DHS 103)
Temescal stormdrain, Los Angles
SUMMER - SEASON

July 2007

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1					323	22	35	295	31	10	276	24	27
2	305	10	10	0.03	320	19	29	305	10	10	279	23	26
3					320	19	29	305	10	10	282	22	25
4					219	19	18	305	10	10	265	22	22
5					219	19	18	305	10	10	248	21	20
6					398	23	21	305	10	10	272	21	20
7					398	23	21	305	10	10	297	21	20
8					398	23	21	305	10	10	326	21	20
9	10	<10	<10	1.00	190	19	18	10	10	10	318	21	20
10					190	19	18	10	10	10	311	21	20
11					131	13	12	10	10	10	268	20	19
12					131	13	12	10	10	10	231	19	17
13					131	13	12	10	10	10	199	17	16
14					131	13	12	10	10	10	172	16	15
15					131	13	12	10	10	10	148	15	14
16	880	20	86	0.02	191	14	18	880	20	86	148	14	14
17					191	14	18	880	20	86	148	14	14
18					168	16	17	880	20	86	153	14	14
19					168	16	17	880	20	86	159	14	15
20					168	16	17	880	20	86	164	15	16
21					168	16	17	880	20	86	169	15	16
22					168	16	17	880	20	86	175	15	17
23	598	41	52	0.07	216	19	21	598	41	52	179	16	18
24					216	19	21	598	41	52	183	17	18
25					200	17	26	598	41	52	187	17	19
26					200	17	26	598	41	52	191	17	21
27					200	17	26	598	41	52	196	17	22
28					200	17	26	598	41	52	201	17	23
29					200	17	26	598	41	52	205	18	24
30	556	74	201	0.13	246	23	39	556	74	201	210	18	27
31					246	23	39	556	74	201	214	19	30
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Exceedance

SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-2-6 (OLD DHS 103)
Temescal stormdrain, Los Angles
SUMMER - SEASON

August 2007

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1	1169	10	73	0.01	321	23	58	1169	10	73	224	19	32
2					321	23	58	1169	10	73	234	19	34
3					321	23	58	1169	10	73	245	19	36
4					321	23	58	1169	10	73	256	19	39
5					321	23	58	1169	10	73	268	19	41
6	1414	282	132	0.20	411	35	67	1414	282	132	282	21	45
7					411	35	67	1414	282	132	297	23	49
8	448	<10	<10	0.02	775	35	67	448	10	10	337	23	49
9					775	35	67	448	10	10	383	23	49
10					775	35	67	448	10	10	434	23	49
11					775	35	67	448	10	10	493	23	49
12					775	35	67	448	10	10	560	23	49
13	888	31	20	0.03	790	34	56	888	31	20	650	24	50
14					790	34	56	888	31	20	755	25	51
15					776	37	52	888	31	20	755	26	49
16					776	37	52	888	31	20	755	26	47
17					776	37	52	888	31	20	755	26	44
18					776	37	52	888	31	20	756	27	42
19					776	37	52	888	31	20	756	27	40
20	337	20	52	0.06	689	34	52	337	20	52	732	27	40
21					689	34	52	337	20	52	709	27	39
22					705	33	52	337	20	52	695	26	39
23					705	33	52	337	20	52	682	26	39
24					705	33	52	337	20	52	669	25	39
25					705	33	52	337	20	52	657	25	39
26					705	33	52	337	20	52	644	24	39
27	650	158	41	0.24	697	41	50	650	158	41	646	25	39
28					697	41	50	650	158	41	648	26	38
29					724	37	40	650	158	41	651	27	36
30					724	37	40	650	158	41	655	28	34
31					658	49	35	650	158	41	642	30	34
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Exceedance

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SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-2-6 (OLD DHS 103)
Temescal stormdrain, Los Angles
SUMMER - SEASON

September 2007

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1					658	49	35	650	158	41	630	33	33
2					658	49	35	650	158	41	617	36	33
3					658	49	35	650	158	41	605	40	32
4	419	74	288	0.18	610	52	50	419	74	288	585	43	33
5					516	37	41	419	74	288	562	41	34
6	85	10	30	0.12	382	30	39	85	10	30	512	37	33
7	67	<67	31	1.00	278	41	47	67	67	31	480	39	34
8					278	41	47	67	67	31	451	41	35
9					278	41	47	67	67	31	423	44	37
10	419	20	41	0.05	295	37	46	419	20	41	422	45	38
11					295	37	46	419	20	41	421	46	40
12					246	38	53	419	20	41	411	46	41
13					246	38	53	419	20	41	401	45	42
14					246	38	53	419	20	41	391	44	43
15					246	38	53	419	20	41	381	44	44
16					246	38	53	419	20	41	372	43	45
17	243	<10	63	0.04	245	32	55	243	10	63	356	41	47
18					245	32	55	243	10	63	341	40	49
19					232	34	55	243	10	63	337	39	49
20					232	34	55	243	10	63	333	38	50
21					232	34	55	243	10	63	330	37	50
22					232	34	55	243	10	63	326	36	50
23					232	34	55	243	10	63	323	36	50
24					232	34	55	243	10	63	319	35	51
25					232	34	55	243	10	63	316	34	51
26	4611	203	20	0.04	322	36	49	4611	203	20	337	34	50
27					322	36	49	4611	203	20	360	34	49
28					322	36	49	4611	203	20	384	35	48
29					322	36	49	4611	203	20	410	35	46
30					322	36	49	4611	203	20	438	35	45
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Exceedance

SANTA MONICA BAY BEACHES BACTERIAL TMDL
MONTHLY SUMMARY
STATION SMB-2-6 (OLD DHS 103)
Temescal stormdrain, Los Angles
SUMMER - SEASON

October 2007

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1	857	20	52	0.02	371	33	49	857	20	52	442	33	46
2					371	33	49	857	20	52	446	31	46
3					371	33	49	857	20	52	450	29	46
4					363	29	37	857	20	52	461	28	44
5					363	29	37	857	20	52	472	26	41
6					485	35	38	857	20	52	510	27	42
7					796	30	40	857	20	52	555	26	43
8					796	30	40	857	20	52	604	25	44
9	294	10	10	0.03	653	24	31	294	10	10	635	23	42
10					729	25	28	294	10	10	627	23	40
11					729	25	28	294	10	10	620	22	38
12					729	25	28	294	10	10	613	22	37
13					729	25	28	294	10	10	605	21	35
14					729	25	28	294	10	10	598	21	33
15					729	25	28	294	10	10	591	20	32
16					729	25	28	294	10	10	584	20	30
17					1051	34	22	294	10	10	588	20	28
18					1051	34	22	294	10	10	592	20	27
19					1051	34	22	294	10	10	596	20	25
20					1051	34	22	294	10	10	599	20	24
21					1051	34	22	294	10	10	603	20	22
22	350	10	146	0.03	799	25	35	350	10	146	611	20	23
23					799	25	35	350	10	146	618	20	24
24	120	10	10	0.08	547	21	27	120	10	10	604	20	22
25					547	21	27	120	10	10	590	20	21
26					321	12	30	120	10	10	522	18	20
27					321	12	30	120	10	10	462	16	20
28					321	12	30	120	10	10	409	15	19
29	41	10	<10	0.24	213	11	24	41	10	10	350	13	19
30					213	11	24	41	10	10	299	12	19
					150	10	20	41	10	10	270	12	18
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Santa Monica Bay Beaches Bacterial TMDLs Coordinated Shoreline Monitoring Plan
[ ]: RWL Exceedance

MARINA DEL REY HARBOR BACTERIAL TMDL
STATION MdRH-5 Basin E, in front of tide-gate from Oxford Basin (Old LACDBH MDR-20)

	Single Sample RWL Exceedances				30-day Geometric Mean RWL Exceedances			Total RWL Exceedances by Site	Total days of Exceedances
	Total Coliform	E.coli	Enterococcus	Total Coliform (Fecal:Total Coliform Ratio>0.1)	Total Coliform	E.coli	Enterococcus		
RB Calculation (without artificial days)	0	3	2	1	28	26	2	62	29
CLA Calculation (as specified in approved CMP)	0	3	2	1	0	0	0	6	3

- RB Calculation (without artificial days): Regional Board's calculation of geometric mean from NOV
- CLA Calculation (as specified in approved CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Marina Del Rey Harbor Mother's Beaches and Back Basins Bacterial TMDLs Coordinated Monitoring Plan

MARINA DEL REY HARBOR BACTERIAL TMDL
MONTHLY SUMMARY
STATION MdRH-5 Basin E, in front of tide-gate from Oxford Basin (Old LACDBH MDR-20)
SUMMER - SEASON

August 2007

DATE	SINGLE SAMPLE RESULTS			RATIO	30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1	210	<67	<10	0.32				210	67	10			
2								210	67	10			
3								210	67	10			
4								210	67	10			
5								210	67	10			
6	67	<67	10	1.00				67	67	10			
7								67	67	10			
8								67	67	10			
9					272	100	13	67	67	10	308	86	14
10					272	100	13	67	67	10	271	84	13
11					272	100	13	67	67	10	239	82	13
12					272	100	13	67	67	10	211	80	12
13	>13000	1900	110	0.15	519	164	18	13000	1900	110	221	88	12
14					519	164	18	13000	1900	110	232	96	13
15	7900	<67	31	0.01	843	164	22	7900	67	31	256	96	13
16					843	164	22	7900	67	31	282	96	14
17					843	164	22	7900	67	31	311	96	14
18					843	164	22	7900	67	31	342	96	15
19					843	164	22	7900	67	31	377	96	15
20	<67	<67	<10	1.00	587	144	19	67	67	10	354	96	15
21					587	144	19	67	67	10	333	96	15
22					843	164	22	67	67	10	333	96	15
23					843	164	22	67	67	10	333	96	15
24					843	164	22	67	67	10	333	96	15
25					843	164	22	67	67	10	333	96	15
26					843	164	22	67	67	10	333	96	15
27	660	<67	10	0.10	814	144	19	660	67	10	360	96	15
28					814	144	19	660	67	10	388	96	15
29					632	117	18	660	67	10	366	90	15
30					632	117	18	660	67	10	346	84	14
31					788	131	20	660	67	10	359	84	14
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Marina Del Rey Harbor Mother's Beaches and Back Basins Bacterial TMDLs Coordinated Monitoring Plan
[ ]: RWL Exceedance

211-912

MARINA DEL REY HARBOR BACTERIAL TMDL
MONTHLY SUMMARY
STATION MdRH-5 Basin E, in front of tide-gate from Oxford Basin (Old LACDBH MDR-20)
SUMMER - SEASON

September 2007

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1					788	131	20	660	67	10	373	84	14
2					788	131	20	660	67	10	388	84	14
3					788	131	20	660	67	10	403	84	14
4	>13000	4200	150	0.32	1258	233	28	13000	4200	150	462	96	16
5					2261	299	35	13000	4200	150	551	110	17
6	6800	1300	53	0.19	2716	382	37	6800	1300	53	643	122	18
7					2716	382	37	6800	1300	53	750	134	19
8	210	<67	<10	0.32	1884	298	31	210	67	10	779	134	19
9					1884	298	31	210	67	10	809	134	19
10	1300	<67	10	0.05	1799	247	27	1300	67	10	893	134	19
11					1799	247	27	1300	67	10	986	134	19
12					1356	185	22	1300	67	10	913	120	18
13					1356	185	22	1300	67	10	846	108	16
14					1011	219	21	1300	67	10	797	108	16
15					1011	219	21	1300	67	10	750	108	15
16					1011	219	21	1300	67	10	706	108	14
17	<67	<67	<10	1.00	686	185	19	67	67	10	602	108	14
18					686	185	19	67	67	10	514	108	13
19					1011	219	21	67	67	10	514	108	13
20					1011	219	21	67	67	10	514	108	13
21					1011	219	21	67	67	10	514	108	13
22					1011	219	21	67	67	10	514	108	13
23					1011	219	21	67	67	10	514	108	13
24					1011	219	21	67	67	10	514	108	13
25					1011	219	21	67	67	10	514	108	13
26					1101	277	24	67	67	10	476	108	13
27					1101	277	24	67	67	10	441	108	13
28					1101	277	24	67	67	10	409	108	13
29					1101	277	24	67	67	10	379	108	13
30					1101	277	24	67	67	10	351	108	13
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Marina Del Rey Harbor Mother's Beaches and Back Basins Bacterial TMDLs Coordinated Monitoring Plan
[ ]: RWL Exceedance

MARINA DEL REY HARBOR BACTERIAL TMDL
MONTHLY SUMMARY
STATION MdRH-5 Basin E, in front of tide-gate from Oxford Basin (Old LACDBH MDR-20)
SUMMER - SEASON

October 2007

DATE	SINGLE SAMPLE RESULTS				30-DAY GEOMETRIC MEAN (RB)			Filling Data			30-DAY GEOMETRIC MEAN (CMP)		
	Total Coliform	Escherichia coli	Enterococcus	RATIO E coli / Total	Total Coliform	Escherichia coli	Enterococcus	Total Coliform	Escherichia coli	Entero-coccus	Total Coliform	Escherichia coli	Enterococcus
	(MPN/100ml)				(MPN/100ml)			(MPN/100ml)			(MPN/100ml)		
1	1600	<67	10	0.04	1172	219	21	1600	67	10	361	108	13
2					1172	219	21	1600	67	10	372	108	13
3					1172	219	21	1600	67	10	383	108	13
4					724	121	14	1600	67	10	358	94	12
5					724	121	14	1600	67	10	333	82	11
6					414	67	10	1600	67	10	318	74	11
7					414	67	10	1600	67	10	303	67	10
8					518	67	10	1600	67	10	324	67	10
9	500	130	42	0.26	514	79	14	500	130	42	334	68	10
10					377	84	16	500	130	42	323	70	11
11					377	84	16	500	130	42	313	72	12
12					377	84	16	500	130	42	303	73	12
13					377	84	16	500	130	42	294	75	13
14					377	84	16	500	130	42	284	76	13
15					377	84	16	500	130	42	276	78	14
16					377	84	16	500	130	42	267	80	15
17					894	93	20	500	130	42	285	82	15
18					894	93	20	500	130	42	305	84	16
19					894	93	20	500	130	42	326	85	17
20					894	93	20	500	130	42	349	87	18
21					894	93	20	500	130	42	373	89	19
22	350	<67	10	0.19	654	84	16	350	67	10	394	89	19
23					654	84	16	350	67	10	417	89	19
24					654	84	16	350	67	10	440	89	19
25					654	84	16	350	67	10	465	89	19
26					654	84	16	350	67	10	491	89	19
27					654	84	16	350	67	10	519	89	19
28					654	84	16	350	67	10	549	89	19
29	130	<67	<10	0.52	437	79	14	130	67	10	561	89	19
30					437	79	14	130	67	10	573	89	19
31					283	84	16	130	67	10	527	89	19
LIMITS	10,000	400	104	1,000	1,000	200	35				1,000	200	35

Single sample results: Actual sampling data
30-Day Geometric Mean (RB): Regional Board's calculation of geometric mean from NOV
Filling Data: Single sample data assigned to days without sampling
30-Day Geometric Mean (CMP): City of Los Angeles calculation of geometric mean using "filling data" as specified in approved Marina Del Rey Harbor Mother's Beaches and Back Basins Bacterial TMDLs Coordinated Monitoring Plan
[ ]: RWL Exceedance

RECEIVING WATER LIMITATIONS COMPLIANCE REPORT

Submitted by
County of Los Angeles Department of Public Works
On behalf of the Los Angeles County Flood Control District
Reporting Period July 1, 2007 to June 30, 2008

October 15, 2008

1. Santa Monica Bay and Marina Del Rey Harbor

   Part 2.3 of the Permit requires the submittal of a Receiving Waters Limitations (RWL) Compliance Report upon determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable water quality standard. The Los Angeles County Flood Control District (District) has not made a determination that its discharges are causing or contributing to an exceedance of applicable water quality standards. The District did, however, receive a Notice of Violation (NOV) from the Regional Board dated March 4, 2008, stating that the District is in violation of waste discharge requirements established in Board Order 01-182 as amended by Orders R4-2006-0074 and R4-2007-0042 (Permit). This NOV was one of many NOVs issued by the Regional Board to several different parties alleging the exceedance of summer dry weather bacteria water quality objectives at twenty-nine shoreline and harbor monitoring sites. The NOV alleged that the District is jointly responsible for the exceedances at these monitoring sites along with the other permittees within the land area within the watersheds draining to these sites.

   On May 14, 2008, the District submitted a report in response to the NOV. As set forth in that report, the monitoring results upon which the NOV is based do not evidence or prove that District discharges are causing or contributing to an exceedance of an applicable water quality standard. Additionally, the District is not jointly responsible for discharges from other parties or permittees. Nevertheless the District hereby submits this RWL Compliance Report to assist the Regional Board in identifying potential sources of the exceedances detected at the monitoring stations and to address those exceedances. The submission of this report, however, should not be construed to mean that the District is the source of any exceedance of any applicable water quality standard, and no such inference should be drawn.

   As set forth in the District's May 14, 2008, report the land area serviced by District storm drains is under the jurisdiction of other public entities. District storm drains do not create dry weather runoff and any activities specifically affecting dry weather flows or pollution fall within the jurisdiction of applicable public entities. The District's May 14, 2008 report is incorporated by reference herein. Please note that,

notwithstanding the fact that the District's drains service land areas not under the District's control, where appropriate, the District has constructed mitigation measures such as dry-weather low flow diversions.

2. Other Locations

On October 15, 2007, the District submitted a RWL Compliance Report for the period 2006-2007 advising the Regional Board about monitoring results reflecting exceedances at mass emission stations, tributary monitoring sites, and Legg Lake. During the 2007-2008 monitoring period, monitoring conducted by the District continued to reflect exceedances of water quality standards that are coming from unknown sources that could be natural or anthropogenic. The results of this monitoring are discussed in the District's annual stormwater monitoring report submitted to the Regional Board on August 15, 2008. The Regional Board did not request any changes after receipt of the District's 2006-07 RWL Compliance report. In accordance with the Permit, a status report concerning the 2006-07 RWL Compliance Report will be submitted next year.

14-846

RECEIVING WATER LIMITATIONS COMPLIANCE REPORT AND STATUS REPORT

Submitted by
County of Los Angeles Department of Public Works
On behalf of the County of Los Angeles
Reporting Period July 1, 2007 to June 30, 2008

October 15, 2008

Part 2.3 of the Permit requires the submittal of a Receiving Waters Limitations (RWL) Compliance Report upon determination by either the Permittee or the Regional Board that discharges are causing or contributing to an exceedance of an applicable water quality standard. The Monitoring and Reporting Program of the Permit further requires the submittal of a status Receiving Waters Limitations (RWL) Compliance Report every alternate year following the submittal of the first RWL Report.

The County of Los Angeles (County) has not made a determination that its discharges are causing or contributing to an exceedance of an applicable water quality standard. The County did, however, receive a Notice of Violation (NOV) from the Los Angeles Regional Water Quality Control Board (Regional Board) dated March 4, 2008, stating that the County is in violation of waste discharge requirements established in Regional Board Order No. 01-182 as amended by Orders R4-2006-00074 and R4-2007-0042. This NOV was one of many NOVs issued by the Regional Board to several different parties alleging the exceedance of summer dry weather bacterial water quality objectives at twenty-nine shoreline and harbor monitoring sites. The NOV alleged that the County is jointly responsible for the exceedances at these monitoring sites along with the other permittees within the land area within the watersheds draining to these sites.

On May 14, 2008, the County submitted a report in response to the NOV. As set forth in that report, the monitoring results upon which the NOV is based do not evidence or prove that County discharges are causing or contributing to an exceedance of an applicable water quality standard. Additionally, the County is not jointly responsible for discharges from other parties or permittees. Nevertheless the County hereby submits this RWL Compliance Report to assist the Regional Board in identifying potential sources of the exceedances detected at the monitoring stations and to address those exceedances. This report also serves as the status report update to the County's 2005-2006 RWL Compliance Report. The submission of this report, however, should not be construed to mean that the County is the source of any exceedance of any applicable water quality standard, and no such inference should be drawn.

14-847

This report contains the following:

1. A description of the pollutants that are in exceedance and an analysis of possible sources;
2. A plan to comply with the RWL (Permit, Part 2), which includes status of various projects;
3. Changes to the SQMP to eliminate water quality exceedances;
4. Enhanced monitoring to demonstrate compliance; and
5. Results of implementation.

The County looks forward to discussing these matters with Regional Board staff.

1. A description of the pollutants that are in exceedance and an analysis of possible sources.

The NOV cited violations of bacteria water quality objectives. A discussion of indicator bacteria and their possible sources was included as part of the County's report dated May 14, 2008, submitted in response to the NOV. That report is incorporated herein by reference.

The exceedances of indicator bacteria are coming from unknown sources that could be natural or anthropogenic. A July 2007 report by ENSR International for USEPA New England Region 1, *Mitigation Measure to Address Pathogen Pollution in Surface Waters: A TMDL Implementation Guidance Manual for Massachusetts*, describes these potential sources: birds, wildlife and other animals, runoff from homeless encampments, sanitary sewer leaks and spills, illicit connections of sanitary lines, discharges from recreational vehicle holding tanks, or malfunctioning septic tanks, among other things.

A 2008 study by Southern California Coastal Water Research Project (SCCWRP), *Fecal Indicator Bacteria Levels During Dry Weather in Southern California Reference Streams, (Tiefenthaler et. al. 2008)*, attempted to quantify naturally occurring background levels of bacteria in streams during base flow (i.e. non-storm) conditions over an extended period of time. The overall approach was to characterize dry weather bacteria levels at select sites that are representative of existing natural conditions in southern California. Conducted in accordance with the Malibu Creek Bacteria TMDL, dry weather bacteria data was collected weekly for an entire year. This study found that:

- Indicator Bacteria levels fluctuated seasonally with an average of 79% of both enterococci and total coliforms exceedances occurring during summer months (June-August).
- Seventy-five percent of enterococci and 83% of total coliforms exceedances occurred during the summer months.

14-848

- At all sites, temperature explained about one-half the variation in total coliforms density, suggesting that stream temperatures regulated bacterial populations.
- A total of 18.2% of the indicator bacteria samples (for all three indicators) from the natural sites exceeded daily (single sample) water quality standards.
- Natural streams exceeded the 30-day Geometric mean criterion for enterococcus for the months of June, July, August and September.
- Absence of B. thetaiotaomicron indicated that the Fecal Indicator Bacteria (FIB) in reference streams were likely from non-human sources.

2. A plan to comply with the Receiving Water Limitations and status of implementation.

Monitoring data do not demonstrate that the County caused or contributed to the reported exceedances. Additional information in this respect was included as part of the County's report dated May 14, 2008, submitted in response to the NOV.

Nonetheless, the County, in cooperation with the Los Angeles County Flood Control District (District), continues to design and implement regional projects using watershed management principals, resulting in multi-faceted benefits to its citizens, including reducing stormwater and urban runoff pollution. The County also continues to implement best management practices and capital improvement projects intended to reduce the possibility that urban runoff might contribute to bacteria impairments in receiving waters. Following is a partial list of the County's accomplishments and projects in progress during this reporting period, several of which are in cooperation with the District:

- In Santa Monica Bay –
    - Continued a bacteria source investigation project in the North Santa Monica Bay watersheds.
    - Completed the construction of a multistage disinfection system at Marie Canyon Storm Drain in Malibu on July 31, 2007. This innovative project filters and disinfects dry weather runoff through the use of ultraviolet light. The system became fully operational on October 11, 2007. Within the first month, fecal coliform, enteroccus, and other indicator bacteria were reduced by 99.9 percent. When winter storms washed burnt vegetation, debris and mud down the watershed and overwhelmed the intake pumps, the pumps were replaced, and the system was placed back online.
    - Constructed a total of 17 low-flow storm drain diversions within the urban watersheds within Santa Monica Bay.
    - In collaboration with other municipalities in Santa Monica Bay, a total of 25 Non Structural and Public Educations Programs were identified.

14-849

- In collaboration with other municipalities in Santa Monica Bay, a total of 32 Subregional Structural Programs (20 committed and 12 pilot projects) were identified. Local municipalities are going forward with some of these projects.

- In Marina del Rey –
  - Completed the development of a project concept report for a multi-use project in the area surrounding the Oxford Flood Control Basin in Marina del Rey.
  - Design of a low-flow diversion for the Oxford Pump Station has been completed. Construction is estimated to commence in April 2009.
  - Completed a Sediment Characterization Study to identify the extent and thickness of sediment contamination within Marina del Rey Harbor.
  - Continued work on two Project Concept Reports for the installation of bio-retention best management practice features in parking lots within the Marina del Rey watershed.
  - Continued implementation of enhanced public education program to increase public knowledge of stormwater pollution.
  - Completed the installation of cured-in-place pipe liners in the County-owned sanitary sewer pipes surrounding Marina del Rey.
  - Completed a Project Concept Report involving the removal of presumed contaminated sediment from Oxford Retention Basin and the installation of water quality enhancing technology.
  - Constructed two low-flow storm drain diversions to divert dry-weather urban runoff to a sanitary sewer system.

3. Changes to the Stormwater Quality Management Plan

No changes to the SQMP are recommended at this time beyond those made in the County's Report of Waste Discharge (ROWD), which was submitted to the Regional Board in June 2006. The Regional Board did not request any changes after its receipt of the County's 2005-06 RWL report.

4. Enhanced monitoring to demonstrate compliance

No enhanced monitoring to demonstrate compliance is proposed at this time.

5. Results of implementation

See above.

14-850

City of Calabasas

Receiving Water Limitation Report

FY 07-08

Part 2-Section C Attachment

On March 4, 2008 the Los Angeles Regional Water Quality Control Board (Board) sent to the City a notice that Board staff believed the City had violated waste discharge regulations as established in the Board's Order 01-182 and as amended in Order R4-2006-0074 and R4-2007-0042. Additionally, the Board required the City to respond to these allegations. The City responded timely to these allegations and believes that the NOV and Order were improperly issued. The City has petitioned the Board to retract these alleged violations.

STATUS RECEIVING WATER LIMITATIONS COMPLIANCE REPORT

Submitted by
County of Los Angeles Department of Public Works
On behalf of the Los Angeles County Flood Control District

October 15, 2009

Pursuant to Part I.A.4 of Monitoring and Reporting Program No. 6948 for Regional Board Order 01-182 as amended by Order No. R4-2006-0074 and Order No. R4-2007-0042, this Status Receiving Water Limitations Compliance Report (Status Report) is being submitted to provide a status for the Receiving Water Limitations Compliance Report dated October 15, 2007 (2007 RWL Report), submitted by the Los Angeles County Flood Control District (LACFCD).

In a letter dated April 13, 2009, the Los Angeles Regional Water Quality Control Board (Regional Board) said the 2007 RWL Report did not contain certain elements, but did not request that the report be supplemented or request any additional information. The Regional Board had not responded to or acknowledged the receipt of the 2007 RWL Report prior to this date. As we said in the 2007 RWL Report, the LACFCD was not required to submit any report, but was voluntarily submitting the 2007 RWL Report to assist the Regional Board in identifying the sources of the exceedances. Nothing in the 2007 RWL Report was intended to indicate that the LACFCD was the source of any exceedance of an applicable water quality standard, and therefore the LACFCD was not required to discuss any particular element of or suggest any particular changes to the program, including but not limited to changes to the SQMP or enhanced monitoring. Nonetheless, two actions were suggested as part of the 2007 RWL Report as proactive actions to advance stormwater management. An update to those two proposed actions is contained herein. Like the 2007 RWL Report itself, nothing in this Status Report should be construed to mean that the LACFCD is the source of any exceedance of any applicable water quality standard, and no such inference should be drawn.

1. Quantitative Program Effectiveness Measures

   Description:

   The 2007 RWL Report proposed to establish quantitative program effectiveness measures for the County of Los Angeles and LACFCD stormwater programs under the new MS4 Permit originally scheduled for adoption in 2008. The effectiveness measures would serve as tangible triggers on which SQMP revisions can be based. In the past, revisions to the SQMP have not been practical due to a limited

understanding of the causal relationship between management actions and receiving water quality.

Status:

Due to delay in the MS4 Permit renewal process, no effectiveness measures have been established. However, the LACFCD organized and hosted a workshop on January 6, 2009, on Program Effectiveness Assessment Guidance (PEA Guidance) document developed by the California Stormwater Quality Association (CASQA). Twenty-six County of Los Angeles Department of Public Works staff and seven Cities attended the workshop. The LACFCD is also actively involved in the process to update the PEA Guidance document.

2. System-wide Monitoring Program

Description:

The 2007 RWL Report also proposed the design and implementation of a large-scale monitoring program to better understand the relative urban runoff contribution to the receiving water problems[1]. Because the existing monitoring program mandated by the MS Permit was designed to answer Management Question 1 and to some extent Management Question 2, the proposed monitoring program is a necessary incremental step to better understand the sources of urban runoff pollution and how to address them.

Status:

Preliminary conceptual design was completed in 2008. In June 2009, a consultant contract was awarded for formal monitoring program design. The consultant is currently performing field reconnaissance of potential sites for the pilot phase of the project. Final site selection is scheduled to be completed in October 2009, and a workshop is tentatively scheduled for the second week of November.

[1] This corresponds to Management Question 3 in the Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California (Model Program) developed by the Stormwater Monitoring Coalition in 2004. The Model Program presents five management questions that, when addressed, use adaptive triggers to expand a monitoring program in a logical and systematic way to move from assessment monitoring to source identification. The five management questions posed in the Model Program are:

1. "Are conditions in the receiving waters protective, or likely to be protective, of beneficial uses?"
2. What is the extent and magnitude of the current or potential receiving water problems?"
3. "What is the relative urban runoff contribution to the receiving water problems?"
4. "What are the sources to urban runoff that contribute to receiving water problems?"
5. "Are conditions in the receiving waters getting better or worse?"

14-853

Storm Water Panel Recommendations to the California State Water Resources Control Board

The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities

June 19, 2006

14-854

Panelists:

Brian Currier, PE
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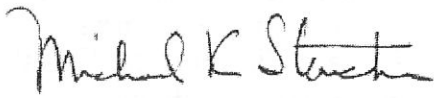
Sacramento, California

Gary Minton, Ph.D, PE
Resource Planning Associates,
Seattle, Washington

Robert Pitt, Ph.D., PE
Cudworth Professor of Urban Water Systems, Dept. of Civil, Construction, and Environmental Engineering, University of Alabama, Tuscaloosa, Alabama

Larry A. Roesner, Ph.D., PE.
Colorado State University, Fort Collins, Colorado

Ken Schiff
Deputy Director, Southern California Coastal Water Research Project,
Westminster, California



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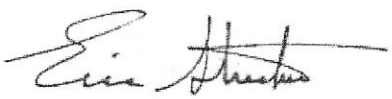
"The opinions I express are my own and do not represent official US EPA policy."

Eric Strassler
Senior Policy Analyst, Office of Water,
US USEPA
Washington, District of Columbia



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Background

The NPDES storm water permit program came into being as a result of the 1987 amendments to the federal Clean Water Act and its implementing regulations. In California, the State Water Resources Control Board (State Water Board) and the nine Regional Water Quality Control Boards (Regional Water Boards) implement the NPDES storm water program.

The Clean Water Act amendments, Section 402(p) require that discharges of storm water from large and medium municipal separate storm sewer systems (MS4s) and discharges of storm water associated with industrial activities be in compliance with NPDES permits. MS4 permits require that the discharge of pollutants be reduced to the maximum extent practicable (MEP). Discharges associated with industrial activities, were required to meet the technology based standards of best available technology economically achievable (BAT) or best conventional pollutant control technology (BCT), and to meet water quality standards.

In 1990, USEPA promulgated regulations (40 CFR Part 122.26) for the NPDES storm water program. These regulations clarified what industrial activities were subject to storm water permit. Construction that resulted in a land disturbance of five or more acres was included as an industrial activity subject to NPDES storm water permit. The regulations also delineated what was to be included in permit applications and the programmatic elements that were to be in a permit and storm water management program for MS4s or storm water pollution prevention plan for industrial activities.

California's Permits

In 1990, MS4 permits were issued to Santa Clara County by the San Francisco Bay Regional Water Board and to Los Angeles County by the Los Angeles Regional Water Board. These permits were appealed to the State Water Board. The primary basis of the appeals was the lack of numeric limits in the permits. The entities that brought the appeals argued that the permits needed to include numeric limits, as the discharges of pollutants must not only be reduced to the MEP, but they must also meet water quality standards. The State Water Board, in hearing these appeals, determined that it was not feasible at the time to develop numeric limits for MS4 permits, and that water quality standards could and should be achieved through the implementation of best management practices (BMPs). Since this ruling, the Regional Water Boards have typically not included numeric limits in storm water permits.

The State Water Board has adopted NPDES General Permits for the Discharge of Storm Water Associated with Industrial Activities and for the Discharge of Storm Water Associated with Construction Activities. Both of these permits contain language stating that developing numeric limitations is infeasible.

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Court Decisions

In addition to these actions on MS4 permits at the State level, there have been a number of rulings from the federal courts regarding the NPDES Storm Water program.

One of the most significant is from the federal court, 9th District Court of Appeals from 1999. In its published opinion on Defenders of Wildlife vs. Browner, the Court held that MS4 permits need not require strict compliance with water quality standards. Rather, compliance was to be based upon the MEP standard. However, the permitting authority (the State Water Board/Regional Water Boards for California) could at their option require compliance with standards. The State Water Board through the permit and appeals process has in fact required that the discharges from MS4s meet water quality standards, but has stated that compliance with numeric standards can be achieved through the implementation of BMPs in an iterative fashion.

The Browner decision also found that discharges of storm water associated with industrial activities must be in strict compliance with water quality standards.

In 2004 the State Water Board conducted a public hearing on a draft General Industrial Storm Water permit. This draft permit met with significant opposition from non-government or non-industrial organizations (NGOs) due to the absence of numeric limits. Staff revised the draft permit to include the benchmarks contained in the USEPA multi-sector general permit. This change resulted in strong opposition from the regulated community.

The concerns that have been raised by the NGOs and the regulated community are similar, though they do not necessarily agree on the best way to address them. Both believe that permitting has become overly complex, and that it is extremely difficult, if not impossible to objectively determine if a facility, operation or municipality is in compliance with its permit requirements. The NGOs argue that requiring storm water permittees to comply with numeric effluent limits will result in an easier way to measure compliance. The regulated community agrees, to a degree, but they argue that it is not simply a matter of selecting a number that is suitable for a POTW or industrial waste discharge. Due to the unique nature of storm events and storm water discharges, any numeric limit that is placed in a storm water permit must take into consideration the episodic nature of storm events and be truly representative of storm water discharges. In addition, the regulated community has argued that there are going to be pollutants in storm water discharges that did not originate in the MS4 (run on) or that they do not have the means to control, and therefore should be given special consideration.

In response to these arguments, State Water Board directed staff to convene a panel of storm water experts to examine the feasibility of developing numeric

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limits for storm water permits. Specifically, this panel of experts was asked to consider the following:

> "Is it technically feasible to establish numeric effluent limitations, or some other quantifiable limit, for inclusion in storm water permits? How would such limitations or criteria be established, and what information and data would be required?"
>
> "The answers should address industrial general permits, construction general permits, and area-wide municipal permits. The answers should also address both technology-based limitations or criteria and water quality-based limitations or criteria. In evaluating establishment of any objective criteria, the panel should address all of the following:
>
> (1) The ability of the State Water Board to establish appropriate objective limitations or criteria; (2) how compliance determinations would be made; (3) the ability of dischargers and inspectors to monitor for compliance; and (4) the technical and financial ability of dischargers to comply with the limitations or criteria."

Staff invited 10 individuals from the academic and scientific community to participate on the panel. Of the 10, eight agreed to participate. These eight met in a public session on September 14, 2005 and heard presentations from the regulated and NGO communities. They also heard comments from the public at large. They met again on September 15, 2005 to discuss the public comments and to begin to formulate a response. It was also decided at this meeting that they would form sub-committees to address municipal (MS4), industrial and construction discharges separately. These sub-committees worked on drafts statements for each of these, circulating them over the course of a number of months.

The panel met again in private session on April 3 and 4, 2006. The purpose of these meetings was to address unresolved issues and to develop the final response to the State Water Board. It was also decided to combine the three working statements into one Statement of Findings. The following discussion is the panel's findings and is broken into three program element areas: municipal, construction, and industrial.

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Panel's Findings on Feasibility of Numeric Effluent Limits Applicable to Municipal Activities

Municipal Observations

1. The current practice for permitting, designing, and maintaining municipal stormwater treatment facilities (called BMPs herein) on the urban landscape does not lend itself to reliable and efficient performance of the BMPs because:

    - Permitting agencies, including EPA, States, and local governments, have rarely developed BMP design requirements that consider the pollutants and/or parameters of concern, the form(s) that the pollutants or parameters are in, the hydrologic and hydraulic nature of how they pollutants and flow arrive, and then the resulting unit processes (treatment and/or flow management processes) that would be required to address these pollutants or parameters.
    - The permitting agencies generally are not accountable for the performance of the BMP, and thus give much leeway to the developer with respect to the type of BMPs to be constructed, and to the details of the design, although some states do have detailed design standards and have conducted performance tests to identify acceptable devices for their area.
    - The developer is not responsible in most all cases for the performance of the BMP, so the treatment facilities are designed to minimize the cost and/or area of the facility and/or ease of permitting, not maximize the pollutant removal efficiency and/or flow management of the BMP
    - Because BMPs are not held to any, or very few, long-term performance criteria, they are typically not maintained except for aesthetic purposes. Very few stormwater agencies are responsible for BMP maintenance on private property, and public facilities are maintained mostly in response to clogging and/or resultant drainage or aesthetic problems. Even for stormwater agency facilities, maintenance is often limited.

2. The principal reasons for the failure of BMP performance is improper BMP selection, design and/or lack of maintenance.

    - The California BMP Handbooks and other local requirements leave too much of the BMP selection and design to the discretion of the designer, and thus do not address many if not all of the receiving water quality issues

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- BMPs need to be *designed to facilitate maintenance*; this is rarely done because it costs the developer money and the BMP designer is rarely responsible for the maintenance.

- Given the amount of debris in urban runoff, and the fact that the hydraulic capacity of many BMPs may be exceeded several to many times per year, BMPs require more maintenance than other types of stormwater control facilities. Since urban BMP maintenance is generally left to untrained homeowner associations and maintenance personnel for commercial properties, inadequate maintenance is a near certainty. Even stormwater agencies often do not have and/or apply the resources necessary to maintain agency owned BMPs.

3. Improvements in the design of municipal BMPs, including residential and commercial as well as municipally owned facilities are necessary to ensure better performance (i.e. sizing, geometry, inlet and outlet design, etc.) and to specifically target receiving water quality issues.

The Problem with Existing Effluent Limit Approaches

Effluent limit approaches usually focus only on conventional water quality constituents that may not be solely or at all responsible for the receiving water beneficial use impairments in urban receiving waters. The important stressors that affect many use impairments can include one or more of the following and may vary in importance from system to system:

- The effect of increased flows and/or volumes (i.e. hydromodification) that can lead to stream channel erosion/sedimentation with resulting habitat destruction

- Sediment contamination (such as enrichment of urban stream sediments with fine-grained heavily polluted particulates; large organic debris masses causing low sediment DO; settled bacteria causing large bacteria gradients with sediment depth etc.)

- Impaired aesthetic value (caused by gross floatables, noxious sediments, etc.)

- Unsafe conditions (caused by dangerous debris, highly fluctuating stream flows and stages, etc.)

- Dissolved and suspended pollutants that are bioavailable in the water column and/or result in downstream sediment contamination

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- Elevated temperatures from urban heating effects on runoff and on open conveyances and permanent pool BMPs

It is very difficult to determine specific causative agents or the level of control needed, for a specific beneficial use impairment in a receiving water body. The *Stormwater Effects Handbook: A Tool Box for Watershed Managers, Scientists, and Engineers* (Burton, G.A. Jr., and R. Pitt, ISBN 0-87371-924-7. CRC Press, Inc., Boca Raton, FL. 2002. 911 pages) was written to be used as a guide for stormwater managers to identify their local receiving water problems and to assist in identifying the causative factors. The methods described would need to be applied to a specific area or region to obtain an understanding of local conditions and problems. Although expensive, comprehensive investigations such as these should be considered an investment to help minimize wasteful expenditures due to the application of inappropriate control practices in a watershed.

Monitoring for enforcement of numeric effluent limits would also be challenging. While spot checks could be made at some of the many outfalls in an area, there is wide variation in stormwater quality from place to place, facility to facility, and storm to storm. Coefficients of variation approaching 1 or higher are not uncommon and there are few factors that can be used to significantly reduce this variation. Analysis of the National Stormwater Quality Database indicates that geographical location and land use are the most important factors affecting stormwater quality for most constituents. Some are also affected by the antecedent dry period before the rain and more highly developed watersheds (containing large fractions of impervious areas) often show elevated "first-flush" concentrations in the first portion of the storms for some, but not all pollutants. Since the storm-to-storm variation at any outfall can be high, it may be unreasonable to expect all events to be below a numeric value. In a similar circumstance, there are a number of storms each year that are sufficiently large in volume and/or intensity, to exceed the design capacity volume or flow rates of most BMPs. Assessing compliance during these larger events represents yet another challenge to regulators and the regulated community.

Technical Issues

Even for conventional pollutants, there presently is no protocol that enables an engineer to design with certainty a BMP that will produce a desired outflow concentration for a constituent of concern. A possible exception is removal of Total Suspended Solids in extended detention basins, and some types of media filters. The typical approach for evaluating BMP pollutant removal efficiency has been *percent removal*; but observed removal efficiencies vary greatly from facility to facility and it has been demonstrated that percent removal varies directly with the inflow concentration.

Few, if any, BMPs are designed using the first principles laws of physics, chemistry and/or biology for pollutant removal and/or flow-duration control. It will

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take a substantial research effort, including data gathering on well-designed BMPs, to develop design criteria for the removal of pollutants with confidence intervals that enable us to make reliable estimates of the median and variance of the effluent concentrations to be expected from the various types of BMPs. Until this is done, it will be very difficult to assign legally enforceable numerical effluent limitations to any particular BMP.

Drawing upon the body of knowledge that currently exists regarding pollutant removal efficiency, it is possible to estimate mean effluent concentrations and variances for a number of constituents for different types of BMPs, albeit not in a legally enforceable sense. Effluent concentration distributions for a number of BMPs are available in the International BMP Database (www.bmpdatabase.org) from more then 250 studies throughout the US. The following outlines key issues that have been identified regarding the technical feasibility of setting objective criteria for both existing areas and new or redeveloping areas:

- Effluent concentration estimates could be made for a given constituent and a particular BMP from a larger number of BMPs than available in the BMP Database using literature values of percent removal and local or national data on stormwater runoff EMC data. However, the results from this work would be significantly less reliable then the BMP Database data as it could be biased if the influent concentrations for the studied BMP types did not match general urban runoff.
- Designing the facility more rigorously with respect to the physical, chemical and biological processes (e.g. unit processes) that are active in the BMP would give confidence that the BMP would perform at least as well, if not better than the average performance determined from the literature. A WEF/ASCE task force is currently updating their Urban Runoff Quality Management Manual of Practice; design guidance of BMPS will make better use of the physical, chemical, and biologic processes taking place in the BMP before, during and after a storm event. This manual will build upon recent research efforts employing a unit process based approach for BMP design and selection. These research efforts were supported by the Water Environment Research Foundation (WERF) and the National Cooperative Highway Research Program (NCHRP).
- A BMP *designed* and *constructed* according to a set of criteria described above, could be ***presumed*** to deliver an effluent with a mean constituent concentration and variance similar to the performance numbers developed from the literature ***if it is properly maintained***. Enforcement would comprise periodic inspection of the facility using a checklist of items to be inspected. While not an effluent limit, this seems practical and quantifiable.

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- Most all existing development rely on non-structural control measures, making it difficult, if not impossible to set numeric effluent limits for these areas because little is known about the quantity and quality performance of non-structural controls. However, certain development characteristics in some existing development areas that minimize the amounts of impervious areas in a drainage area have been shown to be quite effective in reducing adverse hydromodifications in the receiving waters, and should be encouraged.

Municipal Recommendations

It is not feasible at this time to set enforceable numeric effluent criteria for municipal BMPs and in particular urban discharges. However, it is possible to select and design them much more rigorously with respect to the physical, chemical and/or biological processes that take place within them, providing more confidence that the estimated mean concentrations of constituents in the effluents will be close to the design target. Moreover, with this more rigorous design and an enforceable maintenance program, it can be presumed that these facilities will continue to deliver effluent qualities that are reasonably close to the design effluent concentrations over the life of the facility. And if proper maintenance is performed (enforced), the facilities can be expected to perform throughout their design life at the same or better efficiency as when newly constructed. Depending on the pollutants and parameters of concern and BMP choices, it is very likely that treatment trains of structural BMPs will be required in many cases.

For catchments not treated by a structural or treatment BMP, setting a numeric effluent limit is basically not possible. However, the approach of setting an "upset" value, which is clearly above the normal observed variability, may be an interim approach that would allow "bad actor" catchments to receive additional attention. For the purposes of this document, we are calling this "upset" value an ***Action Level*** because the water quality discharged from such locations are enough of a concern that most all could agree that some action should be taken. Action Levels could be developed using at least three different approaches. These approaches include: 1) consensus based approach; 2) ranked percentile distributions; 3) statistically-based population parameters.

The consensus-based approach would be to agree upon effluent concentrations that all parties feel are not acceptable. For example, most parties would likely agree that an average concentration of dissolved copper above 100 ug/l from an urban catchment would not be acceptable. This would be an Action Level value that would trigger an appropriate management response. This approach may not directly address the issue of establishing numeric effluent criteria and achieving desired effluent quality, but the consensus-based approach would ensure that the "bad actor" watersheds received needed attention.

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The ranked percentile approach (also a statistical approach) relies on the average cumulative distribution of water quality data for each constituent developed from many water quality samples taken for many events at many locations. The Action Level would then be defined as those concentrations that consistently exceed some percentage of all water quality events (i.e. the 90th percentile). In this case, action would be required at those locations that were consistently in the outer limit (i.e. uppermost 10th percentile) of the distribution of observed effluent qualities from urban runoff.

The statistically based population approach would once again rely on the average distribution of measured water quality values developed from many water quality samples taken for many events at many locations. In this case, however, the Action Level would be defined by the central tendency and variance estimates from the population of data. For example, the Action Level could be set as two standard deviations above the mean, i.e. if measured concentrations are consistently higher than two standard deviations above the mean, an Action situation would be triggered. Other population based estimators of central tendency could be used (i.e. geomean, median, etc.) or estimates of variance (i.e. prediction intervals, etc.). Regardless of which population-based estimators are used (or percentile from above), the idea would be to identify the [statistically-derived] point at which managers feel concentrations are significantly beyond the norm.

The ranked percentile and population-based estimators are highly dependent upon the data sets used to calculate them. There are a number of options that were considered by the Panel, but ultimately they were broken into two distinct categories. The first category was for new development/redevelopment and the second was for built out urban environments. For new development/redevelopment, the panel recommends using the data set associated with the international BMP database (www.bmpdatabase.org). This data set represents the variety of water quality from the most up to date, best conducted and reported BMP studies. The database effort does not limit itself to BMPs types or designs; it focuses on technically sound monitoring studies and reporting information. Therefore there could be some screening of studies to those thought to be well designed BMPs to then develop effluent quality distributions and statistics on performance. Certainly, there is no expectation that urban stormwater managers could improve water quality beyond what would be reported in this dataset.

In built-out urbanized environments, there are greater opportunities to examine various data sets for setting Action Levels. For the Panel, these opportunities were a function of spatial scale. The first opportunity would be at the local scale. Some urban stormwater monitoring programs have been in existence for 10 years or longer. Examples include the Los Angeles County Department of Public Works, City of Sacramento, Orange County, San Diego County, amongst others. Using permit specific data sets may make sense if issues of climatic variability or

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localized geomorphology are important. The next scale would be to combine these California municipal permit monitoring data sets, especially if lack of data for specific constituents of concern in any one location or region is an important issue. The largest scale would be the National Stormwater Quality Database (NSQD) from municipal monitoring programs across the nation (http://unix.eng.ua.edu/~rpitt/Research/ms4/Paper/Mainms4paper.html). This data set includes monitoring data from urban areas such as residential, commercial, industrial, freeway, institutional, and mixed use which is especially useful if small sample size limits the use of local data. One advantage of using smaller (and local), rather than larger, spatial scales is the ability to update data sets for revising Action Levels. The NSQD may not be updated for quite some time, but local data sets can be updated periodically (annual amendments, 10-year rolling averages, every permit cycle, etc). Ultimately, Action Levels would be expected to become lower as outliers are removed from data sets and as improved water quality data are collected through targeted management actions. It may be appropriate to eliminate older data sets as well over time.

One element to consider when comparing monitoring data to Action Levels is the concept of a design volume for water quality (also known as the Water Quality Capture Volume – WQCV, WEF #23 and ASCE publication #87, 1998) or a design flow rate. The WERF and NCHRP efforts mentioned above include recommendations regarding design sizing using continuous simulation techniques for both volume-based and rate-based BMPs. The Panel acknowledged that several to more times each year, the runoff volume or flow rate from a storm will exceed the design volume or rate capacity of the BMP. Stormwater agencies should not be held accountable for pollutant removal from storms beyond the size for which a BMP is designed.

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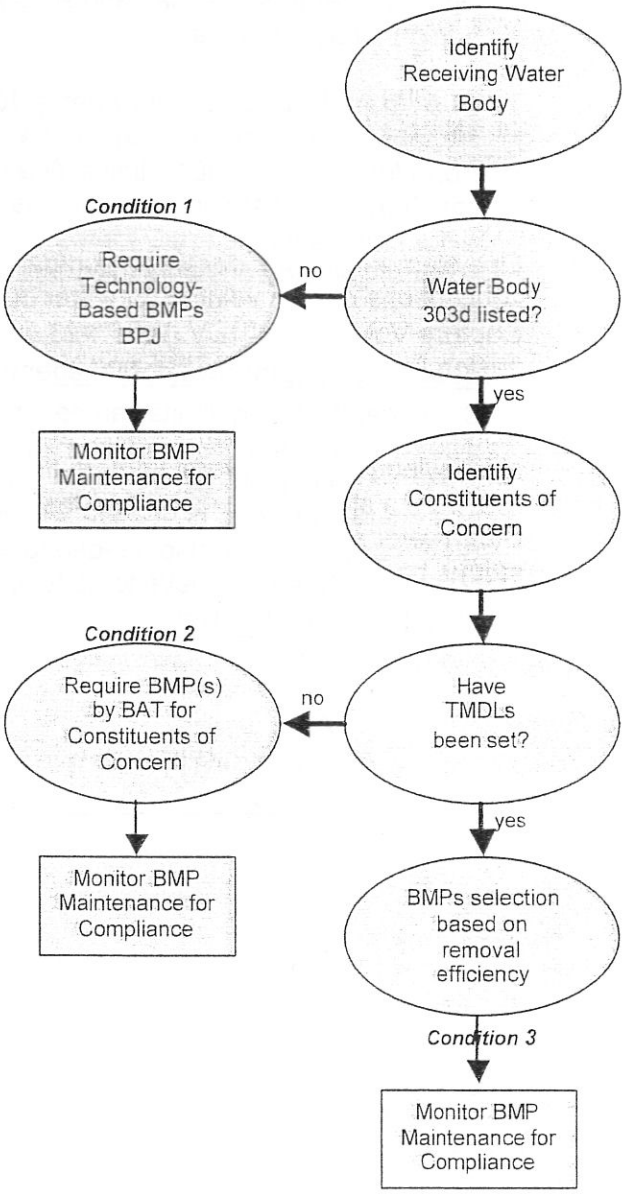
A Technically Sound and Pragmatically Enforceable BMP Design and the Permit Process

The diagram below provides guidance for determining what BMPs are required in a newly developing watershed. Under ***Condition 1*** where the receiving water quality is not impaired, determination of the appropriate BMP would be by Best Professional Judgment (BPJ). Any of the "state approved" BMPs could be used. The permittee would be required to design the treatment facilities in accordance with the California BMP Handbook, ***which should be revised as a criteria manual***, rather than a guidance manual *and include more physiobiochemically based design criteria designed to address an agreed upon set of "Pollutants and Parameters of Concern" based upon knowledge of the pollutants and parameters that generally are of concern in urban runoff, with perhaps some differences on receiving water type.*



A detailed maintenance plan and schedule would be required that includes:

1. Actions to be taken and when,
2. Designation of the party legally accountable for the facility maintenance, and
3. A whole-life cost estimate for the facility that include maintenance.

Compliance with the design criteria and the maintenance plan and schedule would constitute achievement of the design effluent criteria. In the event of failure by the responsible party to perform the required maintenance and/or to perform it to the required level of quality, the whole-life cost schedule could be used to determine the consideration that the defaulting responsible party would pay to the new responsible party that takes over the maintenance.

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Under ***Condition 2*** where water quality impairment exists but a TMDL has not yet been performed, BAT would be required, which means applying the BMPs that can practicably (to be defined) be employed to produce the lowest effluent concentrations (e.g. the lower grouping of BMP effluent quality) of the constituent(s) of concern. Several types of BMPs may fulfill the BAT standard if these BMPs have performance that is not statistically or practically differentiable. This case will allow flexibility in choosing among that sets of BMPs that demonstrate superior performance. As in the case of C*ondition 1*, compliance with the maintenance plan and schedule would constitute compliance with the design effluent criteria.

Condition 3, which occurs when a TMDL has been specified for the BMP or for the tributary watershed, may (or may not be) actually be less stringent that *Condition 2* if the TMDL allows for a higher effluent concentration of the constituents of concern than that discharged by a BAT facility. The same requirements would apply for the design criteria, and the maintenance plan and schedule would constitute the guarantee of design effluent concentrations from the BMP.

Strategies for Stormwater Management to Protect Urban Water Environments

Stormwater effluent limits can become very complex if all the issues are to be directly addressed. If complex, they are not likely to be workable. However, too much simplification can also lead to ineffective programs. Therefore, a reasonable first step is needed, based on local data. Compliance monitoring (e.g. BMP inspections) is also needed to ensure that the goals are likely to be met. Most likely goals will have to be revised over time. The overall strategy should contain these objectives:

- Effectiveness
- Affordability
- Enforceability, and
- Flexibility

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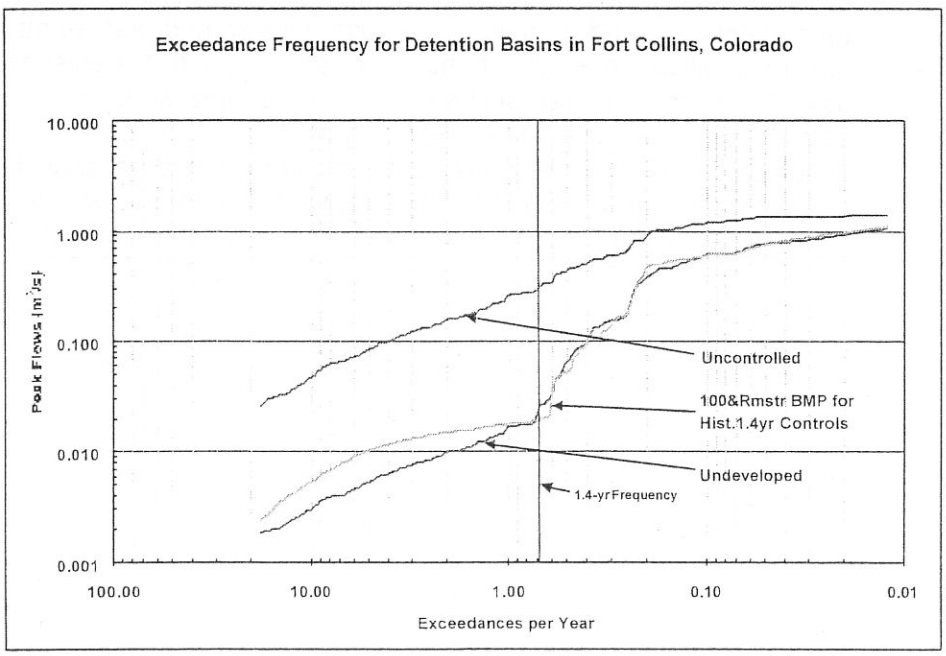
Table 1 - Effects of Urbanization on Hydrologic Regime in Colorado and Georgia

Location	Annual Precipitation	Mean Storm Depth*	Runoff Events per Year		Annual Runoff (mm)	
	Millimeters per Year	Millimeters	Undeveloped	Developed	Undeveloped	Developed
Fort Collins, CO	335	11	27	47	12	124
Atlanta, GA	1262	18	48	78	36	500
* Values obtained from Fig. 5.3 ASCE MOP (1998)						

Runoff volume and peak flows have been recognized as two of the most important stormwater factors needing control. **Table 1** (Roesner and Nehrke) shows that urbanization dramatically changes the hydrologic regime of urban waterways. In both Atlanta (a higher rainfall area) and Fort Collins (a semiarid area), the number of runoff events per year on developed land increases by a factor of 2 times the number of runoff events that occur in the undeveloped state; and the runoff volume increases by a factor of ten! The peak flows also increase dramatically as shown in **Figure 1** below, but as also seen on the figure, the peak flow frequency curve can be adjusted back to its predevelopment character by the proper application of runoff controls. But while these controls restore the peak flow frequency to its natural regime, the duration of flows at the low end (but still channel "working") of the flow frequency curve is greatly increased, which raises potential for channel scour in stream channels with erosive soils.

Figure 1 - Exceedance Frequencies for Detention Basins in Fort Collins, Colorado



Since many of the stormwater pollutants are strongly associated with particulates, stormwater particulate control is also often a component of stormwater control programs. Therefore, an effective stormwater control strategy that could be encouraged is a combination of several practices, listed below in the order of increasing events:

- On-site stormwater reuse, evapotranspiration and infiltration for the smallest storms and up to specific targeted events, depending on site limitations (soil characteristics and groundwater contamination potential) (usually by conservation design emphasizing infiltration, disconnecting paved areas, etc.)
- Treatment of excess runoff that cannot be infiltrated, again, up to a specific targeted runoff volume (usually by sedimentation or filtration) For pollutants of concern, it should be demonstrated that the BMP(s) need to include the physical, biological, and/or chemical treatment processes that address the typical pollutants of concern and/or specific pollutants in the case of 303D listed water bodies or those with established TMDLs.
- Control of energy discharges for the channel forming events (such as through storage-release, focusing on flow-duration analyses and peak flow frequency analyses). To be most effective, this should to be completed under a watershed management plan and not site-by-site.
- Provide safe drainage for damaging events (conventional drainage, plus secondary drainage systems)
- In watersheds that are already experiencing damaging flow impacts to streams, it could be in many circumstances much more cost-effective (and effective period) to develop through a watershed plan a natural stream stabilization approach that could address both the existing development and the remaining smaller infill or otherwise smaller new development. In these cases, requiring the remaining new development to implement flow-duration control would not solve the issue in a measurable way and resources would be better spent restoring the functions of the creek with instream enhancements.

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Panel's Findings on Feasibility of Numeric Effluent Limits Applicable to Construction Activities

Construction Observations

Regarding the question of the technical feasibility of Numeric Limits for stormwater discharges from construction activities, the Panel bases its recommendations on the following observations.

1. Limited field studies indicate that traditional erosion and sediment controls are highly variable in performance, resulting in highly variable turbidity levels in the site discharge.
2. Site-to-site variability in runoff turbidity from undeveloped sites can also be quite large in many areas of California, particularly in more arid regions with less natural vegetative cover and steep slopes.
3. Active treatment technologies involving the use of polymers with relatively large storage systems now exist that can provide much more consistent and very low discharge turbidity. However, these technologies have as yet only been applied to larger construction sites, generally five acres or greater. Furthermore, toxicity has been observed at some locations, although at the vast majority of sites, toxicity has not occurred. There is also the potential for an accidental large release of such chemicals with their use
4. To date most of the construction permits have focused on TSS and turbidity, but have not addressed other, potentially significant pollutants such as phosphorus and an assortment of chemicals used at construction sites.
5. Currently, there is no required training or certification program for contractors, preparers of soil erosion and sediment control Stormwater Pollution Prevention Plans, or field inspectors.
6. The quality of stormwater discharges from construction sites that effectively employ BMPs likely varies due to site conditions such as climate, soil, and topography.
7. The States of Oregon and Washington have recently adopted similar concepts to the Action Levels described earlier.

Construction Recommendations

It is the consensus of the Panel that active treatment technologies make Numeric Limits technically feasible for pollutants commonly associated with stormwater discharges from construction sites (e.g. TSS and turbidity) for larger construction sites. Technical practicalities and cost-effectiveness may make these technologies less feasible for smaller sites, including small drainages within a larger site, as these technologies have seen limited use at small construction sites. If chemical addition is not permitted, then Numeric Limits are not likely feasible. Whether the use of Numeric Limits is prudent, practical or necessary to more effectively achieve nonpoint pollution control is a separate question that

needs to be answered, but is outside the scope of this Panel. However, Action Levels are likely to be more commonly feasible. For small sites or smaller drainages within larger sites, or where chemicals cannot be used, the Panel recommends that Action Levels be specified.

Advanced systems lend themselves to Numeric Limits because of historically reliable treatment, while non-active controls are less predictable. Advanced systems have been in use in some form since the mid-1990s. At this time, there are two general types of systems. With each general system the stormwater is retained on-site, treated, and released more slowly. One system employs polymer coagulation and sedimentation. The second system employs polymer coagulation with direct filtration. Both types of systems are considered reliable, and can consistently produce a discharge less than 10 NTU. These systems have been used successfully at many sites in several states since 1995 to reduce turbidity to very low levels. Non-active erosion and sediment control BMPs, while effective when applied and adequately maintained, produce more highly variable in effluent quality, making setting Numeric Limits difficult, if not impossible.

An important consideration in setting Numeric Limits or Action Levels is that in many locations in California the natural background turbidity and/or TSS levels in stormwater runoff are quite high. This is particularly true in semi-arid or arid regions, which tend to have less vegetative cover. For example, natural runoff concentrations in Emerald Creek, on the Newport Coast, above any developed areas have been over 5,000 mg/l during runoff events. The Los Angeles County Monitoring Data sets included an open land use watershed that also showed TSS levels significantly above other types of urban land uses. Therefore, it is important to consider natural background levels of turbidity or TSS in setting Numerical Limits or Action Levels for construction activities. The difficulty in determining natural background concentrations/levels for all areas of the state could make the setting of Numeric Limits or Action Levels impractical from an agency resource perspective.

While the Panel concludes that Numeric Limits or Action Levels are technically feasible, the Panel has several reservations and concerns.

1. The active treatment systems have generally been employed on sites five acres or larger. While the systems are technically feasible for sites of any size, including sites or drainages as small as an acre or less, the cost may be prohibitive. The cost-effectiveness of active treatment systems is greatly enhanced for large drainage areas, at which construction occurs for an extended period of time, over one or more wet season. There is also a more "passive" active system that is employed in New Zealand that uses captured rainfall to release the chemical into flows entering a detention system that requires less instrumentation and flow measurement infrastructure. Even more passive systems such as the use of polymer

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logs and filter bags are currently under development for small sites. Regardless, the Panel recommends that the Board give particular attention to improving the application of cost-effective source controls to small construction sites.

2. In considering widespread use of active treatment systems, full consideration must be given to whether issues related to toxicity or other environmental effects of the use of chemicals has been fully answered. Consideration should be given to longer-term effects of chemical use, including operational and equipment failures or other accidental excess releases.
3. Consideration should be given to the seasonality of applying Numerical Limits. There may be sites where summer only construction that complies with Action Levels may be preferred to year-round that sites that include winter construction that complies with Numeric Limits. In such cases, applying Numeric Limits to summer construction may be a disincentive to scheduling active grading during dry periods. Allowing summer only construction sites to comply with action levels would discourage winter construction activities.
4. Consideration should be given to whether Numeric Limits would apply to all construction sites or only those with significant disturbed soil areas (e.g. active grading, un-vegetated and/or un-stabilized soils). A site could meet certain conditions to be considered "Stabilized" for the runoff season.
5. Where Numeric Limits are not feasible or where they would not apply during designated seasons or site conditions, the Panel recommends that the Board consider the concept of Action Levels for sites where only traditional erosion and sediment controls are applied or construction sites that are considered "stabilized" for the runoff season. An Action Level indicates a failure of BMPs (within some storm size limits).
6. The Board should consider Numeric Limits or Action Levels for other pollutants of relevance to construction sites, but in particular pH. It is of particular concern where fresh concrete or wash water from cement mixers/equipment is exposed to stormwater.
7. The Board should consider the phased implementation of Numeric Limits and Action Levels, commensurate with the capacity of the dischargers and support industry to respond.
8. The Panel recommends that a Numeric Limit or Action Level should be compared to the average discharge concentration. The minimum number of individual samples required to represent the average discharge concentration for a storm will need to be defined.
9. The Board should set different Action Levels that consider the site's climate region, soil condition, and slopes, and natural background conditions (e.g. vegetative cover) as appropriate and as data is available. With active treatment systems, discharge quality is relatively independent of these conditions. In fact, active treatment systems could result in turbidity and TSS levels well below natural levels, which can also be a problem for receiving waters.

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10. The Board should consider whether the Numeric Limits or Action Levels should differ between receiving waters that are water quality limited with respect to turbidity, sediment or other pollutants associated with construction, from those water bodies that are not water quality limited.
11. The Panel recommends that Numeric Limits and Action Levels not apply to storms of unusual event size and/or pattern (e.g. flood events). The determination of Water Quality Capture Volume should consider the differing climate regions to specify these events.
12. The Board should set Numeric Limits and Action Levels to encourage loading reductions as appropriate as opposed to only numeric concentrations. Examples include phased construction (e.g. limited exposed soil areas or their duration), infiltration, and spraying captured runoff in vegetated areas as means to reduce loading.
13. The Panel is concerned that the monitoring of discharges to meet either the Action Levels or Numeric Limits may be costly. The Panel recommends that the Board consider this aspect.

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Panel's Findings on Feasibility of Numeric Effluent Limits Applicable to Industrial Activities

Industrial Observations

The Panel believes that Numeric Limits are feasible for some industrial categories. Industries have control over their facilities. They control access, construction practices, product substitution to affect pollution prevention and the types of treatment systems to be used to mitigate stormwater runoff. There are many treatment systems or prevention practices that have been in place for lengthy periods, extending back to the 1980s in many cases. For example, there is much known today about construction materials, such as roofing materials (roofing composition, gutters, paints and coatings, products that abrade or tend to create solids or litter, etc). Other examples include development of pervious surfaces, or infiltration methods.

The decision for the value of Numeric Limits should be made in one of two ways. When there is a TMDL that defines the permissible load for a watershed, the Numeric Limits should be set to meet the TMDL. Consideration must be given for both the pollutant concentration as well as the volume of runoff, since both contribute to the impacts that required the TMDL to be implemented.

When there is no TMDL, the Numeric Limits should be based upon sound and established practices for storm water pollution prevention and treatment, using an approach analogous to that used in the NPDES wastewater process in the 1970s. In this approach phased, Numeric Limits were first set that were based upon the use of best currently available technology, and permittees were given a defined period for compliance. Permits were established based upon industry types or categories, with the recognition that each industry has its own specific problems and financial viability.

To establish Numeric Limits for industrial sites requires a reliable database, describing current emissions by industry types or categories, and performance of existing BMPs. The current industrial permit has not produced such a database for most industrial categories because of inconsistencies in monitoring or compliance with monitoring requirements. The Board needs to reexamine the existing data sources, collect new data as required and for additional water quality parameters (the current permit requires only pH, conductivity, total suspended solids, and either total organic carbon or oil and grease) to establish practical and achievable Numeric Limits.

In cases where the industrial activity is similar to activities covered by the MS4 permit (roofs, parking lots, etc), the approach or limits for industries should be the same as for MS4 permittees. In cases where the industrial activity is similar to land disturbance activities (e.g. landfills, gravel mines, etc.), there exists data and design experience with runoff control, capture and advanced treatments systems (e.g. systems using polymer to enhance total suspended solids removal – see

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the construction section) that may make Numeric Limits feasible for new facilities, and the approach and limits should be the same as for construction permittees. The same conditions and issues related to active treatment discussed in the construction section apply here.

In cases where there is less certainty in the data for both stormwater characterization or BMP performance to establish Numeric Limits, there maybe sufficient data to establish Action Levels. Action Levels set for industrial sites that discharge to MS4s should not exceed those set for MS4 permittees.

The Panel recognizes that existing and new facilities may have to be treated differently and recommends the approach in **Table 2**.

Table 2- Approach to Establish Numeric Limits or Action Levels at Existing or New Facilities

		Numeric Limits	Action Levels	Notes
Existing Facility	Indoor	No	Yes, similar to MS4	
	Outdoor	Yes if data are adequate for the specific industrial activity and BMP	Yes, using industrial database	Action Levels should approach MS4 action levels.
New Facility	Indoor	Yes – BMP Database		Technology based, similar to MS4 New Development
	Outdoor	No, unless sufficient data exist for the specific industrial activity and BMP	Yes when sufficient data are available	

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Industrial Recommendations

The Panel has several reservations and concerns:

- The Panel recognizes the inadequacy of current monitoring data sets and recommends improved monitoring to collect data useful for establishing Numeric Limits and Action Levels.
- Required parameters for future monitoring should be consistent with the type of industrial activity instead of the current parameters (i.e., monitor for heavy metals when there is reasonable expectation that the industrial activity will cause greater heavy metals concentrations in the storm water).
- Insofar as possible, the Panel prefers the use of California data (or National data if it can be shown to be applicable to CA) in setting Numeric Limits and Action Levels.
- The Panel recognizes that economies of scale exist for large facilities and large groups of single facilities.
- Industrial facilities that do not discharge to MS4s should have to implement BMPs for their non-industrial exposure (e.g., parking lots, roof runoff) similar to commercial facilities in MS4 jurisdictions.
- Regardless of Action Levels or Numeric Limits, the permittees should implement a suite of minimum BMPs – good housekeeping, employee training, preventing materials from exposure to rain, etc.
- SIC categories are not a satisfactory way of identifying industrial activities at any given site. The Board should develop a better method of characterizing industrial activities that can impact storm water.
- The Panel recognizes this is a large task and recommends prioritizing the implementation of this approach to achieve the greatest reduction of pollutants statewide.
- Increasingly, a number of industries have moved industrial activities indoors, preventing storm water pollution. The Panel recognizes that these facilities should be granted some sort of regulatory relief from industrial Numeric Limits or action levels, but should still be required to comply with MS4 permit requirements.

The Panel recognizes the need to make progress in monitoring and reducing storm water discharge from industrial facilities, but urges the Board to consider the total economic impact and not unduly penalize California industries with respect to industries outside of California.

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

NOV 22 2002

OFFICE OF WATER

MEMORANDUM

SUBJECT: Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs

FROM: Robert H. Wayland, III, Director
Office of Wetlands, Oceans and Watersheds

James A. Hanlon, Director
Office of Wastewater Management

TO: Water Division Directors
Regions 1 - 10

This memorandum clarifies existing EPA regulatory requirements for, and provides guidance on, establishing wasteload allocations (WLAs) for storm water discharges in total maximum daily loads (TMDLs) approved or established by EPA. It also addresses the establishment of water quality-based effluent limits (WQBELs) and conditions in National Pollutant Discharge Elimination System (NPDES) permits based on the WLAs for storm water discharges in TMDLs. The key points presented in this memorandum are as follows:

NPDES-regulated storm water discharges must be addressed by the wasteload allocation component of a TMDL. See 40 C.F.R. § 130.2(h).

NPDES-regulated storm water discharges may not be addressed by the load allocation (LA) component of a TMDL. See 40 C.F.R. § 130.2 (g) & (h).

Storm water discharges from sources that are not currently subject to NPDES regulation may be addressed by the load allocation component of a TMDL. See 40 C.F.R. § 130.2(g).

It may be reasonable to express allocations for NPDES-regulated storm water discharges from multiple point sources as a single categorical wasteload allocation when data and information are insufficient to assign each source or outfall individual WLAs. See 40 C.F.R. § 130.2(i). In cases where wasteload allocations

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are developed for categories of discharges, these categories should be defined as narrowly as available information allows.

The WLAs and LAs are to be expressed in numeric form in the TMDL. See 40 C.F.R. § 130.2(h) & (i). EPA expects TMDL authorities to make separate allocations to NPDES- regulated storm water discharges (in the form of WLAs) and unregulated storm water (in the form of LAs). EPA recognizes that these allocations might be fairly rudimentary because of data limitations and variability in the system.

NPDES permit conditions must be consistent with the assumptions and requirements of available WLAs. See 40 C.F.R. § 122.44(d)(1)(vii)(B).

WQBELs for NPDES-regulated storm water discharges that implement WLAs in TMDLs may be expressed in the form of best management practices (BMPs) under specified circumstances. See 33 U.S.C. §1342(p)(3)(B)(iii); 40 C.F.R. §122.44(k)(2)&(3). If BMPs alone adequately implement the WLAs, then additional controls are not necessary.

EPA expects that most WQBELs for NPDES-regulated municipal and small construction storm water discharges will be in the form of BMPs, and that numeric limits will be used only in rare instances.

When a non-numeric water quality-based effluent limit is imposed, the permit's administrative record, including the fact sheet when one is required, needs to support that the BMPs are expected to be sufficient to implement the WLA in the TMDL. See 40 C.F.R. §§ 124.8, 124.9 & 124.18.

The NPDES permit must also specify the monitoring necessary to determine compliance with effluent limitations. See 40 C.F.R. § 122.44(i). Where effluent limits are specified as BMPs, the permit should also specify the monitoring necessary to assess if the expected load reductions attributed to BMP implementation are achieved (e.g., BMP performance data).

The permit should also provide a mechanism to make adjustments to the required BMPs as necessary to ensure their adequate performance.

This memorandum is organized as follows:

(I). Regulatory basis for including NPDES-regulated storm water discharges in WLAs in TMDLs;

(II). Options for addressing storm water in TMDLs; and

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(III). Determining effluent limits in NPDES permits for storm water discharges consistent with the WLA

(I). Regulatory Basis for Including NPDES-regulated Storm Water Discharges in WLAs in TMDLs

As part of the 1987 amendments to the CWA, Congress added Section 402(p) to the Act to cover discharges composed entirely of storm water. Section 402(p)(2) of the Act requires permit coverage for discharges associated with industrial activity and discharges from large and medium municipal separate storm sewer systems (MS4), i.e., systems serving a population over 250,000 or systems serving a population between 100,000 and 250,000, respectively. These discharges are referred to as Phase I MS4 discharges.

In addition, the Administrator was directed to study and issue regulations that designate additional storm water discharges, other than those regulated under Phase I, to be regulated in order to protect water quality. EPA issued regulations on December 8, 1999 (64 FR 68722), expanding the NPDES storm water program to include discharges from smaller MS4s (including all systems within "urbanized areas" and other systems serving populations less than 100,000) and storm water discharges from construction sites that disturb one to five acres, with opportunities for area-specific exclusions. This program expansion is referred to as Phase II.

Section 402(p) also specifies the levels of control to be incorporated into NPDES storm water permits depending on the source (industrial versus municipal storm water). Permits for storm water discharges associated with industrial activity are to require compliance with all applicable provisions of Sections 301 and 402 of the CWA, i.e., all technology-based and water quality-based requirements. See 33 U.S.C. §1342(p)(3)(A). Permits for discharges from MS4s, however, "shall require controls to reduce the discharge of pollutants to the maximum extent practicable ... and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants." See 33 U.S.C. §1342(p)(3)(B)(iii).

Storm water discharges that are regulated under Phase I or Phase II of the NPDES storm water program are point sources that must be included in the WLA portion of a TMDL. See 40 C.F.R. § 130.2(h). Storm water discharges that are not currently subject to Phase I or Phase II of the NPDES storm water program are not required to obtain NPDES permits. 33 U.S.C. §1342(p)(1) & (p)(6). Therefore, for regulatory purposes, they are analogous to nonpoint sources and may be included in the LA portion of a TMDL. See 40 C.F.R. § 130.2(g).

(II). Options for Addressing Storm Water in TMDLs

Decisions about allocations of pollutant loads within a TMDL are driven by the quantity and quality of existing and readily available water quality data. The amount of storm water data available for a TMDL varies from location to location. Nevertheless, EPA expects TMDL authorities will make separate aggregate allocations to NPDES-regulated storm water discharges

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(in the form of WLAs) and unregulated storm water (in the form of LAs). It may be reasonable to quantify the allocations through estimates or extrapolations, based either on knowledge of land use patterns and associated literature values for pollutant loadings or on actual, albeit limited, loading information. EPA recognizes that these allocations might be fairly rudimentary because of data limitations.

EPA also recognizes that the available data and information usually are not detailed enough to determine waste load allocations for NPDES-regulated storm water discharges on an outfall-specific basis. In this situation, EPA recommends expressing the wasteload allocation in the TMDL as either a single number for all NPDES-regulated storm water discharges, or when information allows, as different WLAs for different identifiable categories, e.g., municipal storm water as distinguished from storm water discharges from construction sites or municipal storm water discharges from City A as distinguished from City B. These categories should be defined as narrowly as available information allows (e.g., for municipalities, separate WLAs for each municipality and for industrial sources, separate WLAs for different types of industrial storm water sources or dischargers).

(III). Determining Effluent Limits in NPDES Permits for Storm Water Discharges Consistent with the WLA

Where a TMDL has been approved, NPDES permits must contain effluent limits and conditions consistent with the requirements and assumptions of the wasteload allocations in the TMDL. See 40 CFR § 122.44(d)(1)(vii)(B). Effluent limitations to control the discharge of pollutants generally are expressed in numerical form. However, in light of 33 U.S.C. §1342(p)(3)(B)(iii), EPA recommends that for NPDES-regulated municipal and small construction storm water discharges effluent limits should be expressed as best management practices (BMPs) or other similar requirements, rather than as numeric effluent limits. See *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Storm Water Permits*, 61 FR 43761 (Aug. 26, 1996). The Interim Permitting Approach Policy recognizes the need for an iterative approach to control pollutants in storm water discharges. Specifically, the policy anticipates that a suite of BMPs will be used in the initial rounds of permits and that these BMPs will be tailored in subsequent rounds.

EPA's policy recognizes that because storm water discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be feasible or appropriate to establish numeric limits for municipal and small construction storm water discharges. The variability in the system and minimal data generally available make it difficult to determine with precision or certainty actual and projected loadings for individual dischargers or groups of dischargers. Therefore, EPA believes that in these situations, permit limits typically can be expressed as BMPs, and that numeric limits will be used only in rare instances.

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Under certain circumstances, BMPs are an appropriate form of effluent limits to control pollutants in storm water. See 40 CFR § 122.44(k)(2) & (3). If it is determined that a BMP approach (including an iterative BMP approach) is appropriate to meet the storm water component of the TMDL, EPA recommends that the TMDL reflect this.

EPA expects that the NPDES permitting authority will review the information provided by the TMDL, see 40 C.F.R. § 122.44(d)(1)(vii)(B), and determine whether the effluent limit is appropriately expressed using a BMP approach (including an iterative BMP approach) or a numeric limit. Where BMPs are used, EPA recommends that the permit provide a mechanism to require use of expanded or better-tailored BMPs when monitoring demonstrates they are necessary to implement the WLA and protect water quality.

Where the NPDES permitting authority allows for a choice of BMPs, a discussion of the BMP selection and assumptions needs to be included in the permit's administrative record, including the fact sheet when one is required. 40 C.F.R.§§ 124.8, 124.9 & 124.18. For general permits, this may be included in the storm water pollution prevention plan required by the permit. See 40 C.F.R. § 122.28. Permitting authorities may require the permittee to provide supporting information, such as how the permittee designed its management plan to address the WLA(s). See 40 C.F.R. § 122.28. The NPDES permit must require the monitoring necessary to assure compliance with permit limitations, although the permitting authority has the discretion under EPA's regulations to decide the frequency of such monitoring. See 40 CFR § 122.44(i). EPA recommends that such permits require collecting data on the actual performance of the BMPs. These additional data may provide a basis for revised management measures. The monitoring data are likely to have other uses as well. For example, the monitoring data might indicate if it is necessary to adjust the BMPs. Any monitoring for storm water required as part of the permit should be consistent with the state's overall assessment and monitoring strategy.

The policy outlined in this memorandum affirms the appropriateness of an iterative, adaptive management BMP approach, whereby permits include effluent limits (e.g., a combination of structural and non-structural BMPs) that address storm water discharges, implement mechanisms to evaluate the performance of such controls, and make adjustments (i.e., more stringent controls or specific BMPs) as necessary to protect water quality. This approach is further supported by the recent report from the National Research Council (NRC), *Assessing the TMDL Approach to Water Quality Management* (National Academy Press, 2001). The NRC report recommends an approach that includes "adaptive implementation," i.e., "a cyclical process in which TMDL plans are periodically assessed for their achievement of water quality standards" . . . and adjustments made as necessary. *NRC Report* at ES-5.

This memorandum discusses existing requirements of the Clean Water Act (CWA) and codified in the TMDL and NPDES implementing regulations. Those CWA provisions and regulations contain legally binding requirements. This document describes these requirements; it does not substitute for those provisions or regulations. The recommendations in this memorandum are not binding; indeed, there may be other approaches that would be appropriate

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in particular situations. When EPA makes a TMDL or permitting decision, it will make each decision on a case-by-case basis and will be guided by the applicable requirements of the CWA and implementing regulations, taking into account comments and information presented at that time by interested persons regarding the appropriateness of applying these recommendations to the particular situation. EPA may change this guidance in the future.

If you have any questions please feel free to contact us or Linda Boornazian, Director of the Water Permits Division or Charles Sutfin, Director of the Assessment and Watershed Protection Division.

cc:
Water Quality Branch Chiefs
Regions 1 - 10

Permit Branch Chiefs
Regions 1 - 10

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

May 29, 2008

via U.S. Mail and email
(3rddraftVCMS4@waterboards.ca.gov)

Dr. Xavier Swamikannu
Manager, Stormwater Permitting
Los Angeles Regional Water Quality Control Board
320 West 4th Street
Los Angeles, CA 90013-2343

re: Ventura County MS4 Permit

Dear Dr. Swamikannu:

These comments pertain primarily to the provisions in Part 6 of the April 29, 2008 tentative draft permit for the Ventura County Municipal Separate Storm Sewer System (MS4) for incorporating Waste Load Allocations (WLAs) established in Total Maximum Daily Loads (TMDLs).

EPA supports the approach used for incorporating TMDL WLAs in the August 28, 2007 second draft of this permit, in which the WLAs were incorporated as numeric water quality-based effluent limits (WQBELs). The second draft permit required compliance with these WQBELs to be determined by monitoring end-of-pipe discharges. Under this approach, clear compliance determinations may be made, and the effectiveness of stormwater controls on water quality may be assessed. As a general matter, MS4 permits, many of which represent the fourth generation of permits to control municipal stormwater, should enable permitting authorities to more effectively determine compliance and evaluate impacts on water quality.

The April 29, 2008 tentative draft permit incorporates WLAs as in-stream water quality concentrations, rather than end-of-pipe monitoring. We understand that this revised approach is being taken to mirror language in TMDL implementation plans. For example, the Calleguas Creek TMDL implementation plan states that "stormwater WLAs will be incorporated into the NPDES permit as receiving water limits." While we are supportive of this change to the permit, we believe it needs to be accompanied by clear language on how compliance determinations will be made. We have outlined three options below for making these compliance determinations. Although all three would be acceptable, we have listed them in order of our preference in terms of making clear compliance determinations linked to water quality improvements.

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Option 1: exceedances of receiving water limits would represent non-compliance with the permit, as the Calleguas Creek TMDL language suggests. As currently drafted, the tentative draft permit is not clear that compliance conclusions will be based solely on a comparison of receiving water data to receiving water limits based on WLAs. Based on our discussions with Regional Board staff, there is some uncertainty as to what role the BMP implementation referred to in the tentative draft permit (e.g. in Part 6, section V.1.b.2 in the case of the Santa Clara River nitrogen WLAs) would have on compliance determinations. We recommend the permit add explicit statements to the compliance monitoring text in Part 6 to make clear that receiving water limit exceedances represent non-compliance.

Option 2: exceedances of receiving water limits would result in compliance determinations based on representative end-of-pipe monitoring. This would require that the permit include numeric WQBELs consistent with the WLAs. When the receiving water limits are exceeded, the permittees would evaluate end-of-pipe monitoring results, and compliance would be determined by comparing these results to the numeric WQBELs. We understand the end-of-pipe monitoring will occur concurrently with the in-stream monitoring. The concurrent timing of the monitoring is essential as part of this option. (see discussion below regarding the adequacy of end-of-pipe monitoring)

Option 3: establish WQBELs as non-numeric limits expressed as specific Best Management Practices (BMPs). As noted in EPA's November 22, 2002 memo entitled, "Establishing TMDL WLAs for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs," "when a non-numeric WQBEL is imposed, the permit's administrative record, including the fact sheet when one is required, need to support that the BMPs are expected to be sufficient to implement the WLA in the TMDL." If it is not feasible to document, in a timely manner, that a specific suite of BMPs would be sufficient to implement the WLA, we expect numeric WQBELs to be incorporated into the permit. Similarly for non-stormwater discharges, during dry weather periods, it would not be appropriate to use a non-numeric BMP approach for the establishment of WQBELs. For these discharges, numeric WQBELs should be established.

In a related matter, we are concerned whether the end-of-pipe monitoring to be performed under the draft tentative permit will be adequate to determine if WLAs are being achieved. We suggest that the permit include more details on which discharges from the MS4 will be considered "Major Outfalls," and therefore be monitored under this permit. We understand from our consultation with Regional Board staff that it is possible that end-of-pipe monitoring may be limited to as few as one "Major Outfall" per municipality. While this may be appropriate for some of the smaller municipalities in Ventura County, such minimal monitoring may not be appropriate for a compliance monitoring strategy which substitutes end-of-pipe monitoring for the receiving water limits specified in TMDLs. The permit's requirements for monitoring of major outfalls should ensure that there is representative monitoring to enable the Regional Board to make determinations of whether discharges are causing exceedances of receiving water limits. In order for

major outfalls to provide information that is representative of stormwater discharges from this MS4, it appears likely that the number of major outfalls to be monitored should be increased.

Should you have any questions regarding this matter, please call me at (415) 972-3420, or Eugene Bromley of the NPDES Permits Office at (415) 972-3510.

Sincerely,

Douglas E. Eberhardt

Douglas E. Eberhardt, Chief
NPDES Permits Office

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

April 9, 2009

Tracy Woods
Los Angeles Regional Water Quality Control Board
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Re: Draft Ventura County MS4 Permit (NPDES Permit Number CAS004002)

Dear Ms. Woods:

Following below are EPA Region 9's comments on the February 24, 2009 Tentative Draft Permit for the Ventura County Municipal Separate Storm Sewer System (MS4).

EPA appreciates the efforts made by Regional Board staff, and is generally supportive of the approach taken in this draft permit. Our comments concern two aspects of the draft permit, Low Impact Development (LID) requirements and requirements related to Total Maximum Daily Loads (TMDLs). The permit should be improved to ensure it contains clear, measurable, and enforceable requirements in these two areas.

A. Implementation of LID Requirements

EPA generally agrees with the draft permit's approach for incorporating LID requirements, and appreciates that the draft permit (in section 5.E.III.1.) makes reference to EPA's January 2008 "Action Strategy for Managing Wet Weather with Green Infrastructure."

1. We recommend that the permit's fact sheet explain the permit's intentions for implementation of LID in section 5.E.III ("New Development/Redevelopment Performance Criteria"). At the time of our review of the permit, the draft fact sheet's discussion of section 5.E of the permit was unfinished, and does not describe the intentions of the LID provisions. For example, it would be useful for the fact sheet to describe the permit's intentions for allowing for alternatives to achieving the 5% Effective Impervious Area (EIA) requirement, and how these alternatives would be implemented. Similarly, the fact sheet provides an opportunity to discuss the permit's intentions for the mitigation of "excess surface discharge."

2. We have several concerns with the text in section 5.E.III.1.b. First, this section notes that compliance may be achieved via "payment of an in-lieu fee, or use of stormwater credits as described in this section." However, there is not a description of in-lieu fees or

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stormwater credits in this section. Section 5.E.IV.4 discusses Mitigation Funding, but does not include the framework necessary to be an effective means for compliance with the permit.

We recognize that there may be situations where site constraints make the achievement of 5% EIA impractical. If there is an intention of providing alternatives to achieving 5% EIA other than preparation of a Redevelopment Project Area Master Plan (RPAMP), the permit should provide clear requirements for these alternatives. We would suggest consideration of two specific options. First, page 6 of the February 23, 2009 letter from NRDC and San Diego Coastkeeper to the Executive Officer of the San Diego Regional Board (enclosed) suggests text entitled "Alternative Compliance and Offsite Mitigation." Following this approach, the permit could require the retention of stormwater at an offsite location corresponding to 1.5 times the volume which cannot be practically managed via LID at a New Development or Redevelopment project. Second, as provided in section XII.E of the Santa Ana Regional Board's March 25, 2009 draft Orange County MS4 permit, the permit could include an Alternatives and In-Lieu Programs section which provides opportunities for the Executive Officer to approve key aspects of programs such as the collection of mitigation fees and use of these fees for watershed improvement projects. If it is the permit's intent to include alternatives to 5% EIA or a RPAMP, the permit should be revised to include clear provisions, including appropriate oversight, which describe the circumstances under which the permittees may utilize alternatives.

Additionally, it's unclear what is intended by the last two sentences in this section, which separately refer to "development projects in undeveloped areas," and "redevelopment projects or development projects that can be demonstrated that the 5% EIA requirement is infeasible." It is unclear whether there is an intent to distinguish between these types of projects; the permit provisions in this section, however, do not appear to result in differing compliance options.

Lastly, it's unclear why this section refers to the requirement to comply with section 5.E.III.3 (corrected typographical error). Section 5.E.III.3 must be complied with by all New Development and Redevelopment projects regardless of whether it's referred to here.

We would suggest the following as replacement text for section 5.E.III.1.b:

> All New Development and Redevelopment Projects identified in section 5.E.II must limit their effective impervious area (EIA) to 5% or less. This requirement may be implemented through use of site features or Alternative Stormwater Mitigation Programs such as a Redevelopment Project Area Master Plan (RPAMP) or offsite mitigation as described in section XX. [reference to section "XX" if there is a new section on alternative compliance]

3. Note that there is a word processing error in section 5.E.III.1.c – "All features structured constructed..."

4. It appears that the intent of section 5.E.III.1.e is that all stormwater discharges not managed via LID tools must be mitigated using conventional stormwater controls (e.g. vault-based treatment). However, as drafted it appears that this section would only require control of the stormwater volume specified in section 5.E.III.3, which is required without the inclusion of section 5.E.III.1.e. If our understanding of the intent is correct, we would suggest modifying this section to make it clear that all stormwater volume not addressed by LID tools must be mitigated by conventional stormwater controls.

5. The reference at the top of page 57 ("5.E.III.3(a)(2)") is to the wrong section. It appears that this should be a reference to section 5.E.III.2.(a)(3).

6. Note that there are two apparent formatting/numbering errors on page 58 ((4) and (5)).

7. As noted in comment #1 above, section 5.E.IV.4 should be revised. The permit should include clear provisions describing the circumstances under which the permittees may utilize alternatives to achieving 5% EIA. If mitigation funding is to be part of an alternative compliance option, there should be specific provisions for how fees will be collected and used, along with appropriate oversight.

B. Total Maximum Daily Loads (TMDLs)

In comments provided to the Regional Board on May 29, 2008, EPA pointed out the need to improve the language in the April 29, 2008 draft permit to make it clear how compliance with TMDL Waste Load Allocations (WLAs) will be determined. These comments were not addressed in the February 24, 2009 revision to the draft permit. We continue to believe that improved permit language is needed to clarify the permit's requirements with respect to WLAs. It is our understanding that adding the following sentence to section 6.I. of the permit would appropriately clarify the permit's intent:

> In order to achieve compliance with this Part of the permit, data collected pursuant to the "Compliance Monitoring" provisions of this Part must demonstrate attainment of WLAs.

We appreciate the opportunity to provide input on this draft permit. If you would like to discuss these comments, please contact John Tinger at (415) 972-3518, or Eugene Bromley at 415-972-3510.

Sincerely,

Douglas E. Eberhardt, Chief
NPDES Permits Office

Enclosure

wastewater treatment --

MS. SPIVEY-WEBER: I don't think that got changed. I think it is now small cities. It's not small disadvantaged cities. I know that some of the folks who were working for disadvantaged communities were trying to get it more targeted to disadvantaged communities, but at this point I think it's small cities.

CHAIR LUTZ: Thank you very much. That will bring us to public forum. I do have a speaker card for public forum, and that is Desi Alvarez from LA Gateway -- from the IRWM planning, I believe.

MR. ALVAREZ: Good morning, Madam Chair and members of the Board. I'm Desi Alvarez representing the Gateway Region Integrated Regional Water Management Joint Powers Authority. I'm here today to thank you and give you a report on what it makes for a very successful effort to help us meet one of the TMDL's in Southeast L.A. County.

The Gateway Region represents South East Los Angeles County, which is 26 cities. Recently with your support and the effort of your Executive Officer and your Staff, we were able to successfully get a significant grant under the ARRA Program to retrofit catch basins for those cities -- (Interruption: Door

closing) -- Los Angeles River, to bring them into full compliance within the TMDL, and because of the bidding environment that we're in today and so on, it looks like we're going to be able to install full-captured devices on a hundred percent of all of the catch basins in 16 cities that drain to the Los Angeles River. In addition to the installation of the full-captured devices, and it's about 11,000 catch basins that are going to be retrofitted, it also looks like we will be able to install the retractable screens on the catch basin inlets in about 60 percent of those catch basins.

So this is a very successful effort. We wanted to thank you. Of these 16 cities, 11 of them are disadvantaged communities, where their median household income is significantly below the state median household income -- actually, of the 16 cities, only two have median household incomes that equal to or exceed the state average median household income.

So without the effort that you guys have participated in and helped in, these communities would have had a very difficult time coming into compliance with the trash TMDL for the Los Angeles River, and given this, we hope right now, and it looks like we will be complete with the project by the end of next

year, and at that point everybody will be in compliance.

So I would like to thank you very much. We're very appreciative, and if you have any questions, I would be pleased to answer them.

CHAIR LUTZ: Thank you. Any questions?

MS. DIAMOND: I guess it's more of a statement. I want to thank you, and I think this is a wonderful -- this is the second month that we've had really good reports from cities. Last month we heard from Fillmore, and we were thrilled. I can tell you that personally I'm thrilled, and I'm sure that all of us are thrilled to hear your report.

It's a wonderful thing to hear that the partnership that we've had with these cities, and this trash TMDL that has been a big part of the work that we've been doing over the years is resulting in such excellence. So I want to thank you and acknowledge that we've had a great partnership, and thank our Staff for all that you've done to make this happen.

MR. ALVAREZ: Thank you.

CHAIR LUTZ: Thank you very much. All right. That will move us into our uncontested items list, which are Items 7, 8 and 10. Do I have a motion?

MR. RICHARDSON: So moved.

SETTLEMENT AGREEMENT REGARDING TOTAL MAXIMUM DAILY LOADS FOR TRASH IN THE LOS ANGELES RIVER WATERSHED AND BALLONA CREEK AND WETLAND WATERSHED

This Trash Total Maximum Daily Loads Settlement Agreement ("Agreement") is made by and between the California Regional Water Quality Control Board, Los Angeles Region ("Regional Board"); the State Water Resources Control Board ("State Board"); the County of Los Angeles and the Los Angeles County Flood Control District (collectively, "County"); the City of Los Angeles ("City"); the Santa Monica Baykeeper ("Baykeeper"); and Heal the Bay ("Heal the Bay") (collectively known as the "Parties").

Recitals

A. On January 25, 2001, the Regional Board adopted total maximum daily loads ("TMDLs") to address the trash impairment in the Los Angeles River Watershed and the Ballona Creek and Wetland Watershed.

B. The Regional Board subsequently adopted superceding resolutions, Regional Board Resolution Nos. 01-013 and 01-014, on September 19, 2001, that incorporated into the Regional Board's Basin Plan the TMDLs to address the trash impairment in the Los Angeles River Watershed ("current LA River Trash TMDL") and to address the trash impairment in the Ballona Creek and Wetland Watershed ("current Ballona Trash TMDL") (collectively with the current LA River Trash TMDL, both are hereinafter known as "current Trash TMDLs").

C. The State Board approved the basin plan amendments incorporating the current Trash TMDLs on February 19, 2002, in State Board Resolution numbers 2002-0038 and 2002-0039.

D. The Office of Administrative Law ("OAL") subsequently approved the regulatory provisions of the Basin Plan amendments incorporating the current LA River Trash TMDL on July 16, 2002, and the current Ballona Trash TMDL on July 18, 2002.

E. The United States Environmental Protection Agency ("US EPA") approved the current Trash TMDLs on August 1, 2002.

F. The Trash TMDLs establish numeric targets of zero trash in the applicable receiving waters. Applicable provisions of the current Trash TMDLs specify that trash consists of litter and particles of litter that are retained by a 5-mm mesh screen. Relying on the staff report and administrative record, the Trash TMDLs include trash wasteload allocations for the municipal separate storm sewer system ("MS4") permits that discharge to the Los Angeles River and Ballona Creek and Wetland watersheds, although the Regional Board has not taken action to incorporate the wasteload allocations into the MS4 permits.

G. The current Trash TMDLs do not require immediate compliance with the final wasteload allocation, but instead, establish a schedule of trash load reductions phased in over a 10-year implementation period. The current Trash TMDLs provide that beginning in the first implementation year, the dischargers must realize a 10-percent reduction in trash as measured against a baseline trash loading. In each year thereafter, the current Trash TMDLs specify that dischargers must realize an additional 10-percent reduction from the baseline, until in the tenth implementation year when the wasteload allocation of zero is to be achieved. However, for enforcement purposes, the current Trash TMDLs recognize a 3-year rolling average for trash, thereby allowing twelve years of implementation before the discharges from the MS4 must consistently meet the final zero trash wasteload allocation.

H. The current Trash TMDLs allow the installation of full capture systems which, when installed in a drainage area, are deemed equivalent to achieving the zero trash wasteload allocation in that drainage area.

I. The City and County both filed petitions and complaints in Los Angeles County Superior Court to challenge the current Trash TMDLs. The City's Verified Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief was initially assigned Los Angeles County Superior Court Case No. BC 270452 ("City's Action"). City's Action was transferred to Ventura County Superior Court where it is currently assigned Ventura County Superior Court Case No. CIV 212 503. The County's Verified Petition for Writ of Mandate and Complaint for Declaratory and Injunctive Relief was initially assigned Los Angeles County-Superior Court Case No. BC 279597 ("County's Action"). County's Action was transferred to San Diego County Superior Court where it is currently assigned San Diego County Superior Court Case No. GIC 804773. The City's Action and the County's Action, along with any subsequent amendments thereto, are collectively referred to as the "Trash TMDLs Lawsuits."

J. The Trash TMDLs Lawsuits broadly challenge the current Trash TMDLs as being inconsistent with the Clean Water Act (commencing with United States Code, title 33, section 1251) ("Clean Water Act"), California's Porter-Cologne Water Quality Control Act (commencing with Water Code section 13000) ("Porter-Cologne Act"), California's Administrative Procedures Act (commencing with Government Code section 11340), and the California Environmental Quality Act (commencing with Public Resources Code section 21000).

K. After extensive negotiation, the Parties have agreed upon revisions to the current Trash TMDLs that the Parties support. Because the current Trash TMDLs reflect a quasi-legislative exercise of power by the Regional and State Boards, consistent with the Clean Water

Act, the Porter-Cologne Act, and other applicable laws, the provisions of the Agreement cannot be directly implemented, but instead must be carried out through further public proceedings of the Regional and State Boards that are consistent with applicable laws. Moreover, the City and County acknowledge that the Regional and State Boards cannot commit to implementing the proposed changes identified in this Agreement, but instead must consider all the evidence and testimony presented during further public proceedings of the Regional and State Boards to revise the current Trash TMDLs.

L. The Parties agree that resolution of the Trash TMDLs Lawsuits as set forth herein is in the best interests of all the Parties.

M. Without admitting anything, the Parties enter into this Agreement to resolve the Trash TMDLs Lawsuits and to avoid the expense and uncertainty of litigation.

In consideration of the foregoing and the following, the Parties agree as follows:

Agreement

1. Incorporation of New Language into Trash TMDLs

a. The Parties agree to certain revisions of the current LA River Trash TMDL as set forth in Attachment A, and to revisions of the current Ballona Trash TMDL as set forth in Attachment B (collectively, the "Negotiated Language"). The Negotiated Language in Attachments A and B is reflected through colored strikeout and underline text that highlights the changes to the current Trash TMDLs. The Regional Board staff and all the Parties, except the Regional Board and the State Board, shall advocate to the Regional Board that the current Trash TMDLs be revised and approved to incorporate the Negotiated Language. If the Regional Board approves the Negotiated Language, then all Parties, except the State Board, shall advocate to the

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State Board that the current Trash TMDLs be revised and approved to incorporate the Negotiated Language (the current Trash TMDLs/Basin Plan as amended by the Negotiated Language are hereinafter referred to as the "revised Trash TMDLs"). The City, County, Heal the Bay, BayKeeper, and Regional Board staff shall advocate in support of the revised Trash TMDLs by doing at least the following:

(1) Submitting relevant written comments in support of the Negotiated Language when the Regional Board considers amendments to the current Trash TMDLs and Basin Plan to incorporate the Negotiated Language.

(2) Speaking in support of the Negotiated Language at any applicable hearing, workshop, or meeting held by the Regional Board to consider amendments to the current Trash TMDLs and Basin Plan to incorporate the Negotiated Language.

(3) Speaking in support of the Negotiated Language at any applicable hearing, workshop, or meeting held by the State Board to consider approval of revisions to the current Trash TMDLs and Basin Plan to incorporate the Negotiated Language.

(4) Either advocating in support of the Negotiated Language, or not filing any document at all, with OAL and US EPA during their review and approval of the revised Trash TMDLs.

(5) By not challenging through a judicial proceeding in either state or federal court (i) the Regional Board's incorporation of the Negotiated Language into the current Trash TMDLs or Basin Plan; (ii) the State Board's approval of Regional Board's incorporation of the Negotiated Language into the current Trash TMDLs or Basin Plan; (iii) OAL's approval of the incorporation of the Negotiated Language into the current Trash TMDLs or Basin Plan; or (iv) US EPA's

approval of the incorporation of the Negotiated Language into the current Trash TMDLs or Basin Plan.

(6) After US EPA's approval of the revised Trash TMDLs, the City and County shall use Best Management Practices, including full capture systems if appropriate, to implement the revised Trash TMDLs at least until the time the Regional Board is obligated to reconsider the revised Trash TMDLs as set forth in Section VI.A of the Negotiated Language.

b. The Regional Board's Executive Officer shall prepare new Basin Plan amendments (memorializing the Negotiated Language attached hereto in Attachments A and B) ("New Basin Plan Amendments") for Regional Board consideration. The Regional Board's Executive Officer shall advocate in support of the New Basin Plan Amendments and schedule consideration of the New Basin Plan Amendments as soon as possible so that Regional Board may vote on the adoption of New Basin Plan Amendments no later than six (6) months from the effective date of this Agreement. In the unexpected event that there is not a quorum at the first meeting at which the Basin Plan amendment(s) is brought to Regional Board for a vote, the Executive Officer shall bring it to the Regional Board for a vote at its next regularly scheduled meeting at which there is a quorum.

c. To effect the dismissals and releases contemplated by this Agreement, the New Basin Plan Amendments to the current Trash TMDLs presented to the Regional Board pursuant to the provisions of this Agreement may not contain any changes other than those (a) required by the Negotiated Language, or (b) specifically agreed to in writing by the City, County, Heal the Bay, and Baykeeper. Within ten (10) business days of Regional Board's action on the New

Basin Plan Amendments, Regional Board's Executive Officer shall provide written notice to the other Parties and their counsel of record of the results of the vote.

2. **Dismissal of Trash TMDLs Lawsuits.**

a. Stay or Stipulated Dismissal. It is the Parties' intent that the Trash TMDLs Lawsuits shall be stayed while the Regional Board, State Board, OAL, and the US EPA take the necessary actions to have the Negotiated Language incorporated into the current Trash TMDLs and the Basin Plan in accordance with applicable law. Further, it is the Parties' intent that, in the event the Negotiated Language fails to become effective under state or federal law, the stay of the Trash TMDLs Lawsuits will be lifted and the Trash TMDL Lawsuits may then proceed.

(1) Within twenty-one calendar (21) days of the effective date of this Agreement, the City and County will seek to have their respective Trash TMDLs Lawsuits stayed in order to allow the Parties' intentions and the terms of this Agreement to become effective. The Regional and State Boards will support any actions to stay the Trash TMDLs Lawsuits in accordance with this paragraph.

(2) In the event that the City, County, and Regional and State Boards are unable to obtain a stay of the Trash TMDLs Lawsuits, or either one of the lawsuits, then the City or County, or both as applicable, will stipulate with the Regional and State Boards to dismiss their respective Trash TMDLs Lawsuits without prejudice and with the right to reopen and reinstate the Trash TMDLs Lawsuits as set forth in paragraph 2.a.(4). The City or County, or both as applicable, and the Regional and State Boards shall enter into this stipulation within twenty-one (21) days of being informed by the court that it will not stay the litigation. A dismissal without prejudice pursuant to this paragraph will serve to toll any applicable statute of limitations, filing, statute of repose, laches defense, claim of

waiver or estoppel, or other similar defense or claim that is applicable to any of the claims or causes of action asserted by the City in the City's Action or the County in the County's Action.

(3) The stay described in paragraph 2.a.(1) or the tolling specified in paragraph 2.a.(2) will run so long as the Regional Board staff is pursuing the necessary approvals from the Regional Board, State Board, OAL, and US EPA to incorporate the Negotiated Language into the current Trash TMDLs and the Basin Plan.

(4) In the event that the Regional Board fails to adopt a resolution incorporating the Negotiated Language into the current Trash TMDLs and into the Basin Plan within the period specified in paragraph 1.b. of this Agreement or the Regional Board staff is no longer pursuing the necessary approvals to incorporate the Negotiated Language into the current Trash TMDLs and the Basin Plan, then the Regional and State Board stipulate that the City and County may lift the stay, reactivate, or reinstate the Trash TMDLs Lawsuits. In that event, the claims asserted shall be limited to those asserted by the City or County in their respective Trash TMDLs Lawsuits, and the claims shall relate back to the date of the original filing of the respective Trash TMDLs Lawsuits.

(5) The Parties acknowledge that their mutual intent is to have the Negotiated Language incorporated into the Trash TMDLs and Basin Plan as expeditiously as possible and that paragraph 1.b's reference to the Regional Board acting within a specified time means only Regional Board action to adopt the Basin Plan amendment incorporating the Negotiated Language, and does not require all the requisite approvals of other state and federal agencies to occur within that period.

b. Effect of Agreeing to Negotiated Language. The Parties acknowledge that this Agreement does not limit the authority or discretion of the Regional and State Board members in acting pursuant to the Porter-Cologne Act, the Clean Water Act, and other applicable laws. Regional and State Board members must consider the evidence before them and exercise their authority consistent with applicable laws, the record before the Regional and State Board, and the discretion vested in the Regional and State Board members by applicable laws. If the Regional and State Boards incorporate the Negotiated Language into the current Trash TMDLs and the Basin Plan, then the City, County, BayKeeper, and Heal the Bay will not challenge the Negotiated Language or the provisions of the current Trash TMDLs as amended by the Negotiated Language, except as follows: (1) the Parties reserve the right to pursue the Trash TMDLs Lawsuits if the Regional Board fails to incorporate the Negotiated Language into the current TMDLs or Basin Plan; (2) the Parties reserve the right to challenge any additional revisions (besides the addition of the Negotiated Language) to the current or revised Trash TMDLs or the Basin Plan that the Regional Board, State Board, or US EPA may make at any time; (3) the Parties reserve the right to challenge future revisions to the revised Trash TMDLs, as well as any failure to make revisions to the revised Trash TMDLs as contemplated by section VI.A of the Negotiated Language; (4) this Agreement does not address the revised Trash TMDLs' incorporation into MS4 permits, and all rights are reserved with respect thereto; and (5) the Parties reserve the right to challenge the revised Trash TMDLs should there be a change in law that renders the revised Trash TMDLs inconsistent with the Clean Water Act, the Porter-Cologne Act, or any other statute or regulation.

c. Dismissal of Trash TMDLs Lawsuits. Upon the revised Trash TMDLs and Basin Plan amendments incorporating the Negotiated Language becoming effective for state and

federal law purposes (i.e., upon approval by both OAL and US EPA), the City and County shall file a notice of dismissal of the Trash TMDLs Lawsuits, in their entirety, with prejudice, and if the Trash TMDLs Lawsuits have already been dismissed, then the City and County shall not be entitled to reopen or reinstate them. The City and County agree that any dismissal pursuant to this paragraph constitutes a final resolution of the Trash TMDLs Lawsuits, whether administrative or judicial, by civil action or writ of mandate, arising from the Regional Board's adoption of the current Trash TMDLs or revised Trash TMDLs. Further, up to the time the Regional Board is obligated to reconsider the revised Trash TMDLs as set forth in Section VI.A of the Negotiated Language, and without waiving their rights with regard to this issue after that time, and preserving their other rights with respect to any other challenge to any MS4 permit that regulates the City or County, the City and County specifically agree that, where installed, the full capture system definition contained within the Negotiated Language complies with the "maximum extent practicable" standard of Section 402(p) of the Clean Water Act and also agree, except as set forth in paragraph 2(b) above, not to collaterally attack the revised Trash TMDLs in current or future litigation challenging the MS4 permits issued to the City or County.

d. Release. In consideration of the agreements made herein and upon the conditions specified in Paragraph 2.c. (namely, the Negotiated Language becoming effective for state and federal law purposes), and except as otherwise set forth in this Agreement, the City, County, Heal the Bay, and Baykeeper fully and forever release the Regional and State Boards from any and all claims, demands, actions, causes of action, obligations, damages, liabilities, loss, costs or expense, including attorneys' fees, of any kind or nature whatsoever, in law, equity or otherwise, which they may now have as a result of the adoption of the current Trash TMDLs, the Negotiated Language amending the Trash TMDLs, the associated Basin Plan amendments and

approvals related to the incorporation of the Negotiated Language, and the revised Trash TMDLs. The release provided by this paragraph does not extend to any subsequent actions or inactions by the Regional Board to revise, reconsider, or modify the current or revised Trash TMDLs.

3. **Miscellaneous.**

a. Notices. Notices contemplated by this Agreement shall be sent to the following:

City of Los Angeles: Cecilia Estolano City Attorney's Office 700 City Hall East 200 N. Main Street Los Angeles, CA 90012 Facsimile: (213) 978-8211	With a Copy to: Melissa A. Thorme Downey Brand LLP 555 Capitol Mall, Tenth Floor Sacramento, CA 95814 Facsimile (916) 444-2100
County of Los Angeles: Department of Public Works Watershed Management Division 900 South Fremont Avenue Alhambra, CA 91803-1331	With a Copy to: Office of the County Counsel 652 Kenneth Hahn Hall of Administration 500 W. Temple Street Los Angeles, California 90012 Attn: Division Chief, Public Works Division and Howard Gest Burhenn & Gest LLP 624 South Grand Ave., Ste. 2200 Los Angeles, CA 90017 Facsimile (213) 688-7716
Regional Board & State Board: Dennis Dickerson, Executive Officer Regional Water Quality Control Board 320 West 4th St., Ste. 200 Los Angeles, CA 90013 Facsimile (213) 576-6640	With a Copy to: Michael A.M. Lauffer Office of Chief Counsel 1001 I St., 22nd Fl. Sacramento, CA 95814 Facsimile (916) 341-5199
Baykeeper: Executive Director Santa Monica Baykeeper P.O. Box 10096 Marina del Rey, CA 90295 Facsimile (310) 305-7985	

Heal the Bay: Mark Gold, Executive Director Heal the Bay 3220 Nebraska Ave. Santa Monica, CA 90404 Facsimile (310) 453 7927	

b. Attorneys' Fees and Costs. The Parties acknowledge and agree that each of them will bear their own attorneys' fees, costs, and expenses arising out of and/or connected with the current Trash TMDLs, the Trash TMDLs Lawsuits, and this Agreement.

c. Representation by Counsel. The Parties understand and agree that this Agreement has been freely and voluntarily entered into by the Parties, each of which has been fully represented by counsel at every stage of these proceedings, and that no representations or promises of any kind other than as contained herein have been made by any part to induce any other party to enter into this Agreement. The language of this Agreement shall be construed in its entirety, according to its fair meaning, and not strictly for or against any of the Parties.

d. Integrated Agreement. This Agreement and the Negotiated Language reflected on the attachments hereto contain the entire understanding of the Parties concerning the matters contained herein and constitutes an integrated agreement.

e. Severability. In the event that any provision of this Agreement is determined by a court of competent jurisdiction to be invalid, the remainder of this Agreement shall not be affected thereby and shall remain in full force and effect.

f. Subsequent Amendment. This Agreement may not be altered, amended, modified, or otherwise changed except by a writing executed by each of the Parties.

g. Counterparts. This Agreement may be executed in one or more separate counterparts and shall together constitute one document. Photocopies and facsimiles of counterparts shall be as binding and admissible as originals.

h. Effective Date. This Agreement is effective when signed by all Parties and the effective date shall be date of the last signature.

i. Authority. Each party to this Agreement warrants that the individual executing this Agreement is duly authorized to do so and that execution is the act and deed of the party.

IN WITNESS WHEREOF, the undersigned hereby execute this Agreement.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD, LOS ANGELES REGION

Date: _____ By: _____
Dennis Dickerson, Executive Officer

STATE WATER RESOURCES CONTROL BOARD

Date: _____ By: _____
Craig M. Wilson, Chief Counsel

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT and COUNTY OF LOS ANGELES

Date: _____ By: _____
Peter J. Gutierrez, Senior Deputy County Counsel

Approved as to form
Lloyd W. Pellman
County Counsel, Los Angeles County

Date: _____ By: _____
Peter J. Gutierrez, Senior Deputy County Counsel

Signatures Continued on Next Page

CITY OF LOS ANGELES, Bureau of Sanitation

Date: _____ By: _____

Approved as to form and legality
Rockard J. Delgadillo, Los Angeles City Attorney

Date: _____ By: _____

SANTA MONICA BAYKEEPER

Date: _____ By: _____
Steve Fleischli, Executive Director

HEAL THE BAY

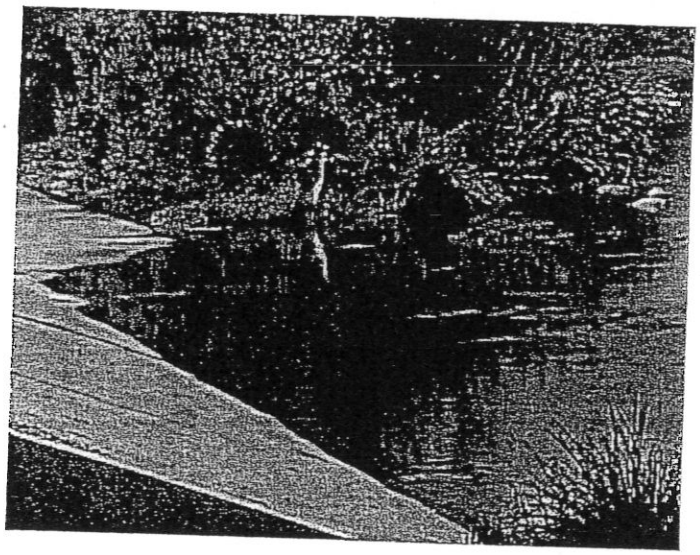
Date: _____ By: _____
Mark Gold, Executive Director

///
///

Trash Total Maximum Daily Loads

for the

Los Angeles River Watershed



September 19, 2001

California Regional Water Quality Control Board
Los Angeles Region
320 West Fourth Street
Los Angeles, California 90013

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I. Introduction – Legal Background

The California Regional Water Quality Control Board, Los Angeles Region (hereinafter referred to as the "Regional Board") has developed this total maximum daily load (TMDL) designed to attain the water quality standards for trash in the Los Angeles River. The TMDL has been prepared pursuant to state and federal requirements to preserve and enhance water quality in the Los Angeles Basin River Watershed.

The California Water Quality Control Plan, Los Angeles Region, also known as the *Basin Plan*, sets standards for surface waters and groundwaters in the regions. These standards are comprised of designated beneficial uses for surface and ground water, and numeric and narrative objectives necessary to support beneficial uses and the state's antidegradation policy. Such standards are mandated for all waterbodies within the state under the Porter-Cologne Water Quality Act. In addition, the Basin Plan describes implementation programs to protect all waters in the region. The Basin Plan implements the Porter-Cologne Water Quality Act (also known as the "California Water Code") and serves as the State Water Quality Control Plan applicable to the Los Angles River, as required pursuant to the federal Clean Water Act (CWA).

Section 305(b) of the CWA mandates biennial assessment of the nation's water resources, and these water quality assessments are used to identify and list impaired waters. The resulting list is referred to as the 303(d) list. The CWA also requires states to establish a priority ranking for impaired waters and to develop and implement TMDLs. A TMDL specifies the maximum amount of a pollutant that a waterbody can receive and still meet water quality standards, and allocates pollutant loadings to point and non-point sources.

The United States Environmental Protection Agency (USEPA) has oversight authority for the 303(d) program and must approve or disapprove the state's 303(d) lists and each specific TMDL. USEPA is ultimately responsible for issuing a TMDL, if the state fails to do so in a timely manner.

As part of California's 1996 and 1998 303(d) list submittals, the Regional Board identified the reaches of the Los Angeles River at the Sepulveda Flood Basin and downstream as being impaired due to trash.

A consent decree between the USEPA, the Santa Monica BayKeeper and Heal the Bay Inc., represented by the Natural Resources Defense Council (NRDC), was signed on March 22, 1999. This consent decree requires that all TMDLs for the Los Angeles Region be adopted within 13 years. The consent decree also prescribed schedules for certain TMDLs. According to this schedule, a Trash TMDL for the Los Angeles River watershed must be approved before March 2001.

This Trash TMDL is based on existing, readily available information concerning the conditions in the Los Angeles River watershed and other watersheds in Southern California, as well as TMDLs previously developed by the State and USEPA.

II. Definitions

The definitions of terms as used in this TMDL are provided as follows:

Baseline Waste Load Allocation. The Baseline Waste Load Allocation is the Waste Load Allocation assigned to a permittee before reductions are required. The progressive reductions in the Waste Load Allocations will be based on a percentage of the Baseline Waste Load Allocation. The Baseline Waste Load Allocation will be calculated based on the annual average amount of trash discharged to the storm drain system from a representative sampling of land use areas, as determined during the Baseline Monitoring Program.

Daily Generation Rate (DGR). The DGR is the average amount of litter deposited to land or surface water during a 24-hour period, as measured in a specified drainage area.

Full Capture ~~Device~~System. A full capture ~~device~~ system is any single device or series of devices ~~system~~ that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate (Q) resulting from a one-year, one-hour, storm in the subdrainage area. Rational equation is used to compute the peak flow rate: $Q = C \times I \times A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall intensity (inches per hour, as determined per the rainfall isohyetal map in Figure A),[1] and A= subdrainage area (acres) ~~(determined to be 0.6 inch per hour for the Los Angeles River watershed)~~.

Monitoring Entity. The Monitoring Entity is the permittee or one of multiple permittees and/or co-permittees that has been authorized by all the other affected permittees or co-permittees to conduct baseline monitoring on their behalf.

Permittee. The term "permittee" refers to any permittee or co-permittee of a stormwater permit.

Trash. In this document, we are defining "trash" as man-made litter, as defined in California Government Code Section 68055.1(g):

> "Litter means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling or manufacturing ~~[....]~~."

For purposes of this TMDL, we will consider trash to consist of litter and particles of litter, including cigarette butts ~~that are retained by a 5-mm mesh screen~~. These particles of litter are referred to as "gross pollutants" in European and Australian scientific literature. This

[1] The isohyetal map may be updated annually by the Los Angeles County hydrologist to reflect additional rain data gathered during the previous year. Annual updates published by the Los Angeles County Department of Public Works are prospectively incorporated by reference into this TMDL and accompanying Basin Plan amendment.

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definition excludes sediments, and it also excludes oil and grease, and vegetation, except for yard waste that is illegally disposed of in the storm drain system. Additional TMDLs for sediments[2] and oil and grease may be required at a later date.

Urbanized Portion of the Watershed. For the purposes of this TMDL, the urban portion of the watershed includes the sum total area of the incorporated cities and the unincorporated portion of Los Angeles County which are located on the Los Angeles River watershed.[3] The estimated area of the "urbanized" portion of the watershed is 584 square miles[4]. The remainder of the watershed is made up of the Los Angeles National Forest and other open space.

[2] Sediments which may be addressed in a separate TMDL are natural particulate matters such as silt and sand. Sediments result from erosion and are deposited at the bottom of a stream. Sediments do not refer to the decomposition of settleable litter into small particulate matters, which this TMDL is trying to prevent.
[3] The Regional Board recognizes that some areas within the unincorporated sections of Los Angeles County are actually suburban or rural.
[4] As determined by the Regional Board from GIS mapping. (Other minor differences in figures are due to rounding.)

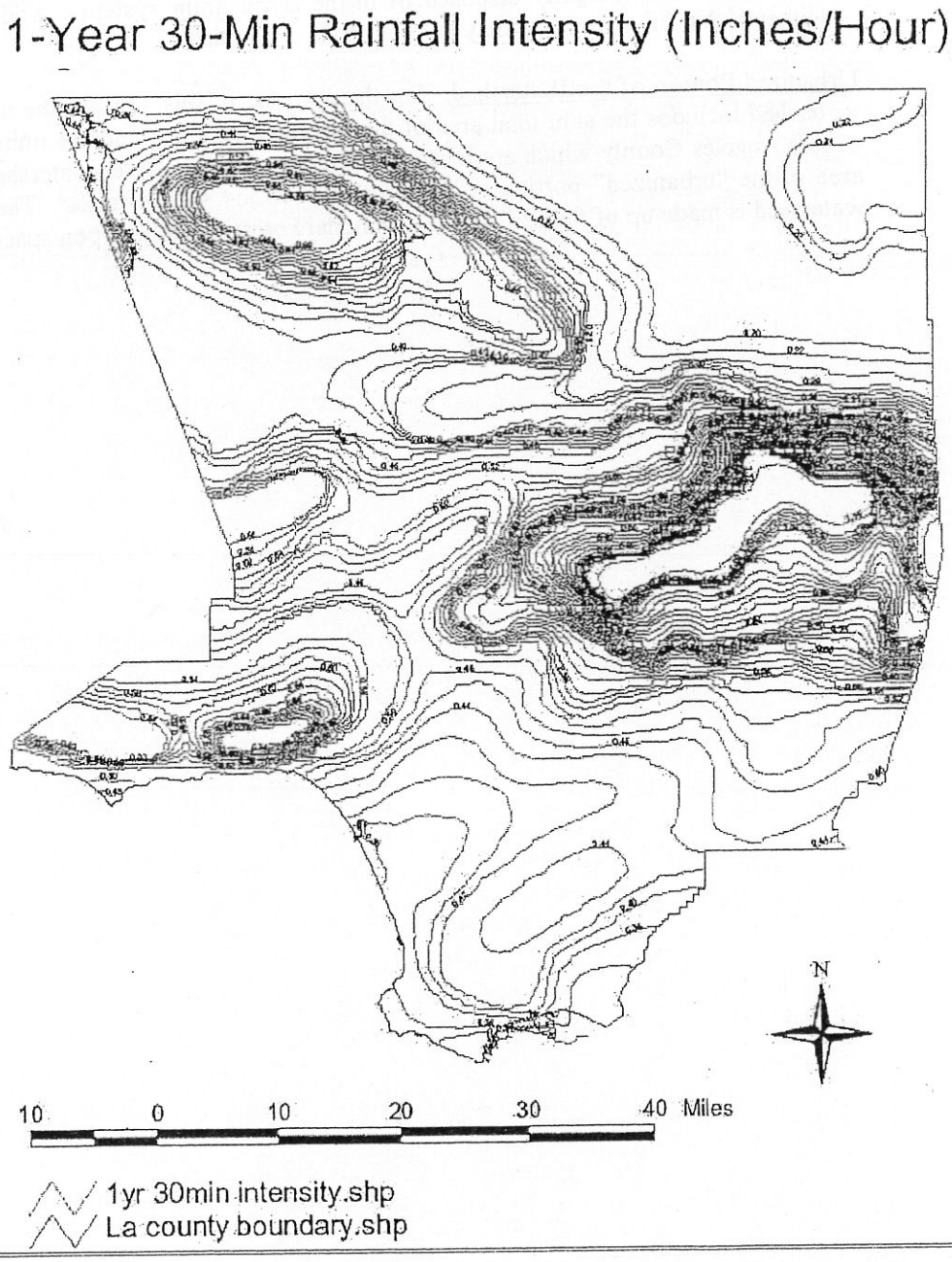

Figure A. Isohyetal Map of Rainfall Intensities in Portions of Los Angeles County (LADPW, 2003).

III. Problem Statement

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The problem statement consists of a description of the watershed, beneficial uses, water quality objectives, and a description of the impairment to the watershed caused by trash.

A. Description of the Watershed

The Los Angeles River flows 51 miles from the western end of the San Fernando Valley to the Queensway Bay and Pacific Ocean at Long Beach (see Figure ~~A~~B). The headwaters are at the confluence of Arroyo Calabasas and Bell Creek. Arroyo Calabasas drains Woodland Hills, Calabasas, and Hidden Hills in the Santa Monica Mountains. Bell Creek drains the Simi Hills and receives flows from Chatsworth Creek. From the confluence of Arroyo Calabasas and Bell Creek, the Los Angeles River flows east through the southern portion of the San Fernando Valley, bends around the Hollywood Hills before it turns south onto the broad coastal plain of the Los Angeles Basin, eventually discharging into Queensway Bay and thence into San Pedro Bay West of Long Beach Harbor. Together with its several major tributaries, notably the Tujunga Wash, Burbank Western Channel, Arroyo Seco, Rio Hondo, and Compton Creek, the Los Angeles River drains an area of about 834[5] square miles. Of this area, the incorporated cities and unincorporated portion of Los Angeles County comprise 584 square miles. The remaining acreage consists of the Los Angeles National Forest and other uses.

In the San Fernando Valley, the river flows east for approximately 16 miles along the base of the Santa Monica Mountains. Most of the Los Angeles River channel was lined with concrete between 1935 and 1959 for flood control purposes[6]. This reach is lined in concrete except for a section of the river with a soft bottom at the Sepulveda Flood Control Basin. The Sepulveda Basin is a 2,150-acre open space, located upstream of the Sepulveda Dam. It is designed to collect flood waters during major storms. Because the area is periodically inundated, it remains in natural or semi-natural conditions and supports a variety of low-intensity uses. The US Army Corps of Engineers owns the entire basin and leases most of the area to the City of Los Angeles Department of Recreation and Parks, which has developed a multi-use recreational area that includes a golf course, playing fields, hiking trails, and bicycle paths.

The river is again lined in concrete for most of its course except for a seven-mile soft-bottomed segment between the confluence of the Burbank/Western Channel near Riverside Drive and north of the Arroyo Seco confluence. Three miles of this segment border Griffith Park (encompassing 4,217 acres). Four miles downstream, the river flows parallel to Elysian Park (585 acres in size). The original Pueblo de Los Angeles was founded just east of the river "to take advantage of the river's dependable supply of water."[7] Early this century, the progressive pumping of groundwater, together with major diversions of water for irrigation and other uses throughout the watershed, contributed to a decreased flow in the River. From Willow Street all the way through the estuary, the river is soft bottomed with areas of riparian vegetation. This unlined section is about three miles long. Also part of the watershed are a number of lakes including Peck Road Park Lake, Echo Park Lake, and Lincoln Park Lake.

[5] As determined by the Regional Board from GIS mapping.
[6] Gumprecht, Blake (1999) *The Los Angeles River: Its Life, Death, And Possible Rebirth*, p. 206.
[7] Los Angeles River Master Plan, June 1996, p. 211.

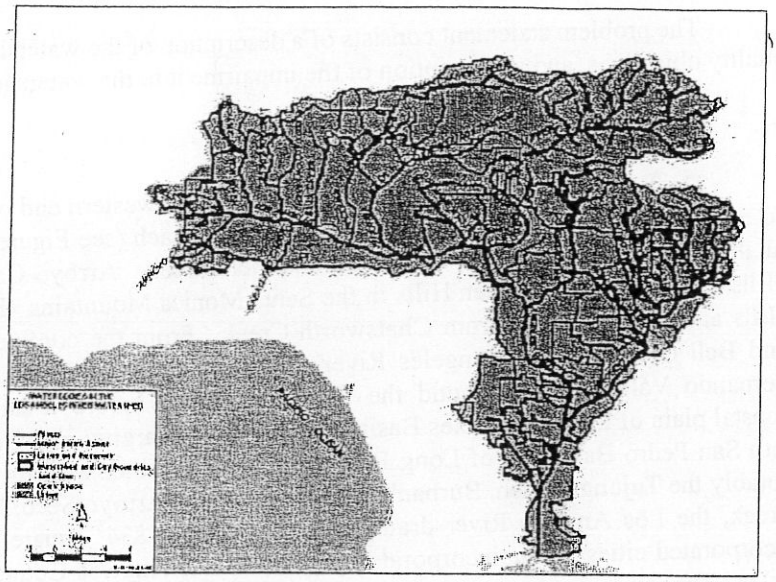

Figure ~~A~~B. Waterbodies in the Los Angeles River Watershed.

B. Beneficial Uses of the Watershed

A brief description of the beneficial uses most likely to be impaired due to trash in the Los Angeles River is provided in this section.

The upper reaches of the Los Angeles River include Sepulveda Basin, a soft-bottomed area that is designed as a flood control basin. Designated beneficial uses for the upper reaches are Municipal and Domestic Supply (MUN) (although most reaches only have conditional MUN designations), Ground Water Recharge (GWR), Water Contact Recreation (REC1), Non-Contact Water Recreation (REC2), Warm Freshwater Habitat (WARM), Wildlife Habitat (WILD), and Wetland Habitat (WET). The arroyo chub is also found in the Sepulveda Basin area, and cannot survive on the flat surfaces on the concrete-lined portions of the Los Angeles River. The thick growth of riparian plants in this area provides habitat for a variety of wildlife. Native oaks grow along stretches of Valleyheart Drive in Studio City and Sherman Oaks. The river levees along this reach are accessible and neighborhood residents use them for walking and jogging.

Three native species of fish (the south coast minnow-sucker community) are found in Big Tujunga Creek from Big Tujunga Dam downstream to upper Hansen Dam. These are the Santa Ana sucker (Catastomus santaanae), which is listed as a federally endangered species, the Santa Ana speckled dace (Rhinichthys osculus) and the arroyo chub (Gila orcutti), both of which are State Species of Special Concern. They thrive in the moderate to fast cool or cold flows in gravelly and rocky riffles (suckers and dace), alternating with slower pools (chubs)[8].

[8] Camm Swift, Emeritus Natural History Museum of Los Angeles County, California Academy of Sciences, May 20, 2000.

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Glendale Narrows, from Riverside Drive to Arroyo Seco (Figueroa Street), with the longest soft-bottomed segment (seven miles), supports many beneficial uses and is designated accordingly in the Basin Plan. This portion of the Los Angeles River is designated as open space in the various community general plans. Dense riparian vegetation provides habitat for wildlife including birds, ducks, frogs and turtles. Several small pocket parks are found along this section of the River, many of which were designed by North East Trees (NET), sometimes in partnership with the Mountains Recreation and Conservation Authority (MRCA), such as a small park South and North of Los Feliz Boulevard sometimes referred to as the "Los Angeles RiverWalk"[9] and Sunnynook park on the Atwater side, and Rattlesnake Park and Zanja Madre Park on the Silver Lake side. Another example of a pocket park, designed by MRCA, is Knox Park[10], at the end of Knox avenue. The riparian vegetation closely mimics the historical "willow sloughs" that once dotted the basin[11]. The relatively lush environment in this reach attracts people who enjoy many forms of recreation including walking, jogging, horseback riding, bicycling, bird watching, photography and crayfishing. There are several access points in this reach, including the pedestrian bridge over the Golden State Freeway from Griffith Park near Los Feliz Boulevard (Sunnynook Bridge). This whole section is lined with a maintained bike path, and many bicyclists use the path, which is cooled in places by the riparian trees. In addition, cut fences provide easy access for the many people who use this section of the river, including the homeless who have set up camp under some of the bridges within this reach or on the vacant land between Highway 5 and the fence to the river.

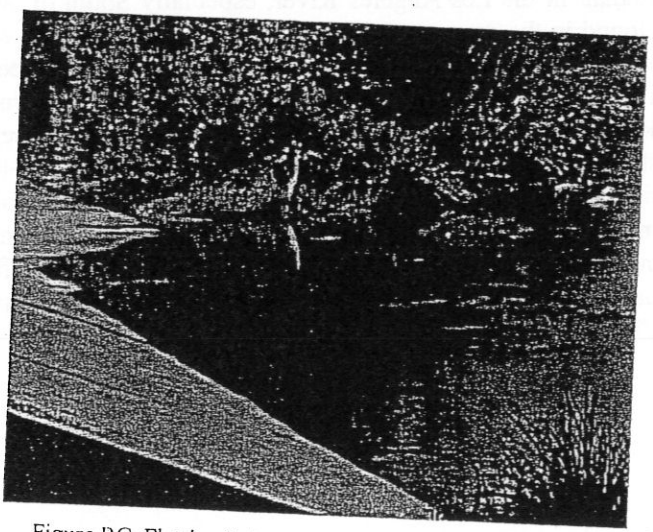

Figure ~~B~~C. Fletcher Drive: Great Egret, October 26, 1999.

From Figueroa Street to Washington Boulevard, the river supports several beneficial uses, including the Downtown Channel, which is used by many for recreation and bathing, in particular by homeless people who seek shelter there.

[9] Nishith Dhandha, North East Trees, August 24, 2000.
[10] Ibid.
[11] Dan Cooper, Audubon Society, California Academy of Sciences, May 20, 2000.

The mid-cities reach (11½ miles from Washington Boulevard to Atlantic Avenue), has several beneficial uses. The western levee is available for trail use from Atlantic Boulevard in Vernon to Firestone Boulevard in South Gate. There is a county bike path on the eastern levee (the Lario Trail) and a county equestrian and hiking trail adjacent to the levee. Continuous access to the Lario Trail is provided below each street bridge crossing. Several parks have been developed adjacent to the river on the east side, some of which provide access to the river trail (Cudahy Park). In Vernon, the channel invert is used for lunchtime soccer games, and people walk or jog on the river maintenance roads mostly during the week at lunchtime. The utility easement in Bell is used partly for small, informal vegetable gardening.[12] South of the confluence of the Los Angeles River and the Rio Hondo Channel in South Gate, increasing numbers of birds can be seen using the channel and adjacent lands.[13]

The nine-mile reach from Atlantic Avenue to the ocean supports some of the most abundant bird life found on the Los Angeles River. The parks, spreading grounds, utility easements and vacant land adjacent to the river provide roosting and feeding habitat. Many species of birds also feed in the concrete channel, where algae grow in the warm, shallow water, and in the estuary South of Willow Street, including fish-eaters like waders (herons, egrets, occidental bitterns and rails), terns, osprey (a fish-eating hawk), pelicans and cormorants. California Brown Pelican and California Least Tern are Federally Endangered Species.[14]

The water in the estuary pools is deep and slow enough to support an abundant fish community as well. In addition to gobies and tilapia (mostly *Tilapia mozambica*)[15], which are very abundant in the Los Angeles River, especially South of Willow Street, many species of fish are found in the estuary of the Los Angeles River. As an example, the following species have been found between the Ocean boulevard bridge and Queensway Bay bridge: California tonguefish, California halibut, specklefin midshipman, California lizardfish, diamond turbot, barcheek pipefish, and Pacific staghorn sculpin (bottom feeders), as well as white croaker, queenfish, deepbody anchovy, white seaperch, slough anchovy, barred sand bass, shiner perch, California grunion, and striped mullet (midwater feeders, often associated with bottom environment). This area also has harbored some pelagic fish, some of which will venture up an undetermined portion of the estuary: northern anchovy, Pacific sardine, Pacific pompano, Pacific barracuda, topsmelt, jacksmelt, white seabass, barred pipefish, giant kelpfish, and bay pipefish.[16]

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[12] Los Angeles River Master Plan, p. 99.

[13] At the confluence, there is a ten-acre site (approx.) owned by the City of South Gate ~~which~~ that contains an abandoned landfill, which is vegetated with grasses, shrubs and trees (Los Angeles River Master Plan).

[14] Dan Cooper, California Audubon Society, December 17, 1999.

[15] Charles Mitchell, MBC Applied Environmental Sciences, December 19, 1999.

[16] Marine Biological Baseline Study of Queensway Bay, Long Beach Harbor, MBC Applied Environmental Sciences, 1994.

Beneficial uses of the Los Angeles River watershed are summarized in Table 1, excerpted from the 1994 Basin Plan. These are the designated beneficial uses that must be protected.[17]

Table 1. Beneficial Uses of Surface Waters of the Los Angeles River.

Surface Waters	Hydro Unit	MUN	IND	PROC	GWR	NAV	REC1	REC2	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET
Los Angeles River Estuary	405.12		E			E	E	E	E			E	E	E	E	E	E	P	E
Los Angeles River to Estuary	405.12	P*	P	P	E		E	E		E			E	E	E	P	P	P	
Los Angeles River	405.15	P*	P		E		E	E		E				P					
Los Angeles River	405.21	P*	P		E		E	E		E				E					E
Compton Creek	405.15	P*			E		E	E		E				E					E
Rio Hondo, downstream Spreading Grounds	405.16	P*			I		P	E		P				I	E				E
Rio Hondo	405.41	P*			I		I	E		P				I	E				E
Alhambra Wash	405.41	P*			I		I	I		I				E	P				E
Rubio Wash	405.41	P*			I		I	I		I				E	E				E
Rubio Canyon	405.31	P*			I		I	I		I				E					E
Eaton Wash	405.41	P*			I		I	I		I				E					E
Eaton Wash (downstream dam)	405.31	P*			I		I	I		I				E					E
Eaton Wash (upstream dam)	405.31	P*			I		I	I		I				E					E
Eaton Dam and Reservoir	405.31	P*			I		P	I		I				E					E
Eaton Canyon Creek	405.31	P*			E		E	E		E				E	E		E		E
Arcadia Wash (lower)	405.41	P*			I		P	I		P				P					
Arcadia Wash (upper)	405.33	P*			I		P	I		P				P	E				
Santa Anita Wash (lower)	405.41	P*			I		P	E		E				E	E				
Santa Anita Wash (upper)	405.33	P*			E		E	E		E				E					
Little Santa Anita Canyon Creek	405.33	P*			I		P	E		E	E			E					
Big Santa Anita Reservoir					E		P	E		E	E			E					

[17] Water Quality Control Plan, Los Angeles Region, California Regional Water Quality Control Board, Los Angeles Region, 1994, p. 2-10.

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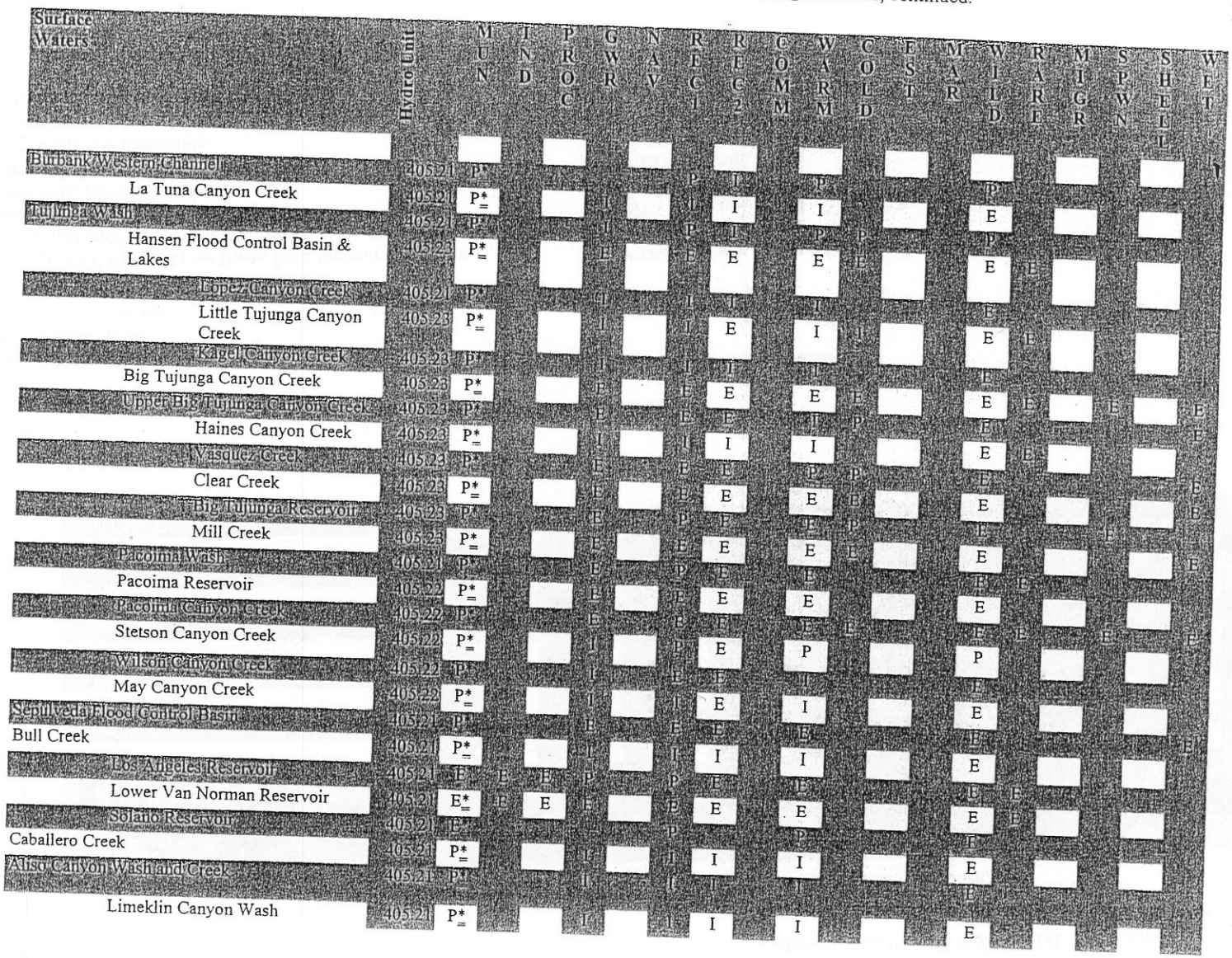
Table 1. Beneficial Uses of Surface Waters of the Los Angeles River, continued.

Surface Waters	Hydro Unit	MUN	IND	PROC	GWR	NAV	REC1	REC2	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET
Santa Anita Canyon Creek	405.33	E*			E		E	E		E	E			E	E		E		E
Winter Creek	405.33	P*			I		I	E		I				E					E
East Fork Santa Anita Canyon	405.33	P*			E		E	E		E	E			E			E		E
Sawpit Wash	405.41	I			I		I	I		I				E					
Sawpit Canyon Creek	405.41	P*			I		I	I		I				E	E				
Sawpit Dam and Reservoir	405.41	P*			I		P	I		I				E					
Monrovia Canyon Creek	405.41	I			I		I	I		I				E					E
Arroyo Seco downstream Devil's Gate R. (L)	405.15	P*					I	I		P				P					
Arroyo Seco downstream Devil's Gate R. (U)	405.31	P*					I	I		P				P	E				
Devil's Gate Reservoir (L)	405.31	P*			I		I	I		I				E					
Devil's Gate Reservoir (U)	405.32	I*			I		I	I		I				E					
Arroyo Seco upstream Devil's Gate R.	405.32	E*	E	E	E		E	E		E	E			E					E
Millard Canyon Creek	405.32	E*	E	E	E		E	E		E				E	E				E
El Prieto Canyon Creek	405.32	I	I	I	I		I	I		I				E					
Little Bear Canyon Creek	405.32	P*			I		I	I		I	I			E					E
Verdugo Wash	405.24	P*			I		P	I		P				D					
Halls Canyon Channel	405.24	P*	I	I	I		I	I		I				E					
Shover Canyon	405.32	I	I	I	I		I	I		I				E					
Pickens Canyon	405.24	I*			I		I	I		I				E					
Shields Canyon	405.24	I	I	I	I		I	I		I				E					
Dunsmore Canyon Creek	405.24	I	I	I	I		I	I		I				E					

Table 1. Beneficial Uses of Surface Waters of the Los Angeles River, continued.



Surface Waters	Hydro Unit	MUN	IND	PROC	GWR	NAV	REC1	REC2	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET
Burbank Western Channel	405.21	P*					P	I		I				E					
La Tuna Canyon Creek	405.21	P*			I		I	I		I				E					
Tujunga Wash	405.21	P*			I		P	I		P	P			P					
Hansen Flood Control Basin & Lakes	405.23	P*			E		E	E		E	E			E	E				
Lopez Canyon Creek	405.21	P*			I		I	I		I				E					
Little Tujunga Canyon Creek	405.23	P*			I		I	E		I	I			E	E				
Kagel Canyon Creek	405.23	P*			I		I	I		I				E					
Big Tujunga Canyon Creek	405.23	P*			E		E	E		E	E			E	E		E	E	
Upper Big Tujunga Canyon Creek	405.23	P*			E		E	E		E	P			E				E	
Haines Canyon Creek	405.23	P*			I		I	I		I				E	E				
Vasquez Creek	405.23	P*			E		E	E		P	P			E					
Clear Creek	405.23	P*			E		E	E		E	E			E				E	
Big Tujunga Reservoir	405.23	P*			E		P	E		E	P			E				E	
Mill Creek	405.23	P*			E		E	E		E	E			E			E		
Pacoima Wash	405.21	P*			E		P	E		E	E			E				E	
Pacoima Reservoir	405.22	P*			E		P	E		E				E	E				
Pacoima Canyon Creek	405.22	P*			E		E	E		E	E			E					
Stetson Canyon Creek	405.22	P*			I		P	E		P				P			E	P	
Wilson Canyon Creek	405.22	P*			I		E	E		I				E					
May Canyon Creek	405.22	P*			I		I	E		I				E					
Sepulveda Flood Control Basin	405.21	P*			I		E	E		E				E					
Bull Creek	405.21	P*			I		I	I		I				E					
Los Angeles Reservoir	405.21	E	E	E	P		P	E		E				E	E				
Lower Van Norman Reservoir	405.21	E*	E	E	I		E	E		E				E	E				
Solano Reservoir	405.21	E			P		E	P		P				E					
Caballero Creek	405.21	P*			I		I	I		I				E					
Aliso Canyon Wash and Creek	405.21	P*			I		I	I		I				E					
Limeklin Canyon Wash	405.21	P*			I		I	I		I				E					

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Table 1. Beneficial Uses of Surface Waters of the Los Angeles River, concluded.

Surface Waters	Hydro Unit	MUN	IND	PROC	GWR	NAV	REC1	REC2	COMM	WARM	COLD	EST	MAR	WILD	RARE	MIGR	SPWN	SHELL	WET
Browns Canyon Wash and Creek	405.21	P*			I		I	I		I				E					I
Arroyo Calabasas	405.21	P*					P	I		P				P					
McCoy Canyon Creek	405.21	P*			I		I	I		I				E					
Dry Canyon Creek	405.21	P*					P	I		I				E					
Bell Creek	405.21	P*			I		I	I		I				E					
Chatsworth Reservoir	405.21	E	E	E			P	E		E				E					
Dayton Canyon Creek	405.21	P*			I		I	I		I				E					
Echo Lake	405.15	P*					P	E		P				E					
Lincoln Park Lake	405.15	P*					P	E		P				E					

E: Existing beneficial use
P: Potential beneficial use
I: Intermittent beneficial use

*: Conditional designations

BENEFICIAL USE CODES (see Basin Plan for more details):
MUN - Municipal and Domestic Water Supply
IND - Industrial Service Supply
PROC - Industrial Process Supply
GWR - Ground Water Recharge
REC1 - Water Contact Recreation
REC2 - Non-Contact Water Recreation
COMM - Commercial and Sport Fishing
WARM - Warm Freshwater Habitat
COLD - Cold Freshwater Habitat
EST - Estuarine Habitat
MAR - Marine Habitat
WILD - Wildlife Habitat
RARE - Rare, Threatened or Endangered Species
SPWN - Spawning, Reproduction, and/or Early Development
SHELL - Shellfish Harvesting
WET - Wetland Habitat

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C. Water Quality Objectives

Water quality standards consist of a combination of beneficial uses, water quality objectives and the State's Antidegradation Policy. The Regional Board has determined that the narrative water quality objectives applicable to this TMDL are **floating materials**: *"Waters shall not contain floating materials, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses"*[18] and **solid, suspended, or settleable materials:** *"Waters shall not contain suspended or settleable material in concentrations that cause nuisance or adversely affect beneficial uses."*[19] The States' Antidegradation Policy is formally referred to as the *Statement of Policy with Respect to Maintaining High Quality Waters in California* (State Board Resolution No. 68-16).

D. Impairment of Beneficial Uses

Existing beneficial uses impaired by trash in the Los Angeles River are contact recreation (REC 1) (contact sports: swimmers are spotted regularly in the Los Angeles River at Glendale Narrows and also at Willow Street in Long Beach) and non-contact recreation such as fishing (REC 2) (trash is aesthetically displeasing and deters recreational use and tourism); warm fresh water habitat (WARM); wildlife habitat (WILD); estuarine habitat (EST) and marine habitat (MAR); rare, threatened or endangered species (RARE); migration of aquatic organisms (MIGR) and spawning, reproduction and early development of fish (SPWN); Commercial and sport fishing (COMM); Wetland Habitat (WET), and Cold freshwater habitat (COLD). These beneficial uses in the Los Angeles River are impaired by large accumulations of suspended and settled debris throughout the river system. The problem is even more acute in Long Beach where debris flushed down from the upper reaches of the river collects. Common items that have been observed by Regional Board staff include Styrofoam cups, Styrofoam food containers, glass and plastic bottles, toys, balls, motor oil containers, antifreeze containers, construction materials, plastic bags, and cans. Heavier debris can be transported during storms as well.

Reaches of the Los Angeles River that are impaired by trash, and listed on the 303(d) list for such, are Tujunga Wash (downstream Hansen Dam to Los Angeles River), Los Angeles River Reach 5 (within Sepulveda Basin), Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.), Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.), Los Angeles River Reach 2 (Figueroa St. to upstream Carson St.), Los Angeles River Reach 1 (upstream Carson St. to estuary), Burbank Western Channel, Verdugo Wash (Reaches 1 & 2), Arroyo Seco Reach 1 (downstream Devil's Gate Dam) & Reach 2 (W. Holly Ave. to Devil's Gate), and Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River). In addition, Peck Road Lake, Echo Park Lake and Lincoln Park Lake are listed as impaired for trash.

Trash in waterways causes significant water quality problems. Small and large floatables can inhibit the growth of aquatic vegetation, decreasing spawning areas and habitats for fish and other living organisms. Wildlife living in rivers and in riparian areas can be harmed by ingesting or becoming entangled in floating trash. Except for large items such as shopping carts, settleables are not always obvious to the eye. They include glass, cigarette

[18] Water Quality Control Plan ("Basin Plan"), p. 3-9.
[19] Ibid., pp. 3-16.

butts, rubber, construction debris and more. Settleables can be a problem for bottom feeders and can contribute to sediment contamination. Some debris (e.g. diapers, medical and household waste, and chemicals) are a source of bacteria and toxic substances. Floating debris that is not trapped and removed will eventually end up on the beaches or in the open ocean, repelling visitors away from our beaches and degrading coastal waters.

A major trash problem experienced in the Los Angeles River Watershed contributes to a broader phenomena that affects ocean waters, as small pieces of plastic called "nurdles" (defined as pre-production virgin material from plastic parts manufacturers, as well as post-production discards that are occasionally recycled) float at various depths in the ocean and affect organisms at all levels of the food chain. As sunlight and UV radiation render plastic brittle, wave energy pulverizes the brittle material, with a subsequent chain of nefarious effects on the various filter feeding organisms found near the ocean's surface. Studies in the North Pacific indicate that both large floating plastic and smaller fragments are increasing. As a result of increased reports of resin pellet ingestion by aquatic wildlife and evidence that the ingested pellets are harming wildlife, the Interagency Task Force on Persistent Marine Debris (ITF) identified resin pellets, also know as plastic pellets, as a debris of special concern.[20] When released into the environment, these pellets either may float on or near the water surface, may become suspended at mid-depths, or may sink to the bottom of a water body. Whether a specific pellet floats or sinks depends on the type of polymer used to create the pellet, on additives used to modify the characteristics of the resin, and on the density of the receiving water.

A 1999 study of Marine Debris in the Mid-Pacific Gyre in an attempt to assess the potential effects of ocean particles on filter feeding marine organisms, collected plankton samples at various locations throughout the gyre. The results were stunning: the mass of plastic particles collected was six times higher than the mass of plankton (841 g/km^2), although the number of planktonic organisms (1,837,342/km^2) was five times the number of plastic pieces. The distribution of the sampling points allows one to assume that these number can be safely extrapolated to the breadth of the Mid-Pacific Gyre. A remarkable finding was that the number of particles did not increase in successively smaller size classes as expected, indicating there may be non-selective removal by mucus web-feeding jellies and salp. In this study, the most common type of identifiable particle, thin plastic film, accounted for 29% of the total. Many birds will die from ingesting this non-nutritive plastic.[21]

The prevention and removal of trash in the Los Angeles River ultimately will lead to improved water quality and protection of aquatic life and habitat, expansion of opportunities for public recreational access, enhancement of public interest in the rivers and public participation in restoration activities, and propagation of the vision of the river as a whole and enhancement of the quality of life of riparian residents.

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[20] US Environmental Protection Agency (US EPA) (1992) **Plastic Pellets in the Aquatic Environment: Sources and Recommendations.**

[21] Moore, C.J. et al. **Marine Debris in the North Pacific Gyre, 1999, with a Biomass Comparison of Neustonic Plastic and Plankton**. (in preparation)

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E. Extent of the Trash Problem in the Los Angeles River

Trash is a water quality problem throughout the Los Angeles River. The Regional Board has determined that current levels of trash exceed the existing Water Quality Objectives necessary to protect the beneficial uses of the river.

For many years, Los Angeles County and other cities have recognized that trash is a problem.[22] The Los Angeles County Department of Public Works is reporting a "30% decrease in roadway trash on unincorporated County roads and a 50% decrease in trash entering catchbasins since adoption of the current National Pollutant Discharge Elimination System (NPDES) Permit".[23] However, trash in the Los Angeles River continues to be a serious problem.

Every city in the watershed agrees that the amount of trash found in the waterways is excessive, and that trash is found in all reaches of the river from Calabasas to Long Beach, and in all tributaries. Although the Regional Board has not yet received the data that the Los Angeles County Department of Public Works used for its findings, Regional Board staff regularly observe trash in the waterways of this watershed. Non-profit organizations such as Heal the Bay, Friends of the Los Angeles River (FoLAR) and others, organize volunteer clean-ups periodically, and document the amount of trash that was removed on such days, but these data do not indicate how long the trash had been accumulating at that particular site, only the amount that was picked up by the volunteers on a given day.

For example, at Coastal Clean-up Day in 1996, 26,300 lbs of trash were collected in Los Angeles County. During the September 18, 1999, California Coastal Clean up organized by Heal the Bay, a total of 60,711 lbs of trash were collected.[24]

At a clean-up organized during the Sacred Music Festival on Saturday, October 16, 1999, between Los Feliz Boulevard and Fletcher Drive over a distance of slightly under 1.5 miles, eleven shopping carts and six 40-gallon bags of trash were removed (see Figure ~~C~~D). However, this was not the total amount of trash on site, as Regional Board staff noticed more shopping carts and more trash on the same site the very next afternoon.[25] Meanwhile, the purpose of volunteer clean-ups is to visibly clean the river and its banks, not to quantify debris. As a result, it is likely that some of the debris collected during those events are not recorded. In addition, volunteers traditionally focus on larger, more visible debris to the exclusion of smaller debris which are commonly encountered, such as cigarette butts.

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[22]See comments from Los Angeles County, Agoura Hills, Artesia, Beverly Hills, Hermosa Beach, Hidden Hills, Carson, Diamond Bar, La Habra Heights, La Mirada, La Puente, Monrovia, Norwalk, Rancho Palos Verdes, Rolling Hills, San Fernando, San Marino, West Hollywood, Westlake Village, and the Executive Advisory Committee (Stormwater Program - Los Angeles County) on behalf of all the Los Angeles County cities, submitted in response to the first draft of this Trash TMDL for the Los Angeles River Watershed.

[23]Comment letter from County of Los Angeles, Department of Public Works, May 15, 2000, p. 1.

[24] Alix Gerosa, Heal the Bay, November 22, 1999.

[25] Trash observed by Regional Board staff on October 17, 1999, included mixed polystyrene waste (cups, plates and others), plastic bags, cement, sound boards, large ~~clutters~~ clusters of cigarette butts, disposable plastic glass lids, aluminum wrappers, balloons, medications, plastic bottles, clothing, books, and aerosol paint cans.

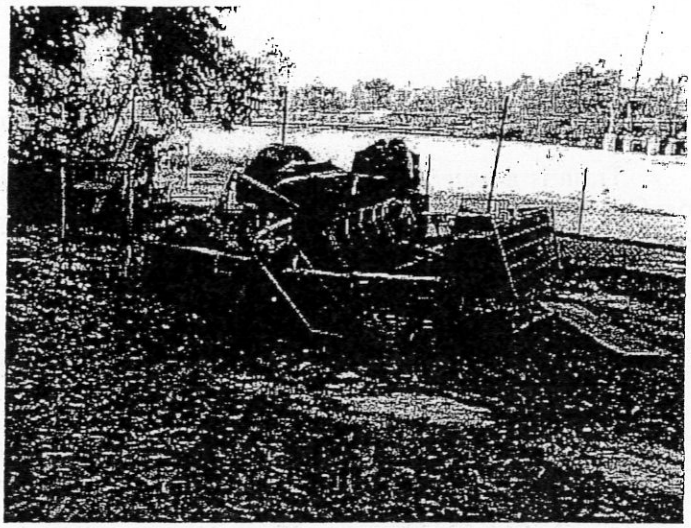

Figure ~~C~~D. Trash waiting for pick-up at Los Feliz Boulevard after the Sunday, October 16, 1999 river clean-up.

Several studies which attempted to quantify trash generated from discreet areas have been completed, but they concern relatively small areas, or relatively short periods, or both. The findings of some of these studies are discussed below.

The City of Calabasas cleaned out the Continuous Deflective Separation (CDS) Unit they had installed in December of 1998, on September 28, 1999. This CDS unit, located in Calabasas at the intersection of Las Virgenes Road and Agoura Road, collects trash from the runoff of a small storm drain, as well as part of the runoff from Calabasas Park Hills (Santa Monica Mountains), and eventually empties to Las Virgenes Creek. It is assumed that this CDS unit prevented all trash from passing through. The calculated area drained by this CDS Unit, as provided to the Regional Board by Los Angeles County Department of Public Works staff, amounts to 12.8 square miles. The urbanized area was estimated by Regional Board staff to amount to 0.10 square miles of the total area. The result of this clean-out, which represents approximately half of the 1998-1999 rainy season, was 2,000 gallons of sludgy water and a 64-gallon bag about two-third full of plastic food wrappers. It is assumed that part of the trash that accumulated in the CDS unit over roughly half of the rainy season had decomposed in the unit, hence the absence of paper products. Given the CDS unit was cleaned out after slightly more than nine months of use, it was assumed that this 0.10 square mile urbanized area produced a volume of 64 gallons of trash over one year. This datum will be used as the default value for the implementation plan. Although other studies are informative, studies currently available to the Regional Board provide insufficient data and could not be applied directly to establishing trash generation rates.

The City of Los Angeles conducted an Enhanced Catch Basin Cleaning Pilot Project in compliance with a consent decree between the United States Environmental Protection Agency, the State of California, and the City of Los Angeles. The project goals were to determine debris loading rates, characterize the debris, and find an optimal cleaning schedule

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through enhancing catch basin cleaning. The project evaluated trash loading at two drainage basins:

-The Hollywood Basin (1,366 acres and 793 catch basins) includes much of Hancock Park and is mostly residential with some commercial and open space, and no industrial land;

-The Sawtelle Basin (2,267 acres and 502 catch basins) includes residential areas with some commercial, industrial and transportation-related uses, and some open space.

The catch basins are inlet structures without a sump below the level of the outlet pipe to capture solids and trash washed down by the stormwater.[26] These inlets also collect trash, grass clippings and animal wastes during dry weather. Catch basins were cleaned 3-4 times from March 1992 to December 1994 and yielded approximately 0.79 yd^3 (160 Gal) of debris per cleaning (Sawtelle – 1.04 yd^3 (210 Gal) and Hollywood – 0.61 yd^3 (123 Gal)), characterized as paper (26%), plastic wastes (10%), soil (33%), and yard trimmings (31%).

The study also observed that the amount of plastic waste was less in residential areas and greater in non-residential areas, that paper waste was greater in commercial areas, and that soil and yard waste was greater in residential areas and open spaces.[27]

Long Beach collects large amounts of trash at the mouth of the Los Angeles River, as much of the trash carried down the Los Angeles River ends up at the river's mouth in Long Beach. Debris tonnage at the mouth of the Los Angeles River is listed in Table 2.

Table 2. Storm Debris Collection Summary for Long Beach: Debris is measured in Tonnage.[28]

	First Quarter (July-Sept.)	Second Quarter (Oct.-Dec.)	Third Quarter (Jan.-March)	Fourth Quarter (April-June)	Total
1995-96	73[29]	344	3,100	645	4,162
1996-97	350	2,361	601	681	3,993
1997-98	647	3,650	4,016	977	9,290
1998-99	565	720	532	1,274	3,091

IV. Numeric Target

The numeric target for this TMDL is 0 (zero) trash in the water. The numeric target is ~~staff's interpretation of~~ derived from the narrative water quality objectives, including an implicit margin of safety. Although a substantial number of comments were received in response to the March 17, 2000 Draft TMDL, no information was provided to justify any

[26] Such structures are usually termed *catchments*, but the term *catch basin* is used throughout Southern California. The absence of flow during dry weather allows trash to collect at the inlet. (Phone conversation with Wing Tam, City of Los Angeles, November 10, 1999.)

[27] This information and all of the above concerning the City of Los Angeles Enhanced Catch Basin Cleaning was found in: City of Los Angeles Department of Public Works, Bureau of Sanitation: Consent Decree Report, Enhanced Catch Basin Cleaning, April 1999. (Unpublished report.)

[28] City of Long Beach Memorandum from Geoffrey Hall, Parks, Recreation and Marine, to Ed Putz, City Engineer.

[29] 9/95 only.

other number for the final TMDL target that would fully support the designated beneficial uses. The numeric target was used to calculate the Waste Load Allocations as described in the Implementation Plan (see Section VIII.)

V. Source Analysis

The major source of trash in the river results from litter, which is intentionally or accidentally discarded in watershed drainage areas. Transport mechanisms include the following:

1. Storm drains: trash is deposited throughout the watershed and is carried to the various reaches of the river and its tributaries during and after significant rainstorms through storm drains.

2. Wind action: trash can also blow into the waterways directly.

3. Direct disposal: direct dumping also occurs.

Extensive research has not been done on trash generation or the precise relationship between rainfall and its deposition in waterways. However, it has been found that the amount of gross pollutants entering the stormwater system is rainfall dependent but does not necessarily depend on the source (Walker and Wong, December 1999). The amount of trash which enters the stormwater system depends on the energy available to re-mobilize and transport deposited gross pollutants on street surfaces rather than on the amount of available gross pollutants deposited on street surfaces. The exception to this finding of course would be in the event that there is zero gross pollutants deposited on the street surfaces or other drainages tributary to the storm drain. Where gross pollutants exist, a clear relationship between the gross pollutant load in the stormwater system and the magnitude of the storm event has been established. The limiting mechanism affecting the transport of gross pollutants, in the majority of cases, appears to be re-mobilization and transport processes (i.e., stormwater rates and velocities).

Several studies conclude that urban runoff is the dominant source of trash. The large amounts of trash conveyed by urban storm water to the Los Angeles River is evidenced by the amount of as trash that accumulates at the base of storm drains. The amount and type of trash that is washed into the storm drain system appears to be a function of the surrounding land use.

A number of studies (Walker and Wong, 1999, Allison, 1995), have shown that commercial land-use catchments generate more pollutants than residential land use catchments, and as much as three times the amount generated from light industrial land use catchment. It is generally accepted that commercial land uses tend to contribute larger loads of gross pollutants per area compared to residential and mixed land-use areas. This is in spite of daily street sweeping in the commercial sub-catchment compared to once every two weeks in residential and mixed land use areas.

VI. Waste Load Allocations

Storm drains have been identified as a major source of trash in the Los Angeles River. The strategy for meeting the water quality objective will focus on reducing the trash discharged via municipal storm drains.

Waste Load Allocations will be assigned to the Permittees and Co-permittees of the Los Angeles County Municipal Stormwater Permit (hereinafter referred to as Permittees) and Caltrans. In addition, Waste Load Allocations may be issued to additional facilities in the future under Phase II of the US EPA Stormwater Permitting Program. Waste Load Allocations assigned under the MS4 permit and the Caltrans permit will be based on a phased reduction from the estimated current discharge (i.e., baseline) over a 10-year period until the final Waste Load Allocation (currently set at zero) is met. The baseline allocation for the MS4 Permittees and Co-permittees (referred to hereinafter as the "Permittees") will be derived from currently available data (i.e., default baseline allocations) or refined data collected during the Baseline Monitoring Program.

A. Reconsideration & Refinement Provision

Upon completion of the baseline monitoring, staff shall report to the Board the results of such baseline monitoring. The Regional Board will review and reconsider the final Waste Load Allocations once a reduction of 50% of the Baseline Waste Load Allocation has been achieved. This means that the final Waste Load Allocation will be ~~reviewed only~~ reconsidered after substantial reductions are achieved. ~~A~~ This ~~review~~ reconsideration of the Waste Load Allocation will be based on the findings of future studies regarding the threshold levels needed for protecting beneficial uses. ~~The threshold level is presumed to be specific to all categories of trash.~~

~~A~~B. Default Baseline Waste Load Allocation

The Default Baseline Waste Load Allocation for the municipal stormwater permittees is equal to 640 gallons of uncompressed trash per square mile per year. No differentiation will be applied for different land uses in the Default Baseline Waste Load Allocation. This value is based on data provided by the City of Calabasas, as described previously. In the event that the permittees elect to rely on the Default Baseline Waste Load Allocation, they must first establish a conversion factor translating uncompressed volume to a standardized compacted volume and/or dry weight. The final Default Baseline Waste Load Allocation, as described in compressed volume and/or dry weight, will be specified in the stormwater permit.

~~B~~C. Refined Baseline Waste Load Allocations

The municipal stormwater permittees may opt to seek refinement of the Default Baseline Waste Load Allocation by implementing an approved "Baseline Monitoring Plan," as described in Section VII. The goal of the Baseline Monitoring program is to derive a representative trash generation rate for various land uses from across the Los Angeles River watershed. The Baseline Waste Load Allocation for any single city will be the sum of the

products of each land use area multiplied by the Waste Load Allocation for the land use area, as shown below:

$$LA = \sum for\ each\ city\left(area\ by\ land\ uses \bullet allocations\ for\ this\ land\ use\right)$$

The urban portion of the Los Angeles River watershed was divided into twelve types of land uses for every city and unincorporated area in the watershed. Similar land use classifications already exist on the land use maps used by L.A. County Department of Public Works to assess the generation of certain pollutants by land use.[30] The land use categories are: (1) high density residential[31], (2) low density residential[32], (3) commercial and services, (4) industrial, (5) public facilities[33], (6) educational institutions[34], (7) military installations, (8) transportation[35], (9) mixed urban[36], (10) open space and recreation[37], (11) agriculture[38], and (12) water[39]. Given that the minimum mapping resolution is 2.5 acres, a non-critical land use unit may not be mapped if it is less than 2.5 acres in size[40].

The appendix contains a table which shows the square mileage for each land use for each city and unincorporated areas in the watershed, and a list of maps showing land uses for each city. Unincorporated areas include areas such as Altadena, East Compton, East Los Angeles, East Pasadena, East San Gabriel, Florence, La Crescenta, Mayflower Village, North El Monte, South San Gabriel, Walnut Park, Westmount and Willowbrook. For cities that are only partially located on the watershed, the square mileage indicated is for the part of this city that is in the watershed only.

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[30] The land use classification was developed by Aerial Information Systems as a modified Anderson Land Use Classification and originally included 104 categories. The land use coverages were donated for GIS library use by Southern California Association of Governments (SCAG), and show land use for 1990 and for 1993. The coverages were map-joined into a single coverage by Teale Data Center. The Regional Board layers were aggregated from the TDC coverage into the land uses shown above.

[31] High Density Residential includes High Density Single Family Residential and all Multi Family Residential, Mobile Homes, Trailer Parks and Rural Residential High Density.

[32] Under 2 units per acre.

[33] These include government centers, police and sheriff stations, fire stations, medical health care facilities, religious facilities large enough to be distinguished on an aerial photograph, libraries, museums, community centers, public auditoriums, observatories, live indoor and outdoor theaters, convention centers which were built prior to 1990, communication facilities, and utility facilities (electrical, solid waste, liquid waste, water storage and water transfer, natural gas and petroleum).

[34] Preschools and daycare centers, elementary schools, high schools, colleges and universities, and trade schools, including police academies and fire fighting training schools.

[35] Airports, railroads, freeways and major roads (that meet the minimum mapping resolution of 2.5 acres), park and ride lots, bus terminals and yards, truck terminals, harbor facilities, mixed transportation and mixed transportation and utility.

[36] Mixed commercial, industrial and/or residential, and areas under construction or vacant in 1990.

[37] Golf courses, local and regional parks and recreation, cemeteries, wildlife preserves and sanctuaries, botanical gardens, beach parks.

[38] Orchards and vineyards, nurseries, animal intensive operations, horse ranches.

[39] Open water bodies, open reservoirs larger than 5 acres, golf course ponds, lakes, estuaries, channels, detention ponds, percolation basins, flood control and debris dams.

[40] Critical land uses were mapped regardless of resolution limits. Critical land use units below 1 acre in size were mapped as 1-acre units.

Land uses that are not under municipal jurisdiction, such as military installations, will be dealt with through separate permits, and will thus be monitored separately.

Each permittee will be allowed 90% of their baseline Waste Load Allocation during the first year of implementation, and the allocation will be reduced from the baseline by an average 10% through every year of implementation.

~~C~~D. Baseline Waste Load Allocations for Caltrans

A Litter Management Pilot Study (LMPS)[41] was conducted to evaluate the effectiveness of several litter management practices in reducing litter that is discharged from Caltrans storm water conveyance systems. The LMPS employed four field study sites, each of which was used to test a separate BMP. Each site included three replicate testing pairs, consisting of one site designed to measure the amount of trash produced when treatment was applied, and one control with no treatment site. The LMPS averages the data collected at the control outfalls in order to obtain the annual litter loads. The average combined total loads for the three control outfalls at each site normalized by the total area of control catchments is presented in the following table, adapted from the LMPS report[42]:

Table 3. Average Combined Total Loads for Control Outfalls at 3 Litter Management Pilot Study (LMPS) Sites.

Site	Weight lbs/sq mi	Volume cu ft/sq mi
1E	10584.00	1312.97
1W	7479.36	971.73
6	7479.36	881.34
8	4374.72	404.51

A preliminary baseline Waste Load Allocation for weight and volume load generation for freeways is arrived at by averaging weight and volume columns. (see Table 4.)

Table 4. A Preliminary Baseline Waste Load Allocation for Weight and Volume for Freeways.

Weight lbs/sq mi	Volume cu ft/sq mi
7479.36	892.64

This is a default allocation which can be refined through baseline monitoring following the protocol previously indicated for baseline monitoring. It is to be noted that control site 1E already had one BMP in place before testing of the other BMPs, as it was cleaned monthly through an "Adopt a Highway" program.

[41] California Department of Transportation District 7 Litter Management Pilot Study, June 2000. This study defined litter in stormwater as "manufactured items that can be retained by ¼-inch mesh made from paper, plastic, cardboard, etc.", and "that are not of natural origin (i.e. does not include sand, soil, gravel, vegetation, etc.)" (p. 1-2).
[42] Ibid., Table 6-8.

Average Annual Daily Traffic (AADT) for all control sites in the study ranged from 216,000 to 238,000.[43] Considering AADT on Los Angeles County freeways may be close to 300,000 on some sections[44], the chosen sites, although typical freeway outfalls, are not distributed throughout the whole AADT range. As the purpose of the study was to assess the effectiveness of specific BMPs, not to assess a trash generation factor, sites were chosen with similar characteristics.

~~D~~E. Baseline Waste Load Allocations for Municipal Permittees

Watershed wide default allocations for the ten-year implementation period are presented in Table 5. The default annual baseline Waste Load Allocation for the municipal permittees is 49,124.6 cubic feet (expressed as uncompressed volume) and 7,944 cubic feet for Caltrans.[45] The Waste Load Allocations represent a progressive reduction in the baseline Waste Load Allocation over a period of 10 years, and apply except in areas serviced by Full Capture Systems. The volumes shown, in cubic feet, are in uncompressed volumes, but in the event that the permittees elect to rely on the default baseline Waste Load Allocations, this unit of measure will be converted to an equivalent unit expressed in cubic yards based on a standardized compaction rate or dry weight.

Table 5. Default Waste Load Allocations. (Expressed as cubic feet of uncompressed trash and % reduction.)[46]

Year of Implementation[47]	Municipal Stormwater Default Waste Load Allocation
Year One	44,212.1 or 90% of the baseline load
Year Two	39,299.7 or 80% of the baseline load
Year Three	34,387.2 or 70% of the baseline load
Year Four	29,474.8 or 60% of the baseline load
Year Five	24,562.3 or 50% of the baseline load [48]
Year Six	19,649.8 or 40% of the baseline load
Year Seven[49]	14737.4 or 30% of the baseline load

[43] Ibid., Table 6-8.
[44] Information on AADT on select freeways can be found on Caltrans' website: http://www.caltrans.ca.gov/.
[45] Based on a default baseline load allocation of 86 cubic feet per square mile for the municipal permittees and 893 cubic feet per square mile for Caltrans.
[46] Table has been simplified to show default watershed wide allocations for permittees only.
[47] Year of implementation subsequent to the two-year baseline monitoring program.
[48] A review of the current target will be ~~allowed~~ undertaken once a reduction of 50% has been achieved and sustained.
[49] ~~A review of the current target will be allowed undertaken once a reduction of 50% has been achieved and sustained.~~

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Year Eight	9,824.9 or 20% of the baseline load
Year Nine	7 4,912.5 or 10% of the baseline load
Year Ten	0 or 0% of the baseline load

VII. Baseline Monitoring

The goal of the Baseline Monitoring Program is to collect representative data from across the watershed that can be used to refine the default Waste Load Allocations. Two Baseline Monitoring Strategies are outlined herein. The first is the program presented in the March 17, 2000, draft document. The second is an Alternative Baseline Monitoring Program based on a plan presented by the Los Angeles County, Department of Public Works, in a letter dated August 30, 2000. Baseline monitoring will be required via Section 13267 of the Porter-Cologne Water Quality Control Act (hereinafter referred to as "Porter-Cologne").

A number of permittees objected to the Baseline Monitoring Plan as presented in the March 17, 2000, Draft TMDL. Most of the objections were based on the cost of employing full-capture monitoring systems across 10% of the watershed. In addition, finding a watershed that drains a single land use also was problematic. In an effort to arrive at a less costly plan that would still provide representative data sufficient for use in deriving Baseline Waste Load Allocations, the Los Angeles County Department of Public Works convened a committee of the municipal permittees to evaluate alternative strategies. Regional Board staff met with the committee on nine occasions to establish the minimum requirements for an Alternative Baseline Monitoring Plan and to review various strategies. The minimum requirements established were:

- The plan would provide representative data from across the watershed.
- The plan would provide data in units that were easily ~~reproduceable~~ reproducible and would be comparable with data to be collected during the Implementation Phase (i.e., we would be comparing apples with apples).
- The permittees agreed that Baseline Waste Load Allocations would be derived from data generated from the plan.

One issue of concern was whether representative data could be collected if rainfall was below normal during the Baseline Monitoring period. Staff has addressed this concern by specifying that the Permittees may elect to continue the Baseline Monitoring for an additional two years. However, the Implementation Schedule will not be delayed as a result of the extended Baseline Monitoring.

A. Land Use Areas to be Monitored

Monitoring data will be used to establish specific trash generation rates per land use. Thus, all monitoring will be designed according to land use. Some of the land uses will be monitored by the Los Angeles County Department of Public Works (LACDPW), possibly in association with the cities located on the Los Angeles River watershed, while other land uses

which are outside the jurisdiction of the municipalities, such as airports, will be monitored using similar methods by the appropriate permittees, and the resulting baseline monitoring results will then be applied as these entities are permitted under EPA Phase II Storm Water regulations. City and County streets are included in each land use as they are monitored.

The land use categories that will be monitored by the LACDPW baseline monitoring group (in order to determine land use based generation rates) are:

- High density residential,
- Low density residential,
- Commercial and services,
- Industrial, and
- Open space and recreation.

Certain land uses will be exempt from monitoring:

- public facilities,
- mixed urban,
- agriculture, and
- water.

Public facilities (except educational institutions) will not be monitored because their diversity makes it difficult to obtain a representative generation rate. Thus, their generation rate will be assumed to be the highest between residential, commercial and industrial.

Mixed urban will not be monitored, instead the generation rate for mixed urban will again be assumed to be the highest between residential, commercial and industrial.

Agricultural land uses will be exempt from monitoring because they represent such a small percentage of the total watershed. The assigned generation rate will be that of the geographically closest land use.

Water will be exempt from monitoring because it is not considered a generator of trash.

Transportation land use, as defined by the Regional Board, includes airports, railroads, freeways and major roads (that meet the minimum mapping resolution of 2.5 acres), park and ride lots, bus terminals and yards, truck terminals, harbor facilities, mixed transportation and mixed transportation and utilities. Of that land use, what is under Caltrans' jurisdiction will be covered under Caltrans' permit. Caltrans will be required to submit a monitoring plan for that land use, and will be assigned a Waste Load Allocation as well. Major boulevards that are currently under Caltrans' jurisdiction, but are affected by trash generated on municipal sites, such as Santa Monica Boulevard, will be addressed by the cities concerned. Baseline monitoring for airports will be done separately and airports will be permitted separately, so the Regional Board will require that the Burbank-Glendale-Pasadena airport submit a separate monitoring program.

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Under EPA Phase II of the Storm Water Regulations, separate permits will be written for state and federal facilities. Thus, public educational institutions and military installations will be covered under separate permits under Phase II. Again, these entities covered under separate permits will have to conduct baseline monitoring as well in order to arrive at a trash generation factor. Private education facilities, however, are under cities' jurisdiction and are part of the city. Thus, private educational institutions will be assigned the rate of the geographically closest land use.

Each of the permittees and co-permittees are responsible for monitoring land uses within their jurisdiction. However, monitoring responsibilities may be delegated to a third-party monitoring entity such as LACDPW, or other permittees or co-permittees as appropriate.

B. General Baseline Monitoring Plan Requirements

The following general requirements will apply during Baseline Monitoring, regardless of the monitoring plan employed.

- Monitoring Plan. The permittee will submit a monitoring plan with the proposed monitoring sites and at least two alternate monitoring locations for each site. The plan must include maps of the drainage and storm drain data for each proposed and alternate monitoring location. The monitoring plan(s) will be submitted to the Regional Board within 30 days after receipt of the Executive Officer's letter requesting such a plan. Such a request is authorized pursuant to Section 13267 of the Porter-Cologne. The Regional Board's Executive Officer will have full authority to review the monitoring plan(s), to modify the plan, to select among the alternate monitoring sites, and to approve or disapprove the plan(s).

- Jurisdiction. While each city, and Los Angeles County for non-incorporated areas, will receive an allocation based on the trash generation factors for its land uses, the areas not regulated under municipal or industrial storm water permits may be permitted separately. For this reason, each city must provide the Regional Board with a list of entities located within their municipal boundaries that are outside of their jurisdiction including state or federal lands and facilities, within 120 days of the effective date of this TMDL. The Regional Board will review the lists of state and federal entities and issue permits as warranted.

- Data Collection. Baseline data will be collected over a period of at least two years. Although the amount of trash deposited into the waterways through the conveyance of a storm drain is dependent on rainfall patterns, and larger amounts of trash are typically deposited into the channels as a result of the first storm of the season, monitoring will include dates in both the rainy season and the dry season. The Los Angeles County Department of Public Works defines the rainy season as spanning from October 15 to April 15. In the event that precipitation during the two years of Baseline Monitoring is below average, the permittees may elect to

extend the monitoring plan for another two years. However, an extension of the Baseline Monitoring program, shall not cause a delay in the commencement of the Implementation Plan as described in Section VIII.

- Unit of Measure. Data will be reported in a single unit of measure that is reproduceable and measures the amount of trash, irrespective of water content (e.g., compacted volume based on a standardized compaction rate, dry weight, etc.). The permittees may select the unit, but all permittees must use the same unit of measure. The unit of measure used during Baseline Monitoring also will be used during Implementation for determining compliance with Waste Load Allocations.

- Sampling Frequency. During wet weather, all sampling devices will be emptied within 72 hours of every precipitation event of 0.25 inch. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation.

- Vegetation. The permittees may exclude vegetation from their reported discharge except where there is evidence that the vegetation is the result of the illegal discharge of yard waste. However, all monitoring data must be reported uniformly (either with or without vegetation). If the permittees include vegetation in the discharges reported during Baseline Monitoring, they will be obligated to include natural vegetation in their reports of discharge during Implementation.

- Disposal of Collected Trash. Trash captured during the monitoring program must be disposed of in accordance with all applicable laws and regulations.

A summary of the requirements and milestone dates related to the Baseline Monitoring Program are summarized in Table 6.

Table 6. Baseline Monitoring Plan Due Dates.

30 days after receipt of the Executive Officer's request as authorized by Section 13267 of Porter-Cologne.	Submit baseline monitoring plan(s).
120 days after receipt of the Executive Officer's request as authorized by Section 13267 of Porter-Cologne.	List facilities that are outside of the permittee's jurisdiction but drain to a portion of the the permittee's storm drain system, which discharges to the Los Angeles River.
First 2 years after approval of this amendment; to be extended to 4 years at the option of the Permittees	Collect Baseline Data
72 hours after each rain event	Clean out and measure trash retained
Every 3 months during dry weather	Clean out and measure trash retained

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C. Baseline Monitoring Plan

During the first year of baseline monitoring, permittees or groups thereof will capture and quantify trash from an area of no less than 10% of the total land area over which they have jurisdiction and that drains to the Los Angeles River. The monitoring areas will also represent 10% of every land use the group has jurisdiction over. If storm drain configuration vs. land use make the representation of 10% of a land use unfeasible, the permittees or groups thereof can choose areas that their land uses as representatively as possible, as long as the extent of the surface being monitored represents 10%.

For the purposes of developing monitoring data for the establishment of Waste Load Allocations, the Regional Board will accept "full capture" as defined in Section II herein. This level of treatment will capture 100% of the trash mobilized by a one-year storm and nearly all of the trash generated from a more intense storm. This is because most pollutants occur in the first flush of the runoff and would thus be intercepted by a structural treatment device prior to the crest of the runoff flow resulting from a more intense storm.

D. Alternative Baseline Monitoring Plan

For each land use monitored, a minimum of ten representative sites will be sampled. For each sampling site, a minimum of five catch basins will be fitted with inserts, for a total of not less than 50 catch basin inserts per land use monitored. The existing litter removal practices that are employed by the cities will remain in place, so that baseline monitoring will evaluate how much trash is washed into the system under current practices.

In addition, the Regional Board will require a structural, full capture ~~device~~ system downstream of at least one sampling site for each land use monitored. For this sampling site, all of the catch basins that are upstream of the full capture-monitoring device must be fitted with inserts. This configuration will provide information on the relative effectiveness of the catch basin inserts as opposed to the full capture systems in varying land uses and under varying weather conditions.

VIII. Implementation and Compliance

As required by the Clean Water Act, discharges of pollutants to surface waters from storm water are prohibited, unless the discharges are in compliance with a National Pollutant Discharge Elimination System (NPDES) Permit. Discharge of trash to the Los Angeles River will be regulated via the Municipal NPDES Storm Water Permits and the Caltrans stormwater permit. In addition, USEPA Phase II stormwater permits, general permits, and industrial permits may also be used to regulate discharges of trash to the river.

In June 1990, the first Municipal NPDES Storm Water Permit was issued jointly to Los Angeles County and 84 cities as co-permittees. A separate NPDES Storm Water Permit was issued to the City of Long Beach on June 30, 1999. Storm water municipal permits will be one of the implementation tools of this Trash TMDL, and will include the allocations as

effluent limits or other permit requirements. Thus, future storm water permits will be modified to incorporate the Waste Load Allocations and to address monitoring and implementation of this TMDL.

A. Compliance Determination

During the Baseline Monitoring Program that occurs prior to the commencement of the Implementation Phase, cities will be deemed in compliance with the Waste Load Allocations provided that all of the trash collected during the monitoring program is disposed of in compliance with all applicable regulations. Thereafter, for those areas not covered by Full Capture Systems, compliance with the Waste Load Allocations will be calculated as a running three-year average. Other measures of compliance will relate to the implementation and reporting as required under the approved Baseline Monitoring Program.

The first compliance point during the Implementation Phase will be September 30, 2006. Compliance will be evaluated based on the total load discharged to the river during the period October 1, 2003 through September 30, 2006, divided by three. Compliance thereafter will be evaluated at the end of each successive storm season and will be based on a rolling three-year average (see Table 7). This method will provide allowances for variability due to rainfall. Exceedance of the 3-year rolling average discharge will subject the permittee to enforcement action. A summary of the schedule for determining compliance with the Waste Load Allocations is presented in Table 7.

The final waste load allocation will be considered complied with when the Executive Officer finds that: ~~Structural~~ devices or systems and/or institutional controls have removed effectively 100% of the trash from the storm drain system discharge to Los Angeles River or its listed tributaries.

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Table 7. Compliance Schedule.[50]

(Default waste load allocations expressed as cubic feet of uncompressed trash and % reduction.)

Year	Baseline Monitoring/ Implementation	Waste Load Allocation	Compliance Point
1	Baseline Monitoring	No allocation specified. Trash will be reduced by levels collected during the baseline monitoring program.	Achieved through timely compliance with baseline monitoring program.
2	Baseline Monitoring	No allocation specified. Trash will be reduced by levels collected during the baseline monitoring program.	Achieved through timely compliance with baseline monitoring program.
3 10/1/03-- 9/30/04	Baseline Monitoring (optional)/ Implementation: Year 1	90% (44,212.1 for the Municipal permittees, 7150.0 for Caltrans)	No compliance point (target of 90%).
4 10/1/04-- 9/30/05	Baseline Monitoring (optional)/ Implementation: Year 2.	80% (39,299.7 for the Municipal permittees, 6,355.6 for Caltrans)	No compliance point (target of 80%).
5 10/1/05-- 9/30/06	Implementation: Year 3	70% (34,387.2 for the Municipal permittees, 5,561.1 for Caltrans)	Compliance is 80% of the baseline load calculated as a rolling 3-year annual average (39,299.7 for the Municipal permittees, 6,355.6 for Caltrans).
6 10/1/06-- 9/30/07	Implementation: Year 4	60% (29,474.8 for the Municipal permittees, 4,766.7 for Caltrans)	70% of the baseline load the baseline load calculated as a rolling 3-year annual average (34,387.2 for the Municipal permittees, 5,561.1 for Caltrans).
7 10/1/07-- 9/30/08	Implementation: Year 5	50% (24,562.3 for the Municipal permittees, 3,972.2 for Caltrans)[51]	60% of the baseline load calculated as a rolling 3-year annual average (29,474.8 for the Municipal permittees, 4,766.7 for Caltrans).
8 10/1/08-- 9/30/09	Implementation: Year 6	40% (19,649.8 for the Municipal permittees, 3,177.8 for Caltrans)	50% of the baseline load calculated as a rolling 3-year annual average (24,562.3 for the Municipal permittees, 3,972.2 for Caltrans).
9 10/1/09-- 9/30/10	Implementation: Year 7	30% (14,737.4 for the Municipal permittees, 2,383.3 for Caltrans)	40% of the baseline load calculated as a rolling 3-year annual average (19,649.8 for the Municipal permittees, 3177.8 for Caltrans).
10 10/1/10-- 9/30/11	Implementation: Year 8	20% (9,824.9 for the Municipal permittees, 1,588.9 for Caltrans)	30% of the baseline load calculated as a rolling 3-year annual average (14,737.4 for the Municipal permittees , 2,383.3 for Caltrans).
11 10/1/11-- 9/30/12	Implementation: Year 9[52]	10% (4,912.5 for the Municipal permittees, 794.4 for Caltrans)	20% of the baseline load calculated as a rolling 3-year annual average (9,824.9 for the Municipal permittees, 1,588.9 for Caltrans).
12 10/1/12-- 9/30/13	Implementation: Year 10[53]	0 or 0 % of the baseline load.	10% of the baseline load as determined calculated as a rolling 3-year annual average (4,912.5) for the Municipal permittees, 794.4 for Caltrans).

[50] Notwithstanding the zero trash target and the ~~trash interim milestones~~ default waste load allocations shown ~~above~~below in Table 7, a Permittee will be deemed in compliance with the Trash TMDL in areas serviced by a Full Capture Systems within the Los Angeles River Watershed.

[51] As specified in Section VI.A., the Regional Board will review and reconsider the final Waste Load Allocations~~A review of the current target will be allowed~~ once a reduction of -50% has been achieved and sustained.

13 10/1/13-- 9/30/14	Implementation: Year 11	0 or 0 % of the baseline load.	3.3 % of the baseline load as determined calculated as a rolling 3-year annual average (1,621.1 for the Municipal permittees, 262.2 for Caltrans) .
14 10/1/14-- 9/30/15	Implementation: Year 12	0 or 0 % of the baseline load.	0 or 0 % of the baseline load.

B. Compliance Strategies

Permittees may employ a variety of strategies to meet the progressive reductions in their Waste Load Allocations. These strategies may be broadly classified as either:

- ~~End-of-pipe f~~Full capture ~~structural controls devices~~ systems, or
- Partial capture control systems, and/or
- Institutional controls.

A permittee could comply with the successive reduction in Waste Load Allocations by installing ~~f~~Full ~~c~~Capture ~~devices~~ Systems progressively throughout the watershed until all of the outlets to the Los Angeles River system are covered. This approach may be best suited for open space areas, where low levels of trash may accumulate over large vegetated drainage areas. However, in more urban settings, institutional controls including enforcement of litter laws and more frequent street sweeping may be preferred.

It is to be noted that ordinances that prohibit litter are already in place in most cities. For example, the Los Angeles City Code of Regulations recognizes that trash becomes a pollutant in the storm drain system when exposed to storm water or any runoff and prohibits the disposal of trash on public land:

> No person shall throw, deposit, leave, cause or permit to be thrown, deposited, placed, or left, any refuse, rubbish, garbage, or other discarded or abandoned objects, articles, and accumulations, in or upon any street, gutter, alley, sidewalk, storm drain, inlet, catch basin, conduit or other drainage structures, business place, or upon any public or private lot of land in the City so that such materials, when exposed to storm water or any runoff, become a pollutant in the storm drain system. (City Code of Regulations, §64.70.02.C.1(a).)

Institutional controls provide several advantages over structural full capture systems. Foremost, institutional controls offer other societal benefits associated with reducing litter in our city streets, parks and other public areas. The capital investment required to implement institutional controls is generally less than for full-capture systems. However, the labor costs associated with institutional controls may be higher, and institutional controls may be more costly in the long-term.

There have been a number of discussions as to how permittees may best implement the gradual reductions required by this Trash TMDL, and as to the types of devices or best management practices they should elect. The permittees will be free to implement trash reduction in any manner that they choose.

A discussion of the means for determining compliance for various implementation strategies is presented in the following subsections.

1. Full Capture ~~Treatment~~ Systems

The amount of trash discharged to the river by an area serviced by a ~~f~~Full ~~c~~Capture ~~s~~System will be considered to be in compliance with the final Waste Load Allocation for the drainage area, provided that the ~~full capture systems~~ Full Capture Systems are adequately sized, maintained and maintenance records are available for inspection by the Regional Board. Compliance with the final Waste Load Allocation will be assumed wherever Full Capture Systems are installed in the Los Angeles River Watershed. The installation of a Full Capture System by a discharger does not establish any presumption that the system is adequately sized, and the Regional Board reserves the right to review sizing and other data in the future to validate that a system satisfies the criteria established in this TMDL for a Full Capture System~~, for full capture systems with a design treatment capacity of not less than the peak flow resulting from a one year storm (determined to be 0.6 inch of rain per hour for the Los Angeles River Watershed)~~.

~~The permittees may employ devices or systems other than the vortex separation system to meet the final Waste Load Allocations. However, such systems must be approved by the Executive Officer to attain removal credit. Before approving a full capture system, the Executive Officer must make the following findings:~~

~~? The device or system will capture all particles retained by a 5 mm mesh screen from all runoff generated from a one year storm (determined to be 0.6 inch per hour) and~~

~~? The device or system is designed to prevent plugging or blockage of the screening module.~~

2. Partial Capture Treatment Systems and Institutional Controls

Measuring the effectiveness of partial-capture systems and institutional controls is more complicated. The discharge resulting from an area addressed by partial capture and/or institutional controls will be estimated using a mass balance approach, based on the daily generation rate (DGR) for the specific area. [Note: The DGR should not be confused with the trash generation rates obtained during baseline monitoring. The baseline monitoring program is designed to obtain "typical" trash generation rates for a given land use. Those values are then used to calculate a Permittee's baseline load allocation. The DGR is the average amount of trash deposited within a specified drainage area over a 24-hour period. The DGR will be used in a mass balance equation to estimate the amount of trash discharged during a rain event.] (See Example 1.)

Annual re-calculation of the DGR will serve as a measure of the effectiveness of source reduction measures including public education, enforcement of litter laws, etc. Source

reduction measures will be accredited based on an annual recalculation of the DGR to allow for progressive improvement and/or to account for backsliding.

The DGR will be determined from direct measurement of trash deposited in the drainage area during the month of July[54], and re-calculated every year thereafter. July was assumed to be a month characterized by high outdoor activity when trash is most likely to be deposited on the ground. The recommended method for measuring trash during this time period is to close the catch basins in a manner that prevents trash from being swept into the catch basins and then to collect trash on the ground via street sweeping, manual pickup, or other comparable means. The DGR will be calculated as the total amount of trash collected during the month divided by 31 (the number of days in the month).

Accounting of DGR and trash removal via street sweeping, catch basin clean outs, etc. will be tracked in a central spreadsheet or database to facilitate the calculation of discharge for each rain event. The spreadsheet and/or database will be available to the Regional Board for inspection during normal working hours. The database/spreadsheet system will allow for the computation of calculated discharges and can be coordinated with enforcement. This database will be developed by cities or groups of cities.

The Executive Officer may approve alternative compliance monitoring programs other than those described above, upon finding that the program will provide a scientifically-based estimate of the amount of trash discharged from the storm drain system.

3. Examples of Implementation Strategies

Two example control strategies for municipal stormwater discharges are described in this section.

Example 1.

A permittee installs catch basin inserts and "dry weather trash door" devices of the type that maintains the catch basin shut during dry weather, and implements regular street sweeping. After each storm of 0.25 inch or greater, the catch basin inserts are emptied. In this case, the DGR was calculated during the month of July as follows:[55]

DGR = (Volume of trash collected via street sweeping during the month of Julyg / 31 days.)

[54] Provided no special events are scheduled that may affect the ~~representativity~~ representative nature of that month.

[55] In the event that trash generation rates differ between weekday and weekends, a distinction in the DGRs may be warranted.

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The stormwater discharge for a given rain event then would be calculated by multiplying the number of days since the last street sweeping by the DGR and subtracting the volume of trash recovered in the catch basin inserts.

Stormwater Discharge = [(Days since last street sweeping) (DGR)] –
[Volume of trash recovered from catch basin inserts]

Example 2.

City X is comprised of three land use areas (Land Uses A, B, and C). The city has adopted an implementation strategy using a combination of full capture structural and institutional controls. As of year five, the city has installed full capture ~~structural controls~~ systems in Area A and institutional controls in Area B. City X has not yet taken any action to control trash in Area C. The watershed-wide baseline Waste Load Allocation have been established at 100 lbs per square mile for Land Uses A and B, and at 200 lbs per square mile for land use C. The full capture ~~treatment~~ system is assumed to meet the final Waste Load Allocation. The city's mass balance calculations show that 100 lbs of trash was discharged from Land Use Area B. The discharge from Land Use Area C is assumed to be the base load allocation since no controls were implemented and the daily generation rate has not been established. As shown in Figure ~~E~~D, City X's discharge for the year was 1,100 lbs, and the 3-year rolling average discharge was less than the 5-Year Waste Load Allocation. Therefore, the city was found to be in compliance with its discharge loading unit.

Land Use A: 10 sq miles treated by a full capture system Baseline Waste Load Allocation: 100 lbs/sq mi/year	Land Use B: 5 sq miles treated via institutional controls and partial capture Baseline Waste Load Allocation: 100 lbs/sq mi/year
	Land Use C: 5 sq miles - No treatment applied Baseline Waste Load Allocation: 200 lbs/sq mi/year

Baseline Waste Load Allocation for each land use in City X:
A=(100 lbs/sq mi/yr) (10 sq mi)=1000 lbs
B=(100 lbs/sq mi/yr) (5 sq mi)=500 lbs
C=(200 lbs/sq mi/yr) (5 sq mi)=1000 lbs
Total baseline Waste Load Allocation = 2,500 lbs
Year 5 Waste Load Allocation = 2,000 lbs*
*An 80% reduction based on a 3-year rolling average.

Previous Years' Discharge:
Year 3 = 2,400 lbs
Year 4 = 2,000 lbs

Trash Discharge for Year 5:
A=0
B=100 lbs (Determined by mass balance)
C=1,000 lbs (No reduction)
Total Discharge (Year 5) = 1,100 lbs

Three-Year Rolling Average Discharge
Year 3 = 2,400 lbs
Year 4 = 2,000 lbs
Year 5 = 1,100 lbs
3-year rolling average discharge = 1,833 lbs

Compliance is achieved: Discharge (1,833 lbs) < Waste Load Allocation (2,000 lbs).

Figure ~~D~~E. Example 2, City X After Year 5.

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A summary of implementation strategies and compliance assurance methods is provided in Table 8.

Table 8. Summary of Possible Trash Reduction Implementation Measures.

Treatment Applied	Measure of Effectiveness	Compliance Determination
Source Control: Public education, enforcement of litter laws, container redemption programs, etc.	Daily Generation Rate: Amount of trash collected via street sweeping and or from catch basin inserts divided by the number of days provides a measure of source control measure effectiveness	DGR used in mass balance calculation of discharge: Discharge = [DGR (x) Days since last street sweeping] (-) [Catch basin cleanouts]
Partial Capture: (Catchbasin inserts, trash excluder doors, etc.)	Mass Balance: Discharge = [DGR (x) Days since last street sweeping] (-) [Catch basin cleanouts] OR Downstream Monitoring w/ Full Capture System	Discharge based on mass balance calculation: Discharge = [DGR (x) Days since last street sweeping] (-) [Catch basin cleanouts] OR Monitoring Results
Full Capture ~~Device~~System: Any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak ~~Capture 100% of particles retained by a 5 mm mesh screen. from the~~ flow rate (Q) resulting from ~~0.6 inches rain/hr~~ a one-year, one-hour storm in a sub drainage area. Rational equation is used to compute the peak flow rate: $Q = C \times I \times A$, where Q = design flow rate (cubic feet per second, cfs); C = runoff coefficient (dimensionless); I = design rainfall	Effectiveness verified by literature	Final Waste Load Allocation Achieved: Provided system is adequately sized, maintained and maintenance records are available for Regional Board inspection

intensity (inches per hour, as determined per the rainfall isohyetal map in Figure A),* and A= subdrainage area (acres)		

* The isohyetal map may be updated annually by the Los Angeles County hydrologist to reflect additional rain data gathered during the previous year. Annual updates published by the Los Angeles County Department of Public Works are prospectively incorporated by reference into this TMDL and accompanying Basin Plan amendment.

IX. Cost Considerations

The Porter-Cologne Section 13241(d), requires staff to "consider costs" associated with the establishment of water quality objectives. The TMDL does not establish water quality objectives, but is merely a plan for achieving ~~the~~ existing water quality objectives. Therefore, cost considerations required in Section 13241 are not required for this TMDL.

The purpose of this cost analysis is to provide the Regional Board with information concerning the potential cost of implementing this TMDL and to addresses concerns about costs that have been raised by stakeholders. This section takes into account a reasonable range of economic factors in fulfillment of the applicable provisions of the California Environmental Quality Act (Public Resources Code Section 21159.)

An evaluation of the costs of implementing this Trash TMDL amounts to evaluating the costs of preventing trash from getting from the storm drains to the river. This brief report gives a summary overview of the costs associated with the most likely ways the permittees will achieve the required reduction in discharges to the storm drain system. Such an analysis would be incomplete if it failed to consider the existing cost that presently is transferred to "innocent" downstream communities. Approximately 1,620 tons of litter are estimated to be discharged to the Los Angeles River annually, requiring costly removal measures. In addition there is an unquantified cost to aquatic life within the River and the Ocean.

The Regional Board has some information about various facets of the costs of preventing trash from getting into the storm drains. However, exact information on infrastructure currently in place and current structural projects being undertaken is currently not available to the Board. Furthermore, lack of complete information on existing costs precludes a comparison between costs of compliance with existing costs.

A. Current Cost of Trash Clean-Ups

Cleaning up the river, its tributaries and the beaches is a costly endeavor. The Los Angeles County Department of Public Works contracts out the cleaning of over 75,000 catchments (catch basins) for a total cost of slightly over $1 million per year, billed to 42 municipalities. Each catch basin is cleaned once a year before the rainy season, except for 1,700 priority catch basins that fill faster and have to be cleaned out more frequently.

Over 4,000 tons of trash are collected from Los Angeles County beaches annually, at a cost of $3.6 million to Santa Monica Bay communities in fiscal year 1988-89 alone. In 1994 the annual cost to clean the 31 miles of beaches (19 beaches) along Los Angeles County was $4,157,388.

Long Beach bears a large part of the financial burden for cleaning up trash from the Los Angeles River watershed, which is disproportionate to the amount actually produced by this city.[56] The costs of gathering and disposing of trash at the mouth of the Los Angeles River during the rainy season are listed on Table 9.

Table 9. Storm Debris Summary for Long Beach: Billings.[57]

	First Quarter (July-Sept.)	Second Quarter (Oct.-Dec.)	Third Quarter (Jan.-March)	Fourth Quarter (April-June)	Total
1995-96	$44,152[58]	$130,986	$224,023	$126,416	$525,577
1996-97	$102,055	$187,344	$88,180	$122,416	$499,995
1997-98	$158,612	$268,594	$282,988	$169,340	$879,534
1998-99	$247,986	$198,147	$185,179	$246,950	$878,262

B. Cost of Implementing Trash TMDL

The cost of implementing this TMDL will range widely, depending on the method that the Permittees select to meet the Waste Load Allocations. Arguably, enforcement of existing litter ordinances could be used to achieve the final Waste Load Allocations at minimal or no additional cost. The most costly approach in the short-term is the installation of full-capture ~~structural treatment devices~~ systems on all discharges to the river. However, in the long term, this approach would result in lower labor costs and may be less expensive than some other approaches.

Most of the information presented herein consists of catch basin inserts, structural vortex separation devices, and end of pipe nets. We are considering the costs associated with preventing the disposal of trash into the storm drain system over the whole watershed. For all calculations, the urbanized portions of the Los Angeles River watershed is assumed to span an area of 574 square miles[59].

Regardless of the method(s) used, costs associated with the gradual decrease of the amount of trash in the waterways, and the maintenance of the Los Angeles River and its tributaries free of trash include monitoring and implementation costs. Any device chosen for monitoring trash or removing trash from storm drain, regardless of its installation costs, will also be associated with labor costs.

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[56] However, the cost to the City of Long Beach is offset somewhat by an annual reimbursement from Los Angeles County in the amount of $500,000. (Written comment from The City of Los Angeles, June 23, 2000.)
[57] Memorandum from Geoffrey Hall; City of Long Beach; Parks and Recreation.
[58] 9/95 only.
[59] Although the urbanized portion of the watershed is 584 square miles, about 10 square miles are covered with water.

We are looking at several methods separately, from retrofitting all the catch basins in the urbanized portion of the watershed, to using solely structural full capture methods.

1. Catch Basin Inserts

At a cost of around $800 per insert, catch basin inserts are the least expensive structural treatment device in the short term. However, because they are not a full capture method, they must be monitored frequently and must be used in conjunction with frequent street sweeping. We assumed that approximately 150,000 catch basins would have to be retrofitted with inserts to cover 574 square miles of the watershed. A summary of estimated costs for using catch basin inserts across the entire watershed is provided in Table 10.

Table 10. Costs of retrofitting the urban portion of the watershed with catch basin inserts. (amounts in millions)

Number of years into the program	1	2	3	4	5	6	7	8	9	10	11	12
Operation & Maintenance costs (yearly, cumulative)	$6	$12	$18	$24	$30	$36	$42	$48	$54	$60	$60	$60
Capital costs (yearly)	$12	$12	$12	$12	$12	$12	$12	$12	$12	$12	$00	$00
Costs per year (servicing + capital costs)	$18	$24	$30	$36	$42	$48	$54	$60	$66	$72	$60	$60

The total capital costs required for retrofitting the whole watershed would be $120 million, while the yearly maintenance costs after full implementation would be $60 million.

2. Full Capture Vortex Separation Systems (VSS)

Permanent structural devices can be used to trap gross pollutants for monitoring purposes as well as implementation. Among those "litter control devices" are structural vortex separation systems (VSS), floating debris traps, end-of-pipe nets, and trash racks. VSS units appear to be among the best alternatives to evaluate or remove the amount of trash generated throughout a particular drainage area.

An ideal way to capture trash deposited into a storm drain system would be to install a VSS unit. This device diverts the incoming flow of storm water and pollutants into a pollutant separation and containment chamber. Solids within the separation chamber are kept in continuous motion, and are prevented from blocking the screen so that water can pass through the screen and flow downstream. This is a permanent device that can be retrofitted for oil separation as well. Studies have shown that VSS systems remove virtually all of the trash contained in the treated water. The cost of installing a VSS is assumed to be high, so limited funds will place a cap on the number of units which can be installed during any single fiscal year.

Table 11 shows estimated costs associated with retrofitting the watershed with low capacity vortex separation systems progressively over ten years.

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Table 11. Costs Associated with Low Capacity Vortex Gross Pollutant Separation Systems.
(amounts in millions)

Number of years into the program	1	2	3	4	5	6	7	8	9	10	11	12
Operations and Maintenance (yearly, cumulative)	$14.8	$29.5	$44.3	59.1	$73.9	$88.6	$103.4	118.2	$132.9	$147.7	$147.7	$147.7
Capital costs (yearly)	$94.5	$94.5	$94.5	$94.5	$94.5	$94.5	$94.5	$94.5	$94.5	$94.5	$0.0	$0.0
Annual costs per year (capital costs + Operation and Maintenance)	$109.3	$124.1	$138.8	$153.6	$168.4	$183.2	$197.9	$212.7	$227.5	$242.2	$147.7	$147.7

Similarly, Table 12 provides estimates of costs associated with the installation of large capacity VSS systems.

Table 12. Costs Associated with Large Capacity Vortex Gross Pollutant Separation Systems. (amounts in millions)

Number of years into the program	1	2	3	4	5	6	7	8	9	10	11	12
Operations and Maintenance (yearly, cumulative)	$0.7	$1.5	$2.2	$3.0	$3.7	$4.4	$5.2	$5.9	$6.6	$7.4	$7.4	$7.4
Capital costs (yearly)	$33.2	$33.2	$33.2	$33.2	$33.2	$33.2	$33.2	$33.2	$33.2	$33.2	$0.0	$0.0
Annual costs per year (capital costs + Operation and Maintenance)	$34.0	$34.7	$35.5	$36.2	$36.9	$37.7	$38.4	$39.1	$39.9	$40.6	$7.4	$7.4

As shown in Table 13, outfitting a large drainage with a number of large VSS systems may be less costly than using a larger number of small VSS systems. Maintenance costs decrease dramatically as the size of the system increases. Topographical and geotechnical considerations also should come into play when choosing VSS systems or other structural systems or devices.

Table 13. Costs Associated with VSS.

Capacity	Acres (average)	Number of devices needed on urban portion of watershed	Capital costs	Yearly costs for servicing all devices
1 to 2 cfs	5	73,856	$945,356,800	$147,712,000
6 to 8 cfs	30	12,309	$553,920,000	$24,618,000
19 to 24 cfs	100	3,693	$332,352,000	$7,386,000

For this table, we have assumed the cost of yearly servicing of a VSS unit to be $2000 per year.

3. End of Pipe Nets

"Release nets" are a relatively economical way to monitor trash loads from municipal drainage systems. However, in general, they can only be used to monitor or intercept trash at the end of a pipe and are considered to be partial capture systems, as the nets are usually sized at a 1/2" to 1" mesh. These nets are attached to the end of pipe systems. The nets remain in place on the end of the drains until water levels upstream of the net rise sufficiently to release a catch that holds the net in place. The water level may rise from either the bag being too full to allow sufficient water to pass, or from a disturbance during very high flows. When the nets release they are attached to the side of the pipe by a steel cable and as they are washed downstream (a yard or so) are tethered off so that no pollutants from within the bags are washed out.

Preliminary observations suggest that the nets rarely fill sufficiently to cause the bags to release. And therefore, if they are cleaned after a storm event, the entire quantity of material is captured and can be measured for monitoring purposes using two bags per trap. This makes it easy to replace the full or partially full bag with an empty one, so that the first bag can be taken to a laboratory for analysis without manual handling of the material it contains.

The nets are valid devices because of the ease of maintenance and also because the devices can be relocated after a set period at one location (provided the pipe diameters are the same). With limited funding, installation could be spread over several land uses and lead to valuable monitoring results.

Because the devices require attachment to the end of a pipe, this can severely reduce the number of locations within a drainage system that can be monitored. In addition, these nets cannot be installed on very large channels (7 feet in diameter is the maximum), while the largest outlets into the Los Angeles River are 10 feet in diameter. Thus costs shown in Table 14 are given per pipe, and no drainage coverage is given.

Table 14. Sample Costs for End of Pipe Nets.

Pipe Size	Release nets (cost estimates)
End of 3 ft pipe	$10,000
End of 4 ft pipe	$15,000
End of 5 ft pipe	$20,000
In 3 ft pipe network	$40,000
In 4 ft pipe network	$60,000
In 5 ft pipe network	$80,000

4. Cost Comparison

A comparison of costs between strategies based on catch basin inserts (CBIs), low capacity VSS, high capacity VSS systems, and enforcement of litter laws is presented in Table 15.

Table 15. Cost Comparison (amounts in millions)

	CBI only	Low capacity VSS Units	Large capacity VSS Units	Enforcement of Litter Laws[60]
Cumulative capital costs over 10 years	$120	$945	$332	<$1
Cumulative maintenance and capital costs after 10 years	$450	$1,758	$373	<$1
Annual servicing costs after full implementation	$60	$148	$7.4	<$1

Trash abatement in the Los Angeles River system may be expensive; the costs will differ depending on the options selected by the permittees.

[60] Revenues from fines assessed to offset increased law enforcement cost. The cost of a database system used to calculate trash discharges estimated to be less than $250,000.

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Appendix I

This table shows the square mileage for "high density residential", "low density residential", "commercial and services", "industrial", "public facilities", "educational institutions", "military institutions", "transportation and utilities", "mixed urban", "open space and recreation", "agriculture" and "water" land uses for every city and incorporated areas in the watershed. The "water" land use of water is not in itself a source of trash, and will therefore not receive an allocation. For cities that are only partially located on the watershed, the square mileage indicated is for the portion located in the watershed.

SQUARE MILEAGE ESTIMATED FOR EACH LAND USE FOR CITIES IN THE WATERSHED, AND FOR UNINCORPORATED AREAS.

City	High Density Residential	Low Density Residential	Commercial Services	Industrial	Public Facilities	Educational Institutions	Military Institutions	Transportation	Mixed Urban	Open Space & Recreation	Agriculture	Water	Total for all classes
Alhambra	5.11	0.03	0.84	0.33	0.24	0.29	0.00	0.39	0.04	0.35	0.00	0.00	7.62
Arcadia	6.56	0.98	1.18	0.20	0.22	0.22	0.00	0.22	0.11	1.01	0.00	0.17	10.89
Bell	1.20	0.00	0.28	0.44	0.20	0.06	0.04	0.22	0.05	0.01	0.00	0.25	2.74
Bell Gardens	1.37	0.00	0.31	0.25	0.04	0.16	0.00	0.03	0.04	0.11	0.10	0.02	2.48
Bradbury	0.01	0.31	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.27	0.17	0.00	0.82
Burbank	7.97	3.69	1.31	1.59	0.33	0.34	0.01	1.20	0.26	0.58	0.01	0.06	17.36
Calabasas	0.94	0.08	0.14	0.01	0.01	0.12	0.00	0.03	0.22	4.66	0.01	0.03	6.27
Carson	0.00	0.00	0.00	0.26	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.01	0.30
Commerce	0.64	0.00	0.57	3.84	0.15	0.05	0.00	0.91	0.15	0.11	0.12	0.02	6.56
Compton	4.30	0.22	0.79	1.99	0.15	0.72	0.02	0.63	0.16	0.12	0.08	0.05	9.37
Cudahy	0.78	0.00	0.09	0.04	0.01	0.05	0.00	0.00	0.00	0.02	0.00	0.02	1.12
Downey	4.10	0.02	0.59	0.07	0.45	0.24	0.00	0.07	0.05	0.42	0.00	0.10	6.10
Duarte	0.64	0.00	0.15	0.13	0.24	0.05	0.00	0.08	0.06	0.67	0.00	0.01	2.04
El Monte	4.27	0.01	1.06	0.97	0.18	0.32	0.00	0.40	0.09	0.06	0.00	0.17	7.56
Glendale	12.69	6.74	1.86	0.87	1.00	0.38	0.01	0.57	0.22	6.05	0.03	0.13	30.65
Hidden Hills	0.02	1.14	0.00	0.00	0.00	0.00	0.00	0.01	0.03	0.25	0.01	0.00	1.47
Huntington Park	1.61	0.00	0.51	0.52	0.04	0.13	0.00	0.12	0.02	0.07	0.00	0.00	3.03
Irwindale	0.02	0.01	0.00	0.73	0.16	0.01	0.00	0.13	0.06	0.05	0.00	0.67	1.84

SQUARE MILEAGE ESTIMATED FOR EACH LAND USE FOR CITIES IN THE WATERSHED, AND FOR UNINCORPORATED AREAS, CONTINUED.

City	High Density Residential	Low Density Residential	Commercial Services	Industrial	Public Facilities	Educational Institutions	Military Institutions	Transportation	Mixed Urban	Open Space & Recreation	Agriculture	Water	Total for all classes
La Canada Flintridge	2.99	2.02	0.18	0.15	0.24	0.16	0.00	0.22	0.02	2.56	0.05	0.04	8.65
Lakewood	0.15	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.17
Long Beach	11.98	0.02	2.39	1.46	0.74	0.58	0.01	1.04	0.43	0.98	0.26	0.79	20.70
Los Angeles	134.12	13.04	16.84	18.69	8.45	7.97	0.13	11.66	4.28	66.02	3.07	5.06	290.43
Lynwood	3.00	0.00	0.51	0.44	0.10	0.20	0.00	0.48	0.06	0.07	0.00	0.00	4.86
Maywood	0.86	0.00	0.16	0.10	0.00	0.03	0.00	0.00	0.01	0.01	0.00	0.00	1.17
Monrovia	3.25	0.29	0.48	0.58	0.14	0.16	0.00	0.14	0.10	7.27	0.04	0.11	12.55
Montebello	3.82	0.00	0.68	1.64	0.35	0.36	0.00	0.29	0.18	0.62	0.15	0.20	8.36
Monterey Park	4.60	0.00	0.64	0.28	0.44	0.27	0.00	0.20	0.06	0.95	0.23	0.00	7.67
Paramount	1.30	0.00	0.17	0.95	0.07	0.10	0.00	0.25	0.08	0.07	0.15	0.12	3.26
Pasadena	11.50	1.70	2.24	0.52	0.90	0.96	0.02	0.91	0.10	4.02	0.12	0.25	23.22
Pico Rivera	1.03	0.00	0.23	0.51	0.05	0.03	0.00	0.10	0.03	0.10	0.01	0.91	3.00
Rosemead	3.32	0.00	0.73	0.13	0.14	0.26	0.00	0.17	0.08	0.15	0.15	0.01	5.14
San Fernando	1.43	0.00	0.41	0.28	0.09	0.10	0.00	0.01	0.01	0.04	0.00	0.04	2.42
San Gabriel	2.90	0.01	0.49	0.10	0.08	0.15	0.00	0.05	0.02	0.23	0.09	0.00	4.13
San Marino	2.02	1.05	0.07	0.00	0.09	0.11	0.00	0.09	0.00	0.32	0.00	0.00	3.77
Santa Clarita	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.06
Sierra Madre	1.71	0.06	0.05	0.01	0.06	0.06	0.00	0.00	0.02	0.98	0.01	0.05	3.01
Signal Hill	0.30	0.00	0.06	0.63	0.06	0.03	0.00	0.00	0.00	0.00	0.00	0.00	1.10
Simi Valley	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.02
South El Monte	0.90	0.01	0.15	1.23	0.03	0.11	0.00	0.05	0.02	0.03	0.07	0.02	2.62
South Gate	3.97	0.00	0.76	1.11	0.21	0.16	0.00	0.35	0.25	0.23	0.15	0.20	7.48
South Pasadena	2.32	0.13	0.20	0.00	0.05	0.10	0.00	0.12	0.04	0.39	0.01	0.02	3.43
Temple City	3.43	0.01	0.27	0.07	0.08	0.12	0.00	0.00	0.00	0.03	0.01	0.00	4.02
Vernon	0.00	0.00	0.00	4.03	0.09	0.00	0.00	0.67	0.08	0.00	0.00	0.19	5.06
Unincorporated areas	17.04	1.65	2.05	2.86	0.68	0.80	0.02	1.28	0.22	12.28	0.46	0.58	39.92
Total for each land use watershedwise	270.17	33.29	39.48	48.00	16.59	15.99	0.39	23.10	7.71	112.24	5.66	10.36	584.43

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ORIGINAL
FILED
MAR 23 1999
RICHARD W. WIEKING
CLERK, U.S. DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

RECEIVED MAR 30 1999

HEAL THE BAY, INC., SANTA MONICA BAYKEEPER, INC., and TERRY TAMMINEN,

Plaintiffs,

v.

CAROL BROWNER, Administrator of the United States Environmental Protection Agency, FELICIA MARCUS, Regional Administrator of the United States Environmental Protection Agency, Region IX, and the UNITED STATES ENVIRONMENTAL PROTECTION AGENCY,

Defendants.

No. C 98-4825 SBA

AMENDED CONSENT DECREE

A. WHEREAS, Heal the Bay, Inc., Santa Monica BayKeeper, Inc., and Terry Tamminen (collectively, "Plaintiffs") filed a complaint in this action ("Complaint") against Defendants Carol Browner, in her official capacity as the Administrator of the United States Environmental Protection Agency; Felicia Marcus, in her official capacity as Regional Administrator of the United States Environmental Protection Agency, Region IX; and the United States Environmental Protection Agency (collectively, "EPA"), pursuant to, inter alia, Section 303(d) of the Clean Water Act ("Act" or "CWA"), 33 U.S.C. 1313(d);

B. WHEREAS, Section 303(d) of the Act and EPA's implementing regulations, 40 CFR 130.7(b)-(e), provide for, among other

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things: (1) identification of waters for which applicable technology-based effluent limitations and other required controls are not stringent enough to implement water quality standards; (2) establishment of a priority ranking for such waters; and (3) establishment of total maximum daily loads ("TMDLs") for those waters;

C. WHEREAS, the subject of this action concerns EPA's alleged duty to either approve or disapprove TMDLs submitted to EPA by the State of California ("State") for waters in that region of the State administered by the Los Angeles Regional Water Quality Control Board (hereinafter referred to as the "Los Angeles Region"), and certain related claims, as set forth in the Complaint filed herewith. The geographic boundaries of the Los Angeles Region are set forth in Attachment 1 hereto;

D. WHEREAS, overall, storm water and urban runoff constitute the most significant sources of pollution to the waters of the Los Angeles Region. However, these sources of pollution have not been sufficiently controlled to date;

E. WHEREAS, storm water and urban runoff in the Los Angeles Region contain high levels of pollutants of concern, including, but not limited to, heavy metals, sediment, nutrients, and pathogens;

F. WHEREAS, the establishment of total maximum daily loads must account for, among other things, all significant sources of pollutants, including pollutants in storm water and urban runoff, and, accordingly, the parties agree to direct attention to reducing these significant sources of pollutants to the waters of the Los Angeles Region;

G. WHEREAS, "water quality standards" ("WQS") has the meaning provided at 40 CFR 130.2(d) and 130.3 as codified as of the Effective Date of this Amended Consent Decree ("Consent Decree") or as subsequently amended;

H. WHEREAS, 40 CFR 130.7(b)(3) states that the terms "water quality standard applicable to such waters" and "applicable water quality standards" refer to those water quality standards established under Section 303 of the Act, including numeric criteria, narrative criteria, waterbody uses and anti-degradation requirements;

I. WHEREAS, 40 CFR 122.26(b)(13) defines "storm water" to mean "storm water runoff, snow melt runoff, and surface runoff and drainage."

J. WHEREAS, 40 CFR 122.1(b)(2) provides, in part, that "[d]ischarges of storm water as set forth in § 122.26" are "point sources requiring NPDES permits for discharges;"

K. WHEREAS, 40 CFR 130.2(h) defines "Wasteload allocation (WLA)," in part, as "[t]he portion of a receiving water's loading capacity that is allocated to one of its existing or future point sources of pollution."

L. WHEREAS, in order to resolve this lawsuit, the parties also have entered into an Amended Settlement Agreement ("Settlement Agreement") which has been filed separately with the Court; its terms are not incorporated into this Consent Decree;

M. WHEREAS, the parties have agreed to a settlement of this action without an admission of fact or law, which they consider to be a just, fair, adequate and equitable resolution of the claims raised in this action;

N. WHEREAS, in particular, Plaintiffs state that their consent to this Consent Decree is predicated upon facts including, without limitation, that the Consent Decree provides for remedies that will be implemented without delay, including the near-term establishment of TMDLs to remedy critical water-quality related environmental and public health problems;

O. WHEREAS, therefore, the parties understand that, notwithstanding any other provision herein, if the Consent Decree is not approved for any reason within 90 days of submission, Plaintiffs may withdraw their consent to entry of the Consent Decree; thereafter, neither the Consent Decree nor Plaintiffs'

agreement to lodge it shall preclude Plaintiffs from litigating claims including those asserted in the Complaint and seeking whatever remedy may be consistent with law. In any such litigation, EPA reserves all of its defenses, and the parties agree that the Consent Decree may not be used in support of any fact or matter of law.

P. WHEREAS, it is in the interest of the public, the parties and judicial economy to resolve the issues in this action without protracted litigation, including a trial; and

Q. WHEREAS, the Court finds that this Consent Decree represents a just, fair, adequate and equitable resolution of the claims raised in this action.

NOW, THEREFORE, it is hereby ORDERED, ADJUDGED AND DECREED as follows:

GENERAL TERMS

1. The obligations arising under this Consent Decree are to be performed by EPA and not by Carol Browner or Felicia Marcus in their respective individual capacities. This Consent Decree applies to, is binding upon, and inures to the benefit of Plaintiffs (and their successors, assigns, and designees) and of EPA.

2. For the purposes of this Consent Decree,

a. "Water Quality Limited Segment" ("WQLS") has the meaning provided at 40 CFR 130.2(j), as codified as of the

Effective Date of this Consent Decree or as subsequently amended;

b. "Total Maximum Daily Load" ("TMDL") has the meaning provided at 33 U.S.C. Section 1313(d) and 40 CFR 130.2(i), as codified as of the Effective Date of this Consent Decree or as subsequently amended. A TMDL shall be established with "a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality", pursuant to 33 U.S.C. 1313(d)(1)(C). A TMDL "shall be established at a level necessary to implement the applicable water quality standards with seasonal variations", pursuant to 33 U.S.C. 1313(d)(1)(C);

c. "TMDL Analytical Unit" means a group, listed in Attachment 2, of related WQLSs and associated pollutants for which TMDLs will be developed;

d. "Effective Date" means the date upon which this Consent Decree is entered by the Court; and March 22, 1999

e. "Continuing planning process" ("CPP") has the meaning provided at Section 303(e) of the CWA, 33 U.S.C. 1313(e), and at 40 CFR 130.5, as codified as of the Effective Date of this Consent Decree or as subsequently amended.

ESTABLISHMENT OF TMDLS

3. The parties understand that California has the initial opportunity pursuant to Section 303(d) of the Act to adopt and submit to EPA for approval TMDLs to be established under this Consent Decree. However, EPA agrees to ensure that a TMDL will be completed for each and every pairing of a WQLS and an associated pollutant in the Los Angeles Region set forth in

Attachment 2 (incorporated herein as if set forth in full, and referred to herein as "the List of Waters and Pollutants Covered by the Consent Decree") by completing the following:

(a) **Schedule for Specified Waters**. With respect to each and every pairing of a WQLS and an associated pollutant set forth in each TMDL Analytical Unit identified in the "Schedule for Specified Waters" (Attachment 3, incorporated herein as if set forth in full), EPA shall either:

(i) approve a TMDL submitted by the State by the date identified in Attachment 3, or

(ii) if EPA has not approved a TMDL by the date identified in Attachment 3, establish a TMDL within one (1) year after the date identified in Attachment 3, unless the State submits and EPA approves a TMDL prior to EPA establishing the TMDL within EPA's one year backstop period; and

(b) **Minimum Pace Requirement**. EPA shall assure that a minimum pace for TMDL development is achieved by either, (i) approving, by the following deadlines, a TMDL for each and every pairing of a WQLS and an associated pollutant set forth in the following aggregate number of "TMDL Analytical Units" (Attachment 2) submitted by the State:

Date	Cumulative TMDL Analytical Units
1 year after the Effective Date	1
2 years " " " "	4 (3)
3 years " " " "	9 (5)
4 years " " " "	14 (5)

5 years	"	"	"	"	19 (5)
6 years	"	"	"	"	24 5
7 years	"	"	"	"	29 (5)
8 years	"	"	"	"	34 5
9 years	"	"	"	"	39 5
10 years	"	"	"	"	44 (5)
11 years	"	"	"	"	53 (9)
12 years	"	"	"	"	58; 5
13 years	"	"	"	"	92 34

or, (ii) establishing, within one (1) year of each deadline set forth above, a TMDL for each and every pairing of a WQLS and an associated pollutant needed to complete the aggregate number of TMDL Analytical Units required for that deadline, unless the State submits and EPA approves a TMDL prior to EPA establishing the TMDL within EPA's one year backstop period; and

(c) **Final Deadline**. By thirteen (13) years after the Effective Date, approve or establish a TMDL for each and every remaining pairing of a WQLS and an associated pollutant in the Los Angeles Region set forth in the List of Waters and Pollutants Covered by the Consent Decree (Attachment 2). If EPA finds it necessary to utilize year thirteen (13) of this schedule to satisfy this obligation, EPA shall assure that TMDLs approved or established in year thirteen (13) are for low priority WQLSs covered by this Consent Decree, TMDLs for higher priority WQLSs covered by this Consent Decree having been approved or established in years one (1) through twelve (12) of the schedule. "Low priority" and "higher priority" herein refer to priorities set forth in the California 1998 Section 303(d) List, as approved

by EPA, October, 1998, although the inclusion of one or more "low" priority WQLS(s) and associated pollutant(s) in an Analytical Unit contained in Attachment 3 is not intended to affect, nor affects, the schedule required therein.

4. Where the parties mutually consent to any revision of Attachments 2 and/or 3, such revision shall be effected by written agreement submitted to the Court for approval, except for extensions of sixty (60) days or less, which revision may be effected by written agreement of the parties and notice to the Court.

MEASURING COMPLIANCE WITH TMDL DEADLINES

5. The approval or establishment by EPA of a TMDL for each and every pairing of a WQLS and an associated pollutant listed within any TMDL Analytical Unit counts as completion of that TMDL Analytical Unit for purposes of compliance with subparagraph 3(b), above. By way of illustration and example, credit under paragraph 3(b) of the Consent Decree for completion of TMDL Analytical Unit # 7 accrues when EPA approves or establishes 5 TMDLs: one TMDL for PCBs for each of the 5 listed WQLSs in TMDL Analytical Unit # 7. Where a deadline for a specified TMDL Analytical Unit is provided in Attachment 3, the approval or establishment by EPA of a TMDL for each and every pairing of a WQLS and an associated pollutant listed within that specified TMDL Analytical Unit counts as completion of the specified TMDL Analytical Unit for purposes of subparagraph 3(a), above, and also for purposes of the milestones required by paragraph 3(b). By way of illustration and example, credit under paragraph 3(a)

of the Consent Decree for completion of TMDL Analytical Unit # 56 accrues when EPA approves or establishes 3 TMDLs: 1 TMDL for lead (Pb), 1 TMDL for copper (Cu), and 1 TMDL for zinc (Zn) for the listed WQLS, Marina del Rey Harbor - Back Basins. Thereafter, this TMDL Analytic Unit also counts toward the milestones required by paragraph 3(b).

6. EPA and the Plaintiffs understand that future Section 303(d) Lists for the Los Angeles Region may include additional WQLSs or pollutants ("Additional WQLSs or Pollutants") that may warrant TMDL development prior to TMDL development for some WQLSs or pollutants listed in Attachment 2. EPA's obligation, if any, with respect to such Additional WQLSs or Pollutants is not within the scope of this Consent Decree. However, to the extent that EPA seeks credit under the Consent Decree for completing a TMDL for an Additional WQLS or Pollutant, it must follow the procedure described in Paragraph 7 to obtain such credit.

7. After obtaining Plaintiffs' written agreement, which consent Plaintiffs may at their sole discretion withhold, EPA may, after Court approval, substitute one or more such Additional WQLSs or Pollutants for an agreed upon number of WQLSs or pollutants set forth in Attachment 2 and, after approving or establishing a TMDL for each such Additional WQLS or Pollutant, EPA may count that approved or established TMDL, in accordance with the parties' agreement, for purposes of compliance with the milestones contained in this Consent Decree. No implication

shall be drawn as a result of Plaintiffs' rejection of a request to substitute Additional WQLSs or Pollutants.

8. In fulfilling its obligations under this Consent Decree, EPA is under no obligation to establish TMDLs for any pairing of a WQLS and a pollutant that EPA determines for purposes of this Decree only, consistent with Section 303(d) of the Act and its implementing regulations, including 40 CFR 130.7(b), as codified as of the Effective Date of this Consent Decree or as subsequently amended, does not require a TMDL or which has been removed after the Effective Date from an EPA approved California Section 303(d) list of waters requiring TMDLs pursuant to Section 303(d)(1) of the Act, consistent with the provisions of the Act and EPA's implementing regulations. Accordingly, if it complies with the notification procedure required by paragraph 9 of this Consent Decree, for the purposes of measuring EPA's compliance with the milestones described in paragraph 3, EPA may also count toward TMDL development any pairing of a WQLS and a pollutant set forth in Attachments 2: (i) after it is removed from a Section 303(d) list of waters requiring a TMDL pursuant to Section 303(d)(1) (approved by EPA after the Effective Date); or (ii) after EPA determines for purposes of this Decree only, consistent with Section 303(d) and 40 CFR 130.7, as codified as of the Effective Date or this Consent Decree or as subsequently amended, that a TMDL is not required.

9. If EPA makes a determination pursuant to paragraph 8(ii) of the Consent Decree that a TMDL is not required for any

pairing of a WQLS and a pollutant, EPA shall notify Plaintiffs within thirty (30) days of EPA's determination and provide Plaintiffs with the basis for its determination. EPA's determination under paragraph 8(ii) is not a final agency action subject to review independent of this Consent Decree. However, if Plaintiffs do not concur with EPA's determination under paragraph 8(ii), EPA agrees that the Court may solely for purposes of determining EPA's compliance with the requirements of paragraph 3 of this Consent Decree, and pursuant to a request by Plaintiffs under paragraph 23 of the Consent Decree ("Dispute Resolution"), review the record of EPA's determination under paragraph 8(ii) and decide whether or not EPA's determination is consistent with the Clean Water Act and its implementing regulations, including 40 CFR 130.7, as codified as of the Effective Date of this Consent Decree or as subsequently amended. If the Court disapproves EPA's determination under paragraph 8(ii), then within six (6) months after that ruling (or if the pairing of a WQLS and an associated pollutant is listed on Attachment 3, then the later of six (6) months after the ruling or the date the TMDL is scheduled to be complete), EPA shall either: (i) approve a state established TMDL for each pairing of a WQLS and an associated pollutant at issue or (ii) establish a TMDL for each pairing of a WQLS and an associated pollutant at issue.

TMDL PROGRESS REPORTS AND DOCUMENTATION

10. Beginning one year after the Effective Date and continuing every year thereafter until fourteen (14) years after

the Effective Date, EPA shall provide Plaintiffs, and any interested party upon written request, with an annual written progress report covering the one-year period just ended. Each report shall be provided within ninety (90) days after the end of the period that is the subject of the progress report, and with respect to the Los Angeles Region shall identify:

a. the TMDLs submitted by the State during the reporting period, the date of each submission, EPA action taken on each submission and the date of the action taken;

b. the TMDLs that EPA established during the reporting period; and

c. all WQLSs, and pollutants associated with each WQLS, that are on the 1998 Section 303(d) list that are not included on the most recent EPA approved Section 303(d) lists or which EPA determined consistent with Section 303(d) and 40 CFR 130.7, as codified as of the Effective Date of this Consent Decree or as subsequently amended, do not need a TMDL.

11. Six (6) months after the Effective Date, and annually thereafter for each of the next three (3) years, EPA shall by conference call inform Plaintiffs of the general status of actions to comply with the Consent Decree, including TMDLs submitted, EPA action taken on each submission and the date of that action, TMDLs approved or established by EPA, and all WQLSs (and pollutants associated with those WQLSs) that are on the 1998 Section 303(d) list that are not included on the most recent EPA approved Section 303(d) list or which EPA determined consistent with Section 303(d) and 40 CFR 130.7, as codified as of the

Effective Date of this Consent Decree or as subsequently amended, do not need TMDLs.

12. These provisions do not limit Plaintiffs' rights under the Freedom of Information Act or other public information provisions of law.

CONTINUING PLANNING PROCESS

13. By three (3) months from the Effective Date:

a. EPA will provide Plaintiffs a copy of the State's Continuing planning process ("CPP");

b. EPA will keep at EPA Region IX a copy of the most recent State CPP reviewed by EPA for public review during the pendency of this Consent Decree; and

c. EPA will publish in the Federal Register a notice informing the public that: the CPP is available for public review; that by six months from entry of the Consent Decree EPA will prepare and make available to interested parties upon request for their review and comment EPA's preliminary written summary of its review of that portion of the CPP related to the Section 303(d) program; and interested parties may request copies of the CPP and EPA's preliminary written summary when available.

14. By six (6) months from the Effective Date, EPA will: (a) review that portion of the CPP related to the Section 303(d) program to determine whether it is consistent with Section 303(e) of the Act, 33 U.S.C. 1313(e), and EPA's implementing regulations at 40 CFR 130.5, as codified as of the Effective Date or as subsequently amended; (b) prepare a preliminary written summary of its review, including any recommendations for improvement;

(c) provide the preliminary written summary to the Plaintiffs and the State for comment; and (d) make the preliminary written summary available for comment to other parties upon written request. EPA will consider any comments on the preliminary written summary submitted not later than forty-five (45) days after the preliminary written summary is provided to the Plaintiffs and the State for comment.

15. By nine (9) months from the Effective Date, EPA will determine whether that portion of the CPP related to the Section 303(d) program is consistent with the Act and its implementing regulations, and it will provide Plaintiffs and the State, and any other interested persons upon request, with a final written summary of EPA's review of the CPP that will include any recommendations for improvement.

16. If the State does not modify its CPP to be consistent with any EPA recommendations, the Act and its implementing regulations, EPA shall take appropriate action as provided under the Act and accompanying regulations.

REPORT REGARDING MONITORING, ASSESSMENT AND LISTING

17. By one (1) year from the Effective Date, EPA will develop a final report evaluating and making any recommendations regarding the Los Angeles Regional Water Quality Control Board's water quality monitoring and assessment program and Section 303(d) listing process. At least sixty (60) days prior to finalizing the report, EPA will provide a preliminary copy of the report to Plaintiffs and the Los Angeles Regional Water Quality Control Board for comment. At that same time EPA will

make a copy available for comment to other interested parties upon prior written request. EPA will consider any comments on the preliminary report submitted not later than forty-five (45) days after the preliminary report is provided to Plaintiffs and the Los Angeles Regional Water Quality Control Board for comment.

18. EPA will consider the final report, among other things, to be existing and readily available water quality-related information to be used in reviewing the next State Section 303(d) list for the Los Angeles Region submitted after the Effective Date of this Decree and for determining whether that list can be approved under CWA Section 303(d) and EPA's implementing regulations.

FORCE MAJEURE

19. The possibility exists that circumstances outside the reasonable control of EPA could delay compliance with the timetables contained in this Consent Decree. Such circumstances may include, but are not limited to, catastrophic environmental events requiring immediate and/or time-consuming response by EPA. In addition, the parties recognize that the performance of the Consent Decree is subject to fiscal and procurement laws and regulations of the United States, which include, but are not limited to, the Anti-Deficiency Act, 31 U.S.C. §§ 1341, *et seq.* ("ADA"). Circumstances where the expenditure of funds may violate the ADA and/or fiscal and procurement laws and regulations of the United States include, but are not limited to, sufficient funds not being appropriated as requested or appropriated funds not being available for expenditure. Should a delay occur due to

force majeure circumstances, any resulting failure to meet the timetables set forth herein shall not constitute a failure to comply with the Consent Decree. EPA will provide notice to the Plaintiffs after EPA becomes aware of the need for such delay, and will provide Plaintiffs with an explanation of EPA's basis for invoking this term. Plaintiffs may challenge the invocation of this term of the Consent Decree under the dispute resolution terms of this Consent Decree, and EPA shall bear the burden of justifying its invocation of this term.

MODIFICATIONS AND EXTENSIONS

20. Any dates set forth in this Consent Decree may be extended by written agreement of the parties and notice to the Court. To the extent the parties are not able to agree to an extension, either party may seek a modification to the Consent Decree for good cause shown and in accordance with the procedures specified below:

a. If a party files a motion requesting modification of a date or dates established by the Consent Decree and provides notice to the other party at least thirty (30) days prior to filing such motion, and files the motion at least sixty (60) days prior to the date for which modification is sought, then the filing of such motion shall, upon request, automatically extend the date for which modification is sought. Such extension shall remain in effect until the earlier to occur of (i) a dispositive ruling by the Court on such motion, (ii) the date sought in the modification, or (iii) sixty (60) days after the original date for which modification is sought. The party may move the Court

for a longer extension. In the absence of a dispositive ruling from the Court, only one such automatic stay shall be permitted for each deadline for which modification is sought.

b. If a party files a motion requesting modification of a date or dates established by the Consent Decree totaling thirty (30) days or less, provides notice to the other party at least thirty (30) days prior to the filing of such motion, and files the motion at least seven (7) days prior to the date for which modification is sought, then the filing of such motion shall, upon request, stay the date for which modification is sought. Such stay shall remain in effect until the earlier to occur of (i) a dispositive ruling by this Court on such motion, or (ii) the date sought in the modification. In the absence of a dispositive ruling from the Court, only one such automatic stay shall be permitted for each deadline for which modification is sought.

c. If a party seeking modification does not provide notice pursuant to subparagraphs a. or b., above, that party may move the Court for a stay of the date for which modification is sought. The party seeking modification under this subparagraph shall give notice to the other party as soon as possible of its intent to seek a modification and/or stay of the date sought to be modified.

d. Any motion to modify the schedule established in this Consent Decree shall be accompanied by a motion for expedited consideration.

21. Nothing in this Consent Decree shall be construed to limit the equitable powers of the Court to modify the Consent Decree's terms upon a showing of good cause by any party. Good cause may include, but is not limited to, changes in the law, including implementing regulations, affecting EPA's actions under this Consent Decree.

CONTINUING JURISDICTION

22. The Court retains jurisdiction for the purposes of resolving any disputes arising under this Consent Decree, and issuing such further orders or directions as may be necessary or appropriate to construe, implement, modify or enforce the terms of this Consent Decree, and for granting any further relief as the interests of justice may require.

DISPUTE RESOLUTION

23. In the event of a disagreement between the parties concerning the interpretation or performance of any aspect of the Consent Decree (including requirements related to the CPP), the dissatisfied party shall provide the other party with written notice of the dispute and a request for negotiations. The parties shall meet and confer in order to attempt to resolve the dispute within thirty (30) days of the written notice, or such time thereafter as is mutually agreed upon. If the parties are unable to resolve the dispute within sixty (60) days of such meeting, or such time thereafter as may be mutually agreed, then either party may petition the Court to resolve the dispute.

JUDICIAL REVIEW, AND COMPLIANCE WITH OTHER LAWS

24. Nothing in the Consent Decree shall be construed to confer upon this Court jurisdiction to review any decision, either procedural or substantive, to be made by EPA pursuant to the Consent Decree, except for the purpose of determining EPA's compliance with the Consent Decree. Plaintiffs reserve their rights to challenge, where necessary in a separate lawsuit, the merits of any action taken by EPA pursuant to this Decree. EPA reserves all of its rights and defenses to any such action. Except as provided herein, nothing in the Consent Decree shall limit or modify the discretion accorded EPA by the Clean Water Act or by general principles of administrative law, including EPA's discretion to alter, amend, or revise from time to time any actions taken by EPA pursuant to the Consent Decree, or to promulgate superseding regulations. Plaintiffs reserve their rights to challenge, where necessary in a separate lawsuit, such exercise of discretion or promulgation of superseding regulations by EPA. EPA reserves all of its rights and defenses to any such action.

25. Nothing in the Consent Decree relieves EPA of the obligation to act in a manner consistent with other applicable Federal, State or local law, including the notice and comment and other provisions of the Administrative Procedure Act, 5 U.S.C. §§ 551-599, 701-706. No provision of the Consent Decree shall constitute a commitment that EPA obligate or pay funds in contravention of the Anti-Deficiency Act, 31 U.S.C. § 1341, and other applicable appropriations law or regulation.

NOTICE

26. Any notice required or made with respect to the Consent Decree shall be in writing and shall be effective upon receipt. For any matter relating to the Consent Decree, the contact persons are:

For the Plaintiffs:

David S. Beckman
Alex N. Helperin
Natural Resources Defense Council, Inc.
6310 San Vicente Blvd., Suite 250
Los Angeles, CA 90048

Mark Gold, Executive Director
Steve Fleischli, Law and Policy Analyst
Heal the Bay
2701 Ocean Park Blvd., Suite 150
Santa Monica, CA 90405

Terry Tamminen, Executive Director
Santa Monica BayKeeper
P.O. Box 10096
Marina del Rey, CA 90295

For the United States:

Associate General Counsel, Water Law Office
Office of General Counsel, 2355
U.S. Environmental Protection Agency
401 M Street, S.W.
Washington, D.C. 20460

Director
Water Division
U.S. Environmental Protection Agency,
Region 9
75 Hawthorne St.
San Francisco, CA 94105

Regional Counsel
EPA Region 9
U.S. Environmental Protection Agency,
Region 9
75 Hawthorne St.
San Francisco, CA 94105

and

Chief
Environmental Defense Section
Environment & Natural Resources Division
United States Department of Justice
P.O. Box 23986
Washington, D.C. 20026-3986

Upon written notice to the other parties, any party may designate a successor contact person for any matter relating to the Consent Decree.

REPRESENTATIVE AUTHORITY

27. Each undersigned representative of a party to the Consent Decree certifies that he or she is fully authorized by the party to enter into and execute the terms and conditions of the Consent Decree, and to legally bind such party to the Consent Decree. By the signatures below, all of the Plaintiffs and EPA consent to entry of this Consent Decree.

SECURING COURT APPROVAL

28. Upon signature of each undersigned representative of each party to this Consent Decree, Plaintiffs and EPA agree to join in and support such legal proceedings as necessary to secure the Court's timely approval and entry of this Consent Decree.

SEVERABILITY

29. If any provision of the Consent Decree is deemed invalid or unenforceable, the balance of the Consent Decree shall remain in full force and effect.

ENTIRE AGREEMENT

30. This Consent Decree and the Settlement Agreement are the entire agreement between Plaintiffs and EPA in this case. All prior conversations, meetings, discussions, drafts and writings of any kind are specifically superseded by this Consent Decree and the Settlement Agreement.

MUTUAL DRAFTING

31. It is hereby expressly understood and agreed that this Consent Decree was jointly drafted by Plaintiffs and EPA. Accordingly, the parties hereby agree that any and all rules of construction to the effect that ambiguity is construed against the drafting party shall be inapplicable in any dispute concerning the terms, meaning, or interpretation of this Consent Decree.

COUNTERPARTS

32. This Consent Decree may be executed in any number of counterpart originals, each of which shall be deemed to constitute an original agreement, and all of which shall constitute one agreement. The execution of one counterpart by a party's undersigned representative shall have the same force and effect as if that undersigned representative had signed all other counterparts.

EFFECTIVE DATE

33. This Consent Decree shall become effective upon the date of its entry by the Court; however, the obligation to join in and support such legal proceedings as necessary to secure the Court's timely approval and entry of this Consent Decree accrues upon signature of the agreement by each undersigned representative of each party. If for any reason the Court does not enter this Consent Decree, this Consent Decree shall not become effective.

RELEASE BY PLAINTIFFS

34. Upon entry by the Court of the Consent Decree, the Consent Decree and accompanying Settlement Agreement shall constitute a final resolution between Plaintiffs and EPA of all counts of the Complaint. Except for claims which may arise under the provisions of the Consent Decree and/or the Settlement Agreement, and/or claims that are reserved by provisions of the Consent Decree (including without limitation paragraph 35) and/or the Settlement Agreement, Plaintiffs hereby release, discharge, and covenant not to assert (by way of the commencement of an action, the joinder of EPA in an existing action or in any other fashion) any and all claims, causes of action, suits or demands of any kind whatsoever in law or in equity which it may have had, or may now or hereafter have, against EPA based upon matters which have been asserted in the Complaint.

RESERVATION OF RIGHTS

35. This Consent Decree and the Settlement Agreement do not waive or limit in any way Plaintiffs' rights except as expressly provided therein. Nothing in the Consent Decree or Settlement Agreement shall be construed to waive or limit any right to challenge or file suit on matters including, but not limited to, (1) California's 1998 or subsequent Section 303(d) Lists, whether such Section 303(d) Lists are prepared by California or by EPA; (2) any TMDLs, whether such TMDLs are established by California or by EPA, and/or TMDL implementation; (3) non-TMDL CWA obligations, such as the issuance, reissuance, modification, or revocation and reissuance of NPDES permits; or (4) the failure to establish TMDLs for waters and/or pollutants outside the Los Angeles Region or for Additional WQLSs or Pollutants in the Los Angeles Region. EPA reserves all of its claims and defenses in any such action.

USE OF CONSENT DECREE

36. This Consent Decree shall not constitute an admission or evidence of any fact, wrongdoing, misconduct, or liability on the part of the United States, its officers, or any person affiliated with it.

APPLICABLE LAW

37. This Consent Decree shall be governed and construed under the laws of the United States.

THIRD-PARTY BENEFICIARIES

38. Nothing in this Consent Decree shall be construed to make any other person or entity not executing the Consent Decree a third-party beneficiary to the Consent Decree.

TERMINATION OF CONSENT DECREE AND DISMISSAL OF CLAIMS

39. The Consent Decree shall terminate after fulfillment of all the obligations of EPA under the Consent Decree. Upon termination of the Consent Decree, this case shall be dismissed with prejudice. EPA and Plaintiffs shall jointly file the appropriate notice with the Court so that the Clerk of the Court may close the file.

COSTS

40. EPA agrees that Plaintiffs are entitled to reasonable attorneys' fees and costs accrued as of the Effective Date of the Consent Decree and fees reasonably incurred in obtaining those fees. The parties shall make a good faith effort to reach agreement as to the appropriate amount of the recovery. If the parties cannot reach agreement, Plaintiffs shall file any request for attorneys' fees within ninety (90) days of the Effective Date of the Consent Decree. EPA shall have forty-five (45) days to respond to Plaintiffs' fee request. Nothing herein limits the right of Plaintiffs to seek recovery of reasonable attorneys' fees and costs for monitoring or enforcement of this Consent Decree after the Effective Date to the extent permitted by law, nor limits EPA's right to oppose any such request.

On behalf of the party or parties designated below, the undersigned agree to the foregoing Consent Decree, and consent to its entry as an order of the Court forthwith.

For: SANTA MONICA BAYKEEPER, INC., and TERRY TAMMINEN

Date: 2/19/99

DAVID S. BECKMAN
ALEX N. HELPERIN
Natural Resources Defense Council
6301 San Vicente Blvd., Suite 250
Los Angeles, CA 90048

Counsel for PLAINTIFFS SANTA MONICA BAYKEEPER, INC., and TERRY TAMMINEN

For: HEAL THE BAY, INC.

Date: 2/19/99

STEVEN FLEISCHLI
Heal the Bay, Inc.
2701 Ocean Park Blvd., Suite 150
Santa Monica, CA 90405

Counsel for Plaintiff HEAL THE BAY, INC.

FOR CAROL BROWNER, FELICIA MARCUS, and THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY:

LOIS J. SCHIFFER
Assistant Attorney General
Environmental and Natural
Resources Division
U.S. Department of Justice
Washington, D.C. 20530

Date: 2/19/99

S. RANDALL HUMM
Environmental Defense Section
Department of Justice
P.O. Box 23986
Washington, D.C. 20026-3986

Counsel for Carol Browner, Felicia Marcus, and the United States Environmental Protection Agency

ORDER

UPON CONSIDERATION OF THE FOREGOING, the Court hereby finds that this Amended Consent Decree is fair and reasonable, both procedurally and substantively, consistent with applicable law, in good faith, and in the public interest. THE FOREGOING Amended Consent Decree is hereby APPROVED AND ENTERED AS FINAL JUDGMENT.

SIGNED and ENTERED this 22nd day of March, 1999.

SAUNDRA BROWN ARMSTRONG
JUDGE, UNITED STATES DISTRICT COURT

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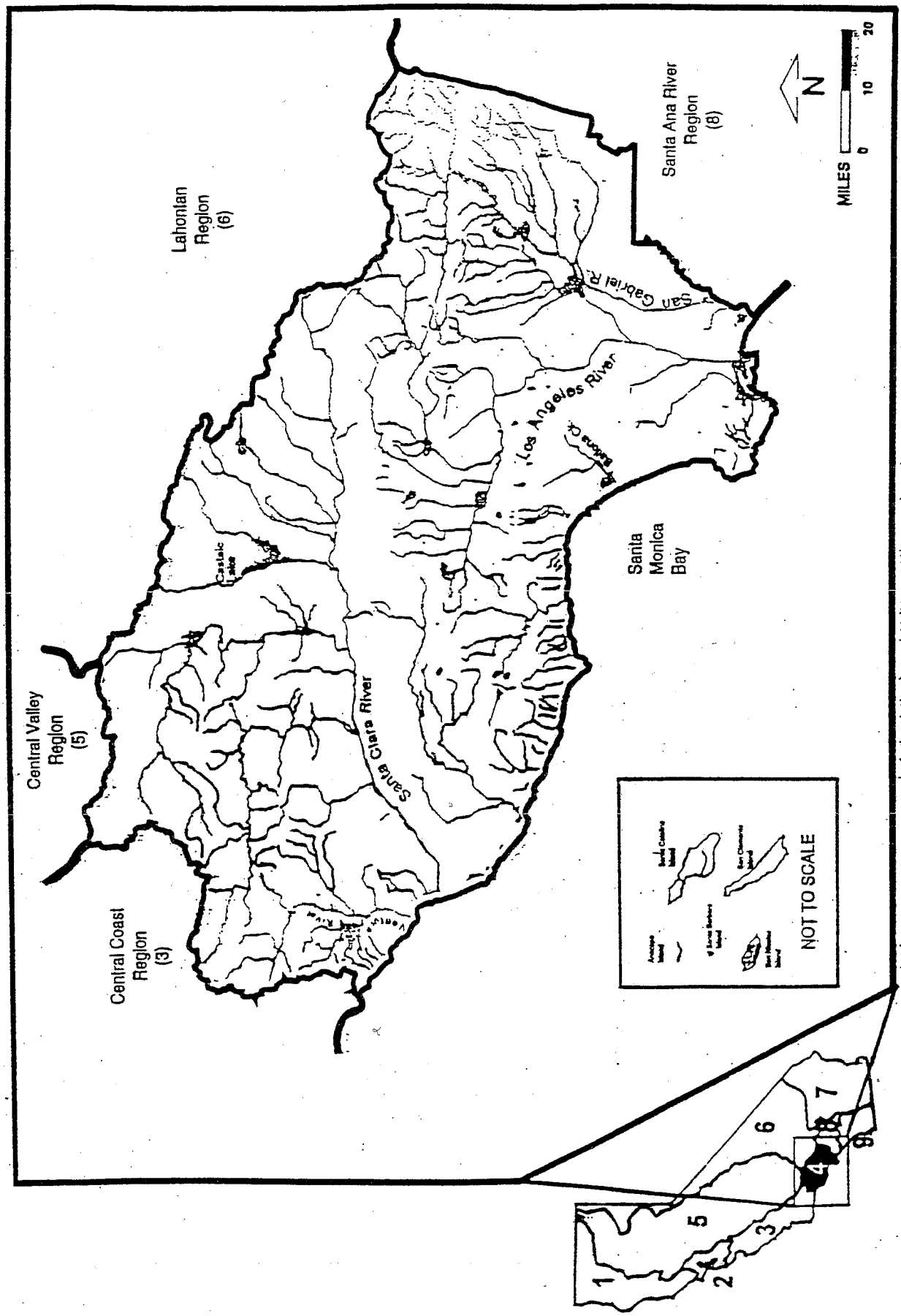

Figure 1-1. Regional Map: Regional Water Quality Control Board, Los Angeles Region.

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ATTACHMENT 2
LIST OF WATERS AND POLLUTANTS COVERED BY THE CONSENT DECREE[1]

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
1	Calleguas Creek	Fox Barranca	nitrate + nitrite
		Arroyo Las Posas Reach 1 (Lewis/Somis Rd. to Fox Barranca)	NH3
		Arroyo Las Posas Reach 1 (Lewis/Somis Rd. to Fox Barranca)	nitrate + nitrite
		Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23))	NH3
		Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23))	nitrate + nitrite
		Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn)	NH3
		Calleguas Creek Reach 1 (estuary to 0.5 mi. S. of Broome Rd.)	NH3
		Calleguas Creek Reach 1 (estuary to 0.5 mi. S. of Broome Rd.)	nitrogen
		Calleguas Creek Reach 2(0.5 mi. S. of Broome Rd. to Potrero Rd.)	NH3
		Calleguas Creek Reach 2(0.5 mi. S. of Broome Rd. to Potrero Rd.)	nitrogen
		Calleguas Creek Reach 3 (Potrero to Somis Rd.)	nitrate + nitrite
		Conejo Creek/Arroyo Conejo N. Fork	NH3
		Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd)	NH3
		Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd)	algae
		Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd)	low DO/org. enrichment
		Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit)	NH3
		Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit)	algae
		Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit)	low DO/org. enrichment
		Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.)	NH3
		Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.)	algae
		Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.)	low DO/org. enrichment
		Conejo Creek Reach 4 (above Lynn Rd.)	NH3
		Conejo Creek Reach 4 (above Lynn Rd.)	algae
		Conejo Creek Reach 4 (above Lynn Rd.)	Low DO/org. enrichment
		Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	nitrogen
		Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	algae
		Beardsley Channel (above Central Ave.)	nitrogen
		Beardsley Channel (above Central Ave.)	algae
		Mugu Lagoon	nitrogen
		Duck pond agric. drain/Mugu Drain/Oxnard Drain #2	nitrogen

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
2		Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd)	toxicity
		Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit)	toxicity
		Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.)	toxicity
		Conejo Creek Reach 4 (above Lynn Rd.)	toxicity
		Calleguas Creek Reach 1 (estuary to 0.5 mi. S. of Broome Rd.)	toxicity
		Calleguas Creek Reach 2(0.5 mi. S. of Broome Rd. to Potrero Rd.)	toxicity
		Duck pond agric. drain/Mugu Drain/Oxnard Drain #2	toxicity
		Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	toxicity
		Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	chlorpyrifos
		Beardsley Channel (above Central Ave.)	toxicity
		Beardsley Channel (above Central Ave.)	chlorpyrifos
3		Tapo Canyon Reach 1	chloride
		Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn)	chloride
		Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23))	chloride
		Arroyo Las Posas Reach 1 (Lewis/Somis Rd. to Fox Barranca)	chloride
		Calleguas Creek Reach 3 (Potrero to Somis Rd.)	chloride
		Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit)	chloride
		Conejo Creek Reach 4 (above Lynn Rd.)	chloride
4		Fox Barranca	Boron, sulfate, TDS
		Tapo Canyon Reach 1	Boron, sulfate, TDS
		Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn)	Boron, sulfate, TDS
		Arroyo Simi Reach 2 (above Brea Canyon)	Boron, sulfate, TDS
		Arroyo Las Posas Reach 1 (Lewis/Somis Rd. to Fox Barranca)	sulfate, TDS
		Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23))	sulfate, TDS
		Calleguas Creek Reach 3 (Potrero to Somis Rd.)	TDS
		Conejo Creek/Arroyo Conejo N. Fork	sulfate, TDS
		Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd)	sulfate, TDS
		Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit)	sulfate, TDS
		Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.)	sulfate, TDS
		Conejo Creek Reach 4 (above [illegible] Rd.)	sulfate, TDS

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
5		Arroyo Las Posas Reach 1 (Lewis/Somis Rd. to Fox Barranca)	DDT
		Arroyo Las Posas Reach 2 (Fox Barranca to Moorpark Fwy (23))	DDT
		Conejo Creek/Arroyo Conejo N. Fork	chlordane, DDT
		Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd)	ChemA, dacthal, DDT, endosulfan, toxaphene
		Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit)	ChemA, dacthal, DDT, endosulfan, toxaphene
		Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.)	ChemA, dacthal, DDT, endosulfan, toxaphene
		Conejo Creek Reach 4 (above Lynn Rd.)	ChemA, dacthal, DDT, endosulfan, toxaphene
		Calleguas Creek Reach 1 (estuary to 0.5 mi. S. of Broome Rd.)	sediment toxicity
		Calleguas Creek Reach 1 (estuary to 0.5 mi. S of Broome Rd.)	ChemA, chlordane, DDT, endosulfan, toxaphene
		Calleguas Creek Reach 2(0.5 mi. S. of Broome Rd. to Potrero Rd.)	sediment toxicity
		Calleguas Creek Reach 2 (0.5 mi. S of Broome Rd. to Potrero Rd.)	ChemA, chlordane, dacthal, DDT, endosulfan, toxaphene
		Duck pond agric. drain/Mugu Drain/Oxnard Drain #2	ChemA, DDT, chlordane, toxaphene
		Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	ChemA, chlordane, dacthal, DDT, dieldrin, endosulfan, toxaphene
		Beardsley Channel (above Central Ave.)	ChemA, chlordane, dacthal, DDT, dieldrin, endosulfan, toxaphene
		Mugu Lagoon	siltation
		Mugu Lagoon	sediment toxicity
		Duck pond agric. drain/Mugu Drain/Oxnard Drain #2	sediment toxicity
		Mugu Lagoon	Chlordane, dacthal, DDT, endosulfan, toxaphene
6		Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn)	Cr, Ni, Ag, Zn
		Conejo Creek Reach 3 (Tho. Oaks city limit to Lynn Rd.)	Cd, Cr, Ni, Ag
		Conejo Creek Reach 2 (Santa Rosa Rd. to Tho. Oaks city limit)	Cd, Cr, Ni, Ag
		Conejo Creek Reach 1 (confl. Calleguas to Santa Rosa Rd)	Cd, Cr, Ni, Ag
		Mugu Lagoon	Hg
		Mugu Lagoon	Cu, Ni, Zn
		Arroyo Simi Reach 1 (Moorpark Fwy (23) to Brea Cyn)	Se
		Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	Se
7		Calleguas Creek Reach 1 (estuary to 0.5 mi. S of Broome Rd.)	PCBs
		Calleguas Creek Reach 2 (0.5 mi. S of Broome Rd. to Potrero Rd.)	PCBs
		Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	PCBs
		Beardsley Channel (above Central Ave.)	PCBs
		Mugu Lagoon	PCBs

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
8		Rio de Santa Clara/Oxnard Drain #3	PCBs
		Rio de Santa Clara/Oxnard Drain #3	ChemA, chlordane, DDT, toxaphene
		Rio de Santa Clara/Oxnard Drain #3	sediment toxicity
9		Revolon Slough Main Branch (Mugu Lagoon to Central Ave.)	trash
		Beardsley Channel (above Central Ave.)	trash
10		Rio de Santa Clara/Oxnard Drain #3	nitrogen
	Los Angeles River		
11		Tujunga Wash (d/s Hansen Dam to Los Angeles River)	NH3
		Tujunga Wash (d/s Hansen Dam to Los Angeles River)	scum, odors
		Los Angeles River Reach 5 (within Sepulveda Basin)	NH3
		Los Angeles River Reach 5 (within Sepulveda Basin)	scum, odors
		Los Angeles River Reach 5 (within Sepulveda Basin)	nutrients (algae)
		Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.)	NH3
		Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.)	scum, odors
		Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.)	nutrients (algae)
		Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.)	NH3
		Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.)	odors, scum
		Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.)	nutrients (algae)
		Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	NH3
		Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	odors, scum
		Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	nutrients (algae)
		Los Angeles River Reach 1(u/s Carson St. to estuary)	NH3
		Los Angeles River Reach 1(u/s Carson St. to estuary)	pH
		Los Angeles River Reach 1(u/s Carson St. to estuary)	scum
		Los Angeles River Reach 1(u/s Carson St. to estuary)	nutrients (algae)
		Burbank Western Channel	NH3
		Burbank Western Channel	Algae
		Burbank Western Channel	odors, scum
		Verdugo Wash (Reaches 1 & 2,	algae

EXHIBIT 1

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) which TMDL(s) shall be completed
		Arroyo Seco Rch 1 (d/s Devil's Gate Dam) & Rch 2 (W. Holly Ave. to Devil's Gate)	algae
		Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	NH3
		Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	pH
		Rio Hondo Reach 2 (from Whittier Narrows Flood Control Basin to Spreading Grounds)	NH3
		Compton Creek	pH
12		Tujunga Wash (d/s Hansen Dam to Los Angeles River)	trash
		Los Angeles River Reach 5 (within Sepulveda Basin)	trash
		Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.)	trash
		Los Angeles River Reach 3 (Riverside Dr. to Figueroa St.)	trash
		Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	trash
		Los Angeles River Reach 1(u/s Carson St. to estuary)	trash
		Burbank Western Channel	trash
		Verdugo Wash (Reaches 1 & 2)	trash
		Arroyo Seco Reach 1 (d/s Devil's Gate Dam) & Reach 2 (W. Holly Ave. to Devil's Gate)	trash
		Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	trash
13		Tujunga Wash (d/s Hansen Dam to Los Angeles River)	Cu
		Compton Creek	Cu, Pb
		Burbank Western Channel	Cd
		Los Angeles River Reach 1(u/s Carson St. to estuary)	Pb
		Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	Pb
		Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.)	Pb
		Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	Cu, Zn
		Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	Pb
		Monrovia Cyn Creek	Pb
		Aliso Canyon Wash	Se
14		Los Angeles River Reach 5 (within Sepulveda Basin)	chlorpyrifos
15		Tujunga Wash (d/s Hansen Dam to Los Angeles River)	coliform
		Los Angeles River Reach 6 (u/s of Sepulveda Basin)	coliform

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s which TMDL(s) shall be complete
		Los Angeles River Reach 4 (Sepulveda Dam to Riverside Dr.)	coliform
		Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	coliform
		Los Angeles River Reach 1(u/s Carson St. to estuary)	coliform
		Verdugo Wash (Reaches 1 & 2)	Coliform
		Arroyo Seco Rch 1 (d/s Devil's Gate Dam) & Rch 2 (W. Holly Ave. to Devil's Gate)	Coliform
		Rio Hondo Reach 1 (Santa Ana Fwy to Los Angeles River)	coliform
		Rio Hondo Reach 2 (from Whittier Narrows Flood Control Basin to Spreading Grounds)	coliform
		Compton Creek	coliform
		Bell Creek	coliform
16		Peck Rd Lake	trash
		Echo Park Lake	trash
		Lincoln Park Lake	trash
17		Peck Rd Lake	low DO, org. enrichment
		Peck Rd Lake	odors
		Lincoln Park Lake	NH3
		Lincoln Park Lake	Low DO/org. enrichment
		Lincoln Park Lake	Eutroph.
		Lincoln Park Lake	odors
		Echo Park Lake	pH
		Echo Park Lake	Eutroph., NH3, algae
		Echo Park Lake	odors
		Lake Calabasas	NH3
		Lake Calabasas	Eutroph.
		Lake Calabasas	Low DO, org. enrichment
		Lake Calabasas	pH
		Lake Calabasas	odors
18		Los Angeles River Reach 5 (within Sepulveda Basin)	ChemA
19		Echo Park Lake	PCBs
		Peck Rd Lake	DDT, chlordane

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
	Santa Clara River		
31		Santa Clara River Reach 3 (Dam to abv Sp. Crk./blw Timber Cyn)	chloride
32		Wheeler Canyon/Todd Barranca	nitrate + nitrite
		Torrey Canyon Creek	nitrate + nitrite
		Brown Barranca/Long Canyon	nitrate + nitrite
		Mint Canyon Creek Reach 1	nitrate + nitrite
		Santa Clara River Reach 9 (Bouquet Cyn Rd to abv Lang Gaging)	org. enrichment/lowDO
		Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd Bridge)	NH3, nitrate + nitrite
		Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd Bridge)	org. enrichment/lowDO
		Santa Clara River Reach 7 (Blue Cut to West Pier Hwy 99)	NH3
		Santa Clara River Reach 3 (Dam to abv Sp. Crk./blw Timber Cyn)	NH3
		Santa Clara River Reach 7 (Blue Cut to West Pier Hwy 99)	nitrate + nitrite
33		Santa Clara River Estuary	ChemA, toxaphene
34		Santa Clara River Reach 8 (W Pier Hwy 99 to Bouquet Cyn Rd Bridge)	coliform
		Santa Clara River Estuary	Coliform
35		Elizabeth Lake	Eutroph.
		Elizabeth Lake	DO, pH
		Lake Hughes	Eutroph.
		Lake Hughes	fish kills
		Lake Hughes	algae
		Lake Hughes	odors
		Munz Lake	Eutroph.
36		Elizabeth Lake	trash
		Munz Lake	trash
		Lake Hughes	trash

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutan which TMDL(s) shall be compl
		Lake Calabasas	DDT
20		Peck Rd Lake	Pb
		Lincoln Park Lake	Pb
		Echo Park Lake	Cu, Pb
		Lake Calabasas	Cu, Zn
21		Los Angeles River Reach 5 (within Sepulveda Basin)	oil
		Los Angeles River Reach 2 (Figueroa St. to u/s Carson St.)	oil
22		Los Angeles River Reach 6 (u/s of Sepulveda Basin)	Volatile organics
	Miscellaneous Ventura Coastal Waters WMA		
23		McGrath Beach	Coliform
		McGrath Beach	beach closures
		Mandalay Beach	beach closures
		Santa Clara River Estuary Beach/Surfers Knoll)	coliform
24		Ventura Harbor: Ventura Keys	Coliform
25		McGrath Lake	chlordane, DDT, other pesticides
		McGrath Lake	sediment toxicity
26		Port Hueneme Harbor	DDT, PCBs
27		Port Hueneme Harbor	PAHs
28		Port Hueneme Harbor	Zn
29		Channel Islands Harbor	Pb, Zn
30		Port Hueneme Harbor	TBT

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
		San Gabriel River Estuary	abnormal fish histology
44		El Dorado Lakes	algae, NH3, eutroph.
		El Dorado Lakes	pH
		Crystal Lake	org. enrichmen/lowDO
		Legg Lake	NH3
		Legg Lake	pH
		Legg Lake	odors
		Puddingstone Reservoir	low DO, org. enrichment
		Santa Fe Dam Park Lake	pH
45		San Jose Creek Reach 1 (SG confluence to Temple St.)	coliform
		San Jose Creek Reach 2 (Temple to I-10 at White Ave.)	coliform
		San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam)	coliform
		San Gabriel River Reach 1 (Estuary to Firestone)	coliform
		Coyote Creek	coliform
	Santa Monica Bay WMA		
46		Marina Del Rey Harbor Beach	beach closures
		Marina Del Rey Harbor Beach	coliform
		Marine del Rey Harbor - Back Basins	coliform
47		Medea Creek Reach 2 (abv. confl. with Lindero)	coliform
		Medea Creek Reach 1 (lake to confl. with Lindero)	coliform
		Las Virgenes Creek	coliform
		Malibu Lagoon	swimming restrictions
		Malibu Lagoon	coliform, enteric viruses
		Malibu Lagoon	shellfish harvesting ad.
		Malibu Creek: lagoon to Malibu Lake	coliform
		Stokes Creek	Coliform
		Lindero Creek Reach 1	coliform
		Lindero Creek Reach 2 (above lake)	coliform
		Palo Comado	Coliform

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
	San Gabriel River Watershed		
37		San Gabriel River Reach 3 (Whittier Narrows to Ramona)	toxicity
		San Gabriel River Reach 2 (Firestone to Whittier Narrows Dam)	NH3
		San Gabriel River Reach 1 (Estuary to Firestone)	NH3
		San Gabriel River Reach 1 (Estuary to Firestone)	algae
		San Gabriel River Reach 1 (Estuary to Firestone)	toxicity
		San Jose Creek Reach 2 (Temple to I-10 at White Ave.)	NH3
		San Jose Creek Reach 2 (Temple to I-10 at White Ave.)	algae
		San Jose Creek Reach 1 (SG confluence to Temple St.)	NH3
		San Jose Creek Reach 1 (SG confluence to Temple St.)	algae
		Coyote Creek	NH3
		Coyote Creek	algae
		Walnut Creek	toxicity
		Walnut Creek	pH
38		San Gabriel River East Fork	trash
39		San Jose Creek Reach 2 (Temple to I-10 at White Ave.)	Pb
		San Gabriel River Estuary	As
		Coyote Creek	Ag
40		Legg Lake	trash
41		Puddingstone Reservoir	DDT, PCBs, chlordane
42		El Dorado Lakes	Hg
		El Dorado Lakes	Cu, Pb
		Puddingstone Reservoir	Hg
		Legg Lake	Cu, Pb
		Santa Fe Dam Park Lake	Pb, Cu
43		Coyote Creek	abnormal fish histology
		San Gabriel River Reach 1 (ry to Firestone)	abnormal fish histology

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
48		Malibu Beach	beach closures
		Malibu Lagoon Beach (Surfrider)	beach closures
		Malibu Lagoon Beach (Surfrider)	coliform
		Dockweiler Beach	beach closures
		Dockweiler Beach	coliform
		Redondo Beach	beach closures
		Redondo Beach	coliform
		Santa Monica Beach	beach closures
		Santa Monica Beach	coliform
		Paradise Cove Beach	beach closures
		Paradise Cove Beach	coliform
		Topanga Beach	beach closures
		Topanga Beach	coliform
		Las Flores Beach	coliform
		Torrance Beach	beach closures
		Torrance Beach	coliform
		Trancas Beach (Broad Beach)	beach closures
		Trancas Beach (Broad Beach)	coliform
		Will Rogers Beach	beach closures
		Will Rogers Beach	coliform
		Big Rock Beach	coliform
		Big Rock Beach	beach closures
		Cabrillo Beach (Outer)	beach closures
		Cabrillo Beach (Outer)	coliform
		Venice Beach	beach closures
		Venice Beach	coliform
		Manhattan Beach	beach closures
		Hermosa Beach	beach closures
		Dan Blocker Memorial Beach	coliform
		Leo Carillo Beach (south of County line)	Beach closures
		Leo Carillo Beach (south of County line)	coliform
		Long Point Beach	coliform
		Whites Point Beach	beach closures

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
		Point Dume Beach	beach closures
		Las Tunas Beach	beach closures
		Point Vicente Beach	beach closures
		Malaga Cove Beach	beach closures
		Lunada Bay Beach	beach closures
		Zuma (Westward Beach)	beach closures
		Point Fermin Park Beach	beach closures
		Puerco Beach	beach closures
		Portugese Bend Beach	beach closures
		Royal Palms Beach	beach closures
		Sea Level Beach	beach closures
		Rocky Point Beach	beach closures
		Resort Point Beach	beach closures
		Robert H. Meyer Memorial Beach	beach closures
		Abalone Cove Beach	beach closures
		Flat Rock Point Beach Area	beach closures
		Escondido Beach	beach closures
		Carbon Beach	beach closures
		Castlerock Beach	beach closures
		La Costa Beach	beach closures
		Bluff Cove Beach	beach closures
		Inspiration Point Beach	beach closures
		Nicholas Canyon Beach	beach closures
		Palos Verdes Shoreline Point Beach	Beach closures
		Santa Monica Canyon	pathogens
		Ashland Avenue Drain	coliform
		Sepulveda Canyon	coliform
		Pico Kenter Drain	coliform
		Ballona Creek Estuary	coliform, enteric viruses
		Ballona Creek Estuary	coliform
		Ballona Creek	shellfish harvesting adv.
		Malibu Lagoon	coliform, enteric viruses
			eutroph.

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
		Malibu Creek: Lagoon to Malibu Lake	nutrients (algae)
		Malibu Creek: lagoon to Malibu Lake	unnatural scum/foam
		Las Virgenes Creek	nutrients (algae)
		Las Virgenes Creek	unnatural scum/foam
		Las Virgenes Creek	low DO, org. enrichment
		Lindero Creek Reach 2 (above lake)	unnatural scum/foam
		Lindero Creek Reach 2 (above lake)	algae
		Medea Creek Reach 2 (abv. confl. with Lindero)	algae
		Medea Creek Reach 1 (lake to confl. with Lindero)	algae
		Lindero Creek Reach 1	unnatural scum/foam
		Lindero Creek Reach 1	algae
		Malibou Lake	algae, eutroph.
		Malibou Lake	low DO, org. enrichment
		Lake Lindero	eutroph., algae
		Lake Lindero	odors
		Westlake Lake	NH3
		Westlake Lake	eutroph., algae
		Westlake Lake	low DO, org. enrichment
		Lake Sherwood	NH3
		Lake Sherwood	Eutroph., algae
		Lake Sherwood	low DO, org. enrichment
51		Ballona Wetland	trash
		Ballona Creek	trash
52		Santa Monica Bay Nearshore and Offshore Zone	Hg
		Santa Monica Bay Nearshore and Offshore Zone	Cd, Cu, Pb, Ni, Ag, Zn
53		Santa Monica Bay Nearshore and Offshore Zone	chlordane
54		Marina del Rey Harbor - Back Basins	DDT, PCBs, chlordane
		Marina del Rey Harbor - Back Basins	dieldrin
		Marina del Rey Harbor - Back Basins	benthic comm. effects
		Marina del Rey Harbor - Back Basins	fish consumption advisory

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
		Marina del Rey Harbor - Back Basins	sediment toxicity
55		Ballona Creek	PCBs, DDT, ChemA, chlordane, dieldrin
		Ballona Creek	sediment toxicity
		Ballona Creek Estuary	PCBs, DDT, chlordane, PAHs
		Ballona Creek Estuary	sediment toxicity
56		Marina del Rey Harbor - Back Basins	Pb
		Marina del Rey Harbor - Back Basins	Cu, Zn
57		Ballona Creek	Pb, Ag
		Ballona Creek	As, Cu, Cd
		Ballona Creek	toxicity
		Ballona Creek Estuary	Pb, Zn
		Ballona Wetland	As
58		Santa Monica Bay Nearshore and Offshore Zone	DDT, PCBs, PAHs
		Santa Monica Bay Nearshore and Offshore Zone	sediment toxicity
		Santa Monica Bay Nearshore and Offshore Zone	fish consumption advisory
		Nicholas Canyon Beach	DDT, PCBs
		Paradise Cove Beach	DDT, PCBs
		Robert H. Meyer Memorial Beach	DDT, PCBs
		Point Dume Beach	DDT, PCBs
		Sea Level Beach	DDT, PCBs
		Whites Point Beach	DDT, PCBs
		Trancas Beach (Broad Beach)	DDT, PCBs
		Topanga Beach	DDT, PCBs
		Royal Palms Beach	DDT, PCBs
		Point Fermin Park Beach	DDT, PCBs
		Redondo Beach	DDT, PCBs
		Puerco Beach	DDT, PCBs
		Portugese Bend Beach	DDT, PCBs
		Amarillo Beach	DDT, PCBs
		Zuma (Westward Beach)	DDT, PCBs

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TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
		Malibu Lagoon Beach (Surfrider)	DDT, PCBs
		La Costa Beach	DDT, PCBs
		Big Rock Beach	DDT, PCBs
		Bluff Cove Beach	DDT, PCBs
		Cabrillo Beach (Outer)	DDT, PCBs
		Carbon Beach	DDT, PCBs
		Castlerock Beach	DDT, PCBs
		Escondido Beach	DDT, PCBs
		Flat Rock Point Beach Area	DDT, PCBs
		Inspiration Point Beach	DDT, PCBs
		Las Tunas Beach	DDT, PCBs
		Abalone Cove Beach	DDT, PCBs
		Malaga Cove Beach	DDT, PCBs
		Las Flores Beach	DDT, PCBs
		Long Point Beach	DDT, PCBs
		Malibu Beach	DDT
		Palos Verdes Shoreline Point Beach	pesticides
59		Sepulveda Canyon	NH3
		Pico Kenter Drain	NH3
60		Topanga Cyn Creek	Pb
		Sepulveda Canyon	Pb
		Pico Kenter Drain	Pb
		Pico Kenter Drain	Cu
		Pico Kenter Drain	toxicity
		Santa Monica Canyon	Pb
61		Westlake Lake	chlordane
		Malibou Lake	chlordane, PCBs
62		Ashland Avenue Drain	low DO, org. enrichment
63		Medea Creek Reach 2 (abv. confl. with Lindero)	trash

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
		Medea Creek Reach 1 (lake to confl. with Lindero)	trash
		Lake Lindero	trash
		Lindero Creek Reach 2 (above lake)	trash
		Lindero Creek Reach 1	trash
		Malibu Creek: lagoon to Malibu Lake	trash
		Las Virgenes Creek	trash
64		Pico Kenter Drain	trash
65		Ballona Wetland	exotic vegetation
		Ballona Wetland	habitat alteration, hydromodification, reduced tidal flushing
66		Santa Monica Bay Nearshore and Offshore Zone	debris
67		Lake Lindero	chloride, spec. cond.
68		Westlake Lake	Pb
		Westlake Lake	Cu
		Malibou Lake	Cu
		Lake Sherwood	Hg
		Lake Calabasas	Zn
		Lake Calabasas	Cu
		Lake Lindero	Se
		Triunfo Cyn Creek Reach 1	Pb, Hg
		Triunfo Cyn Creek Reach 2	Pb, Hg
		Medea Creek Reach 2 (abv. confl. with Lindero)	Se
		Medea Creek Reach 1 (lake to confl. with Lindero)	Se
		Las Virgenes Creek	Se
		Lindero Creek Reach 2 (above lake)	Se
		Lindero Creek Reach 1	Se
69		Ashland Avenue Drain	toxicity

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
70		Ballona Creek	TBT
		Marina del Rey Harbor - Back Basins	TBT
71		Malibu Lagoon	benthic comm. effects
	Dominguez Channel and LA/LB Harbors WMA		
72		Los Angeles Harbor (part. Main Ch., Fish Hbr, and breakwater)	beach closure
		Cabrillo Beach (Inner) LA Harbor	beach closures
73		Dominguez Channel Estuary (to Vermont)	benthic comm. effects
		Dominguez Channel Estuary (to Vermont)	ChemA, chlordane, DDT, PCBs
		Dominguez Channel Estuary (to Vermont)	aldrin, dieldrin
		Dominguez Channel (above Vermont)	ChemA, chlordane, DDT, PCBs
		Dominguez Channel (above Vermont)	aldrin, dieldrin
		Los Angeles Harbor: Consolidated Slip	benthic comm. effects
		Los Angeles Harbor: Consolidated Slip	DDT, PCBs
		Los Angeles Harbor: Consolidated Slip	sediment toxicity
		Los Angeles Harbor: Consolidated Slip	chlordane
		Los Angeles Harbor (part. Main Ch., Fish Hbr, and breakwater)	DDT, PCBs
		Los Angeles Harbor (part. Main Ch., Fish Hbr, and breakwater)	sediment toxicity
		Los Angeles Harbor: Southwest Slip	DDT, PCBs
		Los Angeles Harbor: Southwest Slip	sediment toxicity
		San Pedro Bay nearshore and offshore zone: Cabrillo Pier area	DDT, PCBs
		San Pedro Bay nearshore and offshore zone: Cabrillo Pier area	sediment toxicity
		Cabrillo Beach (Inner) LA Harbor	DDT, PCBs
		Long Beach Harbor (part. Main Ch., SE Basin, West Basin, Pier J, and breakwater)	benthic comm. effects
		Long Beach Harbor (part. Main Ch., SE Basin, West Basin, Pier J, and breakwater)	DDT, PCBs
		Long Beach Harbor (part. Main Ch., SE Basin, West Basin, Pier J, and breakwater)	sediment toxicity
		Machado Lake (Harbor Lake)	ChemA, chlordane, DDT, PCBs, dieldrin
74		Dominguez Channel (above Vermont)	PAHs

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
		Dominguez Channel Estuary (to Vermont)	PAHs
		Los Angeles Harbor: Consolidated Slip	PAHs
		Los Angeles Harbor (part. Main Ch., Fish Hbr, and breakwater)	PAHs
		Long Beach Harbor (part. Main Ch., SE Basin, West Basin, Pier J, and breakwater)	PAHs
		San Pedro Bay nearshore and offshore zone: Cabrillo Pier area	PAHs
75		Torrance Carson Channel	Cu, Pb
		Wilmington Drain	Cu, Pb
		Dominguez Channel (above Vermont)	Cu, Pb
		Dominguez Channel (above Vermont)	Cr
		Dominguez Channel (above Vermont)	Zn
		Dominguez Channel Estuary (to Vermont)	Cu, Pb
		Dominguez Channel Estuary (to Vermont)	Cr
		Dominguez Channel Estuary (to Vermont)	Zn
		Los Angeles Harbor: Consolidated Slip	Pb
		Los Angeles Harbor: Consolidated Slip	Cr, Zn
		Los Angeles Harbor (part. Main Ch., Fish Hbr and breakwater)	Cu, Zn
76		Machado Lake (Harbor Lake)	algae, eutroph.
		Machado Lake (Harbor Lake)	NH3
		Machado Lake (Harbor Lake)	odors
77		Wilmington Drain	NH3
		Dominguez Channel (above Vermont)	NH3
		Dominguez Channel Estuary (to Vermont)	NH3
78		San Pedro Bay nearshore and offshore zone: Cabrillo Pier area	Zn, Cu, Cr
79		Los Angeles Harbor: Consolidated Slip	TBT
		Los Angeles Harbor (part. Main Ch., Fish Hbr, and breakwater)	TBT
80		Dominguez Channel (above Vermont)	coliform
		Dominguez Channel Estuary (to Vermont)	coliform

EXHIBIT 1

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
		Torrance Carson Channel	coliform
		Wilmington Drain	coliform
81		Machado Lake (Harbor Lake)	trash
	Los Cerritos Channel and Alamitos Bay WMA		
82		Colorado Lagoon	DDT, PCBs, chlordane
		Colorado Lagoon	dieldrin
		Colorado Lagoon	sediment toxicity
83		Colorado Lagoon	PAHs
		Colorado Lagoon	Pb, Zn
84		Los Cerritos Channel	Zn
		Los Cerritos Channel	Cu, Pb
85		Los Cerritos Channel	NH3
86		Los Cerritos Channel	coliform
	Ventura River Watershed		
87		Ventura River Estuary	DDT
88		Ventura River Reach 2 (Main St. to Weldon Canyon)	algae
		Ventura River Reach 1 (estuary to Main St.)	algae
		Ventura River Estuary	algae, eutroph.
89		Ventura River Reach 4 (Coyote Creek to Camino Cielo Rd.)	pumping, water diversions
		Ventura River Reach 3 (Weldon Canyon to confl. w/ Coyote Cr.)	pumping, water diversions
90		Ventura River Reach 2 (Main St. to Weldon Canyon)	Cu, Zn
		Ventura River Reach 2 (Main St. to Weldon Canyon)	Ag

ES-15

TMDL ANALYTICAL UNIT#	Watershed	List of Water Quality Limited Segments Requiring TMDL(s)	Associated 303(d) Listed Pollutant(s) for which TMDL(s) shall be completed
		Ventura River Reach 1 (estuary to Main St.)	Cu, Zn
		Ventura River Reach 1 (estuary to Main St.)	Ag
91		Ventura River Estuary	trash
92		Ventura River Reach 2 (Main St. to Weldon Canyon)	Se

Note:

[1] Generated from information contained in the State of California's 1998 303(d) List, as approved by EPA, October 1998.

EXHIBIT 1

ATTACHMENT 3

14-1069

Attachment 3: SCHEDULE FOR SPECIFIED WATERS

TMDL Analytical Unit Number	REQUIRED COMPLETION DATE OF TMDLs FOR ALL WQLS AND POLLUTANTS WITHIN GIVEN TMDL ANALYTICAL UNIT						
	1 year after E.D. 3/2000	2 yrs. after E.D. 3/2001	3 yrs. after E.D. 3/2002	4 yrs. after E.D. 3/2003	5 yrs. after E.D. 3/2004	6 yrs. After E.D. 3/2005	7 yrs. after E.D. 3/2006
50			X				
47			X				
54						X	
56						X	
46				X			
48			X				
52					X		
53							X
11				X			
13					X		
12		X					
14							X
57					X		
55					X		
49							X
51		X					
38	X						
37				X			
39							X
2						X	

14-1010

State of California
California Regional Water Quality Control Board, Los Angeles Region

RESOLUTION NO. R09-004

July 16, 2009

Approval of the 2008 Los Angeles Regional Water Quality Control Board Integrated Report of Federal Clean Water Act (CWA) Section 305(b) And Section 303(d) List of Water Quality Limited Segments

WHEREAS, the California Regional Water Quality Control Board, Los Angeles Region, finds that:

1. The Clean Water Act (CWA) requires each State to assess the status of water quality in the State (Section 305(b)), and provide a list of impaired water bodies (Section 303(d)) to the U.S. Environmental Protection Agency (U.S. EPA) every two years.

2. The 2008 Los Angeles Regional Water Quality Control Board Integrated Report includes the requirements of CWA Section 305(b) and Section 303(d).

3. The list of waters identified under the CWA section 303(d) must also include a
   a. description of the pollutants causing impairment and
   b. priority ranking of the waters for the purposes of development of Total Maximum Daily Loads (TMDLs).

4. After reviewing all relevant evidence submitted before or during the comment period for the 2008 Los Angeles Regional Water Quality Control Board Integrated Report, Regional Water Quality Control Board staff have:

   a. For 305(b), made overall beneficial use support ratings for water bodies that have been assessed for this 2008 assessment cycle. Categories 1, 2, 3, 4, and 5 of the Integrated Report reflect the outcome of the overall use support ratings.

   b. For 303(d), made recommendations to add, remove or change the 2006 CWA Section 303(d) list of water body-pollutant combinations for the 2008 Los Angeles RWQCB Integrated Report. The 303d list is reflected in Categories 4 and 5 of this Integrated Report.

5. The public has had a reasonable opportunity to participate in the development of the Integrated Report. On December 4, 2006, Water Board staff solicited the public to submit any and all water quality data to be considered in preparation of the 2008 303(d) list and 305(b) report. This solicitation established a data submittal deadline of February 28, 2007. On January 30, 2007, staff transmitted a notice clarifying that there were no limits on the type or format of data and information that the public could provide to the Water Boards for their assessment. A draft of the report was released on April 30, 2009; a Notice of Hearing and Notice of Filing

were published and circulated 45 days preceding Board Action; Regional Board staff responded to oral and written comments received from the public; and the Regional Board held a public hearing on July 16, 2009 to consider approval of this report.

6. In developing the 2008 Los Angeles RWQCB Integrated Report, the RWQCB has considered all readily available data and information.

7. On July 16, 2009, prior to the Board's action on this resolution, a public hearing was conducted on the Integrated Report. The Notice of the hearing was published in accordance with the requirements of Water Code Section 13244. This notice was published in the Los Angeles Times and the Ventura County Star on April 30, 2009.

THEREFORE, be it resolved that the Regional Board, in fulfillment of the federal Clean Water Act and the California Water Code, hereby:

Acknowledges the completion of the 2008 Los Angeles Regional Water Quality Control Board Integrated Report

Approves the list of proposed additions, deletions or modifications to the Region's 303(d) list

Authorizes the Executive Officer to transmit the 2008 Los Angeles RWQCB Integrated Report and other supporting information to the State Water Board for its consideration and approval.

If during State Board's approval process the State Board determines that minor, non-substantive corrections to the language of the report are needed for clarity or consistency, the Executive Officer may make such changes, and shall inform the Board of any such changes.

I, Tracy J. Egoscue, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of a resolution adopted by the California Regional Water Quality Control Board, Los Angeles Region, on July 16, 2009.

Samuel Unger AEO for
Tracy J. Egoscue
Executive Officer

8-5-09
Date

14-1012

...AND DELIVERED

COUNTY OF LOS ANGELES

DEPARTMENT OF PUBLIC WORKS

"To Enrich Lives Through Effective and Caring Service"

900 SOUTH FREMONT AVENUE
ALHAMBRA, CALIFORNIA 91803-1331
Telephone: (626) 458-5100
www.ladpw.org

DONALD L. WOLFE, Director

ADDRESS ALL CORRESPONDENCE TO:
P.O. BOX 1460
ALHAMBRA, CALIFORNIA 91802-1460

...JUN 12 PM 3:46

...REGIONAL WATER
QUALITY CONTROL BOARD
LOS ANGELES REGION

June 12, 2006

IN REPLY PLEASE
REFER TO FILE: WM-9

Mr. Jonathan Bishop, Executive Director
California Regional Water Quality
Control Board – Los Angeles Region
320 West 4th Street, Suite 200
Los Angeles, CA 90013-2343

Dear Mr. Bishop:

REPORT OF WASTE DISCHARGE
COUNTY OF LOS ANGELES NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MUNICIPAL STORMWATER PERMIT ORDER 01-182
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT CAS004001

The enclosed Report of Waste Discharge (ROWD) is being submitted as the Los Angeles County Municipal Stormwater application for renewal of waste discharge requirements adopted in Order 01-182 by your Board. This ROWD has been prepared by the Principal Permittee through a stakeholder process. Permittees who are participating in this application renewal are listed in Section 2.0, Table 2.

The County of Los Angeles and the Los Angeles County Flood Control District are signatory to the enclosed ROWD.

If you have any questions, please contact Ms. Carrie Douangsitthi at (626) 458-4346, Monday through Thursday, 7:15 a.m. to 6 p.m.

Very truly yours,

DONALD L. WOLFE
Director of Public Works

MARK PESTRELLA
Assistant Deputy Director
Watershed Management Division

JS:ad
P:\wmpub\NPDES\SowinskaJ\1.doc\C06283

Enc.

cc: State Water Resources Control Board
United States Environmental Protection Agency, Region 9

bc: Watershed Management (Lafferty, Pereira, Wu)

14-1013

Date

REPORT OF WASTE DISCHARGE

Renewal Application for the County of Los Angeles
National Pollutant Discharge Elimination System
Municipal Stormwater Permit
Order 01-182
NPDES Permit CAS004001

June 12, 2006

14-1014

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1.0 INTRODUCTION

1.1 PURPOSE

In accordance with the requirements found in Part 6, Section S, of the existing 2001 Los Angeles County National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit (NPDES CAS004001), Order 01-182, this Report of Waste Discharge (ROWD) constitutes the Los Angeles County Municipal Stormwater application for renewal of waste discharge requirements adopted in Order 01-182 by the Regional Water Quality Control Board, Los Angeles Region (Regional Board). Permittees listed in Section 2 (Applicant Information) have elected to participate in this ROWD application. However, not all Permittees under this Order have joined this application renewal. These other Permittees will submit separate ROWDs for coverage under an NPDES Municipal Stormwater Permit.

In addition to the report and recommendations contained herein, Permittees reserve their right to object to those terms of the NPDES Permit or modifications to those terms of the Permit, which are not addressed in this ROWD. This ROWD, and the contents herein, do not constitute a waiver of the Permittees' rights to challenge objectionable terms contained in previous, current, or future Permits, and no contrary inference should be drawn. Permittees further reserve their right to further revise, modify, and/or challenge any item addressed in this ROWD.

The State and Regional Board must make every effort to comply with the California Environmental Quality Act (CEQA) and mitigate any impacts resulting from the implementation of NPDES Permit requirements.

1.2 REGULATORY BACKGROUND

The 1972 Clean Water Act established the NPDES Permit Program to regulate the discharge of pollutants from point sources to waters of the United States. However, pollution from land and urban runoff was largely unabated for over a decade.

In response to the 1987 Amendments to the Federal Clean Water Act (CWA), the United States Environmental Protection Agency (EPA) developed Phase I of the NPDES Stormwater Program in 1990, which established a framework for regulating urban stormwater runoff. The Phase I program addressed sources of stormwater runoff that had the greatest potential to negatively impact water quality. Under Phase I, the EPA required NPDES Permit coverage for stormwater discharges from:

- Medium and large municipal separate storm sewer systems (MS4) with populations of 100,000 or more; and
- Companies that fall within 11 categories of industrial activity, including construction activity that disturbs 5 or more acres of land.

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Operators of MS4s regulated under the Phase I NPDES Stormwater Program were required to obtain Permit coverage for stormwater discharges under their control. The most significant portion of application was the development of a proposed stormwater management program that would meet the standard of "reducing pollutants to the maximum extent practicable (MEP)." Stormwater management programs for medium and large MS4s include measures to:

- Identify major outfalls and pollutant loadings;
- Detect and eliminate nonstormwater discharges to the system;
- Reduce pollutants in runoff from industrial, commercial, and residential areas; and
- Reduce pollutants from construction sites within their jurisdiction.

1.3 OBJECTIVES

The objective of the Permittees in submitting this ROWD is to successfully renew a Los Angeles County NPDES Municipal Stormwater Permit that includes requirements to achieve the goal of "reducing pollutants to the MEP" while taking into account:

- Feasibility;
- Financial resources available;
- Cost of implementation;
- Overall benefit to water quality;
- Effectiveness of existing Stormwater Quality Management Program (SQMP);
- Suggested improvements to existing SQMP;
- Suggested approaches to improve receiving water quality;
- Use of best available technologies; and
- Integration of impaired water body specific programs.

1.4 PROGRAM DESCRIPTION

On December 13, 2001, the Regional Board adopted Order 01-182 serving as the NPDES Permit for municipal stormwater and urban runoff discharges within the County of Los Angeles. The requirements of Order 01-182 apply to 84 Cities and the unincorporated areas of Los Angeles County under County jurisdiction, with the exception of Avalon, Long Beach, and the portion of Los Angeles County in the Antelope Valley, which includes the Cities of Lancaster and Palmdale. Under the Permit, the Los Angeles County Flood Control District is designated the Principal Permittee, and the County of Los Angeles along with 84 incorporated Cities are designated Permittees. The Principal Permittee coordinates and facilitates activities necessary to comply with the requirements of the Permit, but is not responsible for ensuring compliance of any of the Permittees.

Through the Permit, the Regional Board implemented a Watershed Management Approach to address water quality protection in the region. The Watershed Management Approach intended to provide a comprehensive and integrated strategy

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toward water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. The Permit divides Los Angeles County into the following six Watershed Management Areas (WMAs):

- Ballona Creek and Urban Santa Monica Bay WMA
- Dominguez Channel/Los Angeles Harbor WMA
- Los Angeles River WMA
- Malibu Creek and Rural Santa Monica Bay WMA
- San Gabriel River WMA
- Santa Clara River WMA

A list of Permittees, according to Watershed Management Area, is provided in Table 1.

Table 1 – Table of Permittees

Santa Monica Bay	Los Angeles River	San Gabriel River
Malibu Creek and Other Rural	Alhambra	Artesia
Agoura Hills	Arcadia	Baldwin Park
Calabasas	Bell	Bellflower
Los Angeles County Flood Control	Bell Gardens	Bradbury
Los Angeles County	Burbank	Cerritos
Malibu	Commerce	Claremont
Westlake Village	Compton	Covina
	Cudahy	Diamond Bar
Ballona Creek and Other Urban	El Monte	Duarte
Beverly Hills	Glendale	Hawaiian Gardens
Culver City	Hidden Hills	Industry
El Segundo	Huntington Park	La Habra Heights
Hermosa Beach	La Canada Flintridge	La Mirada
Los Angeles (City of)	Los Angeles (City of)	La Puente
Los Angeles County Flood Control	Los Angeles County Flood Control	La Verne
Los Angeles (County of)	Los Angeles (County of)	Lakewood
Manhattan Beach	Lynwood	Los Angeles County Flood Control
Palos Verdes Estates	Maywood	Los Angeles (County of)
Rancho Palos Verdes	Monrovia	Norwalk
Redondo Beach	Montebello	Pomona
Rolling Hills	Monterey Park	Pico Rivera
Rolling Hills Estates	Paramount	San Dimas
Santa Monica	Pasadena	Santa Fe Springs
West Hollywood	Rosemead	Walnut
	San Fernando	West Covina
	San Gabriel	
	San Marino	**Santa Clara River**
Dominguez Channel	Sierra Madre	Santa Clarita
Carson	South El Monte	Los Angeles County Flood Control
Gardena	South Gate	Los Angeles (County of)
Hawthorne	South Pasadena	
Inglewood	Temple City	

Dominguez Channel (Cont.)	Los Angeles River (Cont.)	
Lawndale	Vernon	
Lomita		
Los Angeles (City of)		
Los Angeles County Flood Control		
Los Angeles (County of)		
Torrance		

Permittees reviewed, discussed, and evaluated several documents and programs to determine the most critical areas to address in this ROWD. Many of the specific proposals presented in this ROWD were derived from dialogue between Permittees.

Initially, the County of Los Angeles hosted four General Assembly meetings. These meetings occurred on October 27, 2005, November 17, 2005, December 15, 2005, and February 8, 2006. All Permittees were invited to participate in an open forum to discuss the direction of the ROWD, share their opinions and concerns for the next Permit and to assess implementation experiences to identify potential improvements to stormwater programs. After several meetings a structure for the preparation of the ROWD was agreed upon. First, Watershed Management Committees would self-elect a watershed representative to participate on a Steering Committee of nine. The Steering Committee included all six watershed representatives, the City of Los Angeles, one at-large Permittee representative, and the County of Los Angeles.

All Permittees were asked to discuss future Permit issues in each of their respective watersheds and to prepare written comments as a watershed. The County compiled the comments into a matrix for discussion by the Steering Committee. The Steering Committee ultimately made decisions on how the comments would be addressed and incorporated into this ROWD.

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2.0 APPLICANT INFORMATION

A total of 78 Permittees along with the County of Los Angeles and the Los Angeles County Flood Control District, which are identified in Table 2 below, have elected to participate in this ROWD application. Please note that not all Permittees under Order 01-182 have joined this application renewal. These other Permittees will submit a separate ROWD application for coverage under an NPDES Municipal Stormwater Permit.

Table 2 – Table of Permittees Joining in ROWD Application

Permittee	Contact Person	Title	Address	
Agoura Hills	Ken Berkman	City Engineer	30001 Ladyface Court	Agoura Hills, CA 91301
Alhambra	James Cowan	Water Quality and Environmental Compliance Supervisor	111 South First Street	Alhambra, CA 91801-3796
Arcadia*	Susannah Turney	Environmental Services Officer	P.O. Box 60021	Arcadia, CA 91066-6021
Artesia	Maria Dadian	Director of Public Works	18747 Clarkdale Avenue	Artesia, CA 90701-5899
Baldwin Park	David Lopez	Associate Engineer	14403 East Pacific Avenue	Baldwin Park, CA 91706-4297
Bell	Luis Ramirez	Deputy City Engineer	6330 Pine Avenue	Bell, CA 90201-1291
Bell Gardens	John Oropeza	Director of Public Works	7100 South Garfield Avenue	Bell Gardens, CA 90201-3293
Bellflower*	Bernie Iniguez	Management Analyst	16600 Civic Center Drive	Bellflower, CA 90706-5494
Beverly Hills	Vincent Chee	Project Civil Engineer	455 North Rexford Drive	Beverly Hills, CA 90210
Bradbury	Elroy Kiepke	City Engineer	600 Winston Avenue	Bradbury, CA 91010-1199
Burbank	Bonnie Teaford	Public Works Director	P.O. Box 6459	Burbank, CA 91510
Calabasas	Alex Farassati	Environmental Services Manager	26135 Mureau Road	Calabasas, CA 91302-3172
Carson*	Patricia Elkins	Building Construction Manager	P.O. Box 6234	Carson, CA 90745
Cerritos*	Mike O'Grady	Environmental Services	P.O. Box 3130	Cerritos, CA 90703-3130

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Permittee	Contact Person	Title	Address	
Claremont*	Andrea Harrington	Associate Civil Engineer	207 Harvard Avenue	Claremont, CA 91711-4719
Commerce*	John Yanai	Interim Community Development Director	2535 Commerce Way	Commerce, CA 90040-1487
Compton	Leslie Alan Pyeatt	Assistant City Engineer	205 South Willowbrook Avenue	Compton, CA 90220-3190
Covina	Charles Redden	Environmental Services Manager	125 East College Street	Covina, CA 91723-2199
Cudahy	George Perez	City Manager	P.O. Box 1007	Cudahy, CA 90201-6097
Culver City	Cathy Chang	Associate Engineer/Stormwater Quality Manager	9770 Culver Boulevard	Culver City, CA 90232-0507
Diamond Bar*	David Liu	Director of Public Works	21825 East Copley Drive	Diamond Bar, CA 91765-4177
Duarte	Steve Esbenshades	Engineering Manager	1600 Huntington Drive	Duarte, CA 91010-2592
El Monte	Carmen Barsu	Associate Engineer	P.O. Box 6008	El Monte, CA 91731
El Segundo	Ron Fajardo	Wastewater Supervisor	350 Main Street	El Segundo, CA 90245-3895
Gardena*	Ron Jackson	Building Maintenance Superintendent	P.O. Box 47003	Gardena, CA 90247-3778
Glendale	Maurice Oillataguerre	Senior Environmental Program Specialist	Engineering Section 633 East Broadway, Room 209	Glendale, CA 91206-4308
Hawaiian Gardens*	Joseph Colombo	Director of Community Development	21815 Pioneer Boulevard	Hawaiian Gardens, CA 90716
Hawthorne	Arnold Shadbehr	Chief General Service and Public Works	4455 West 126th Street	Hawthorne, CA 90250-4482
Hermosa Beach	Homayoun Behboodi	Associate Engineer	1315 Valley Drive	Hermosa Beach, CA 90254-3884
Hidden Hills	Cherie Paglia	City Manager	6165 Spring Valley Road	Hidden Hills, CA 91302
Huntington Park	Wes Lind	City Engineer	6550 Miles Avenue	Huntington Park, CA 90255
Industry	Mike Nagaoka	Director of Public Safety	P.O. Box 3366	Industry, CA 91744-3995
Inglewood	Teri Davis	Administrative Analyst	P.O. Box 6500	Inglewood, CA 90301-1750

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Permittee	Contact Person	Title	Address	
La Canada Flintridge	Steve Castellanos	Director of Public Works	1327 Foothill Boulevard	La Canada Flintridge, CA 91011-2137
La Habra Heights	Ronald Bates	City Manager	1245 North Hacienda Boulevard	La Habra Heights, CA 90631-2570
La Mirada	Steve Forster	Public Works Director	13700 La Mirada Boulevard	La Mirada, CA 90638-0828
La Puente	Rozanne Adanto	Director of Community Services	15900 East Main Street	La Puente, CA 91744-4788
La Verne	Daniel Keesey	Director of Public Works	3660 "D" Street	La Verne, CA 91750-3599
Lakewood	Lisa Rapp	Director of Public Works	P.O. Box 158	Lakewood, CA 90714-0158
Lawndale*	Marlene Miyoshi	Senior Administrative Analyst	14717 Burin Avenue	Lawndale, CA 90260
Lomita	Tom A. Odom	City Administrator	P.O. Box 339	Lomita, CA 90717-0098
Los Angeles	Shahram Kharaghani	Program Manager	1149 S. Broadway, 10th Floor	Los Angeles, CA 90015
Lynwood	Paul Nguyen	Interim Director of Environmental Services	11330 Bullis Road	Lynwood, CA 90262-3693
Malibu	Jennifer Voccola	Environmental Program Analyst	23815 Stuart Ranch Road	Malibu, CA 90265-4861
Manhattan Beach	Lindy Coe-Juell	Senior Management Analyst	1400 Highland Avenue	Manhattan Beach, CA 90266-4795
Maywood	Edward Ahrens	City Manager	4319 East Slauson Avenue	Maywood, CA 90270-2897
Monrovia	David Fike	Director of Public Works	415 South Ivy Avenue	Monrovia, CA 91016-2888
	Doug Benash	City Engineer	415 South Ivy Avenue	Monrovia, CA 91016-2888
	Louis Celaya	Senior Management Analyst	415 South Ivy Avenue	Monrovia, CA 91016-2888
Montebello	Tom Melendrez	City Engineer	1600 West Beverly Boulevard	Montebello, CA 90640-3970
Monterey Park	Tina Clark	Principal Management Analyst	320 West Newmark Avenue	Monterey Park, CA 91754-2896
Norwalk	Chino Consunji	City Engineer	P.O. Box 1030	Norwalk, CA 90651-1030
Palos Verdes Estates	Allan Rigg	Director of Public Works	340 Palos Verdes Drive West	Palos Verdes Estates, CA 90274

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Permittee	Contact Person	Title	Address	
Paramount	Chris Cash	Utility and Infrastructure Assistant Director	16400 Colorado Avenue	Paramount, CA 90723-5091
Pasadena	Danny Wooten	Project Manager Public Works Engineering - Chamber Building, 4th Floor	P. O. Box 7115	Pasadena, CA 91109-7215
Pico Rivera*	Angel Quintero	Water Quality Specialist	P.O. Box 1016	Pico Rivera, CA 90660-1016
Pomona	Yvette Lama	Environmental Program Coordinator	P.O. Box 660	Pomona, CA 91769-0660
Rancho Palos Verdes	Ray Holland	Interim Public Works Director	30940 Hawthorne Boulevard	Rancho Palos Verdes, CA 90275
Redondo Beach	Mike Shay	Principal Civil Engineer	P.O. Box 270	Redondo Beach, CA 90277-0270
Rolling Hills	Yolanta Schwartz	Planning Director	2 Portuguese Bend Road	Rolling Hills, CA 90274-5199
Rolling Hills Estates	Greg Grammer	Assistant to the City Manager	4045 Palos Verdes Drive North	Rolling Hills Estates, CA 90274
Rosemead*	Ken Rukavina	City Engineer	8838 East Valley Boulevard	Rosemead, CA 91770-1787
San Dimas	Kym O'Leary	Administrative Aide	245 East Bonita Avenue	San Dimas, CA 91773-3002
San Fernando	Ron Ruiz	Director of Public Works	117 Macneil Street	San Fernando, CA 91340
San Gabriel	Bruce Mattern	City Engineer	425 South Mission Drive	San Gabriel, CA 91775
San Marino	John Alderson	Director of Parks and Public Works	2200 Huntington Drive	San Marino, CA 91108-2691
Santa Clarita	Oliver Cramer	Environmental Analyst	23920 West Valencia Boulevard, Suite 300	Santa Clarita, CA 91355
Santa Fe Springs*	Sarina Morales-Choate	Civil Engineer Assistant	P.O. Box 2120	Santa Fe Springs, CA 90670-2120
Santa Monica	Neal Shapiro	Urban Runoff Coordinator	1685 Main Street	Santa Monica, CA 90401-3295
Sierra Madre	Veenita Singh	Management Analyst	232 West Sierra Madre Boulevard	Sierra Madre, CA 91024-2312
South El Monte	George Envall	Traffic Engineer	1415 North Santa Anita Avenue	South El Monte, CA 91733-3389
South Gate	Robert T. Dickey	Director of Public Works	8650 California Avenue	South Gate, CA 90280

Permittee	Contact Person	Title	Address	
South Pasadena*	Edwin Galvez	Director of Public Works	1414 Mission Street	South Pasadena, CA 91030-3298
Temple City	Charles Martin	Interim City Manager	9701 Las Tunas Drive	Temple City, CA 91780-2249
Torrance	Leslie Cortez	Senior Administrative Analyst	3031 Torrance Boulevard	Torrance, CA 90503-5059
Vernon*	Samuel Kevin Wilson	Director Community Services	4305 Santa Fe Avenue	Vernon, CA 90058-1786
Walnut	Jack Yoshino	Senior Management Assistant	P.O. Box 682	Walnut, CA 91788
West Covina*	Samuel Gutierrez	Engineering Technician	P.O. Box 1440	West Covina, CA 91793-1440
West Hollywood	Jan Harmon	Environmental Services Specialist	8300 Santa Monica Boulevard	West Hollywood, CA 90069-4314
Westlake Village	Roxanne Hughes	Stormwater Program Coordinator	31200 Oak Crest Drive	Westlake Village, CA 91361
County of Los Angeles	Carrie Douangsitthi	Senior Civil Engineer	900 South Fremont Avenue	Alhambra, CA 91801
Los Angeles County Flood Control District	Carrie Douangsitthi	Senior Civil Engineer	900 South Fremont Avenue	Alhambra, CA 91801

* The City is to be a Permittee under this joint ROWD, but is not joining in select portions and parts of this ROWD, as described in that letter dated June 8, 2006, sent to the County, and copied to the Regional Board for inclusion in the administrative record.

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3.0 PROGRAM ACCOMPLISHMENTS

The 2001 Los Angeles County NPDES Municipal Stormwater Permit set requirements for Discharge Prohibitions, Receiving Water Limitations, Storm Water Quality Management Program Implementation, Special Provisions, Definitions, and Standard Provisions. Some requirements have been in place for several Permit cycles, some have evolved as a result of Permittee implementation and experiences, and others were imposed on the Permittees by the Regional Board. All prohibitions and limitations have been observed and followed to the maximum extent practicable to ensure Permit compliance.

Permittees have implemented programs that meet and often exceed the basic provisions of the existing 2001 NPDES Permit, but also recognize that continued progress requires program approaches that are strategic, measurable, beneficial, cost-effective, and adaptive.

The City of Los Angeles believes major success was achieved in November 2004 when City of Los Angeles voters approved Proposition O, the City's $500 million general obligation bond measure to clean up stormwater and urban runoff. Known as the "Clean Water, Ocean, River, Beach, Bay Storm Water Cleanup Measure," Proposition O passed with nearly 76 percent of City residents voting "yes." The City of Los Angeles believes passage of Proposition O improves the City's ability to comply with near-term State and Federal water quality mandates. The bond monies can be applied only toward capital improvement projects and the City of Los Angeles contends that funding for any associated operation and maintenance activities must still be secured.

3.1 STORMWATER QUALITY MANAGEMENT PROGRAM

As a general requirement, all Permittees implemented the SQMP and its components to reduce the discharge of pollutants in stormwater to the MEP. Where necessary, Permittees implemented additional controls to reduce the discharge of pollutants to and from the MS4. Permittees made a good faith effort to require and implement the most effective combination of BMPs for stormwater/urban runoff pollution control.

The Principal Permittee coordinated and facilitated activities to comply with the requirements of the 2001 NPDES Permit. The Los Angeles County Department of Public Works (Public Works) coordinated Permit activities among Permittees and the Principal Permittee acted as a liaison between Permittees and the Regional Board.

For coordination purposes, Permittees previously established an ad hoc Countywide committee known as the Executive Advisory Committee (EAC), and for each of the WMAs, a Watershed Management Committee (WMC) has been formed. The EAC's role is to help facilitate programs throughout the region and to enhance consistency among all of the programs. The WMCs provide the leadership framework to facilitate development of the Watershed Management Area Plans and to foster Permittee

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cooperation. The six WMCs are required to meet quarterly; however, some WMCs have decided to meet monthly.

The Principal Permittee implemented the Countywide Monitoring Program and evaluated, assessed, and synthesized the results of the monitoring program. Annual Monitoring Reports were submitted by August 15 of each year and the 1994-2005 Integrated Receiving Water Impacts Report was submitted on August 15, 2005. In addition, the Principal Permittee coordinated the collection, processing, and submittal of annual reports to the Regional Board. Permittees prepared an annual budget summary of expenditures applied to the stormwater management program.

Permittees obtained and possessed the necessary legal authority to prohibit non-stormwater discharges to the storm drain system. Ordinances were adopted to prohibit the discharge of runoff to the MS4 from: wash water from the cleaning of gas stations, auto repair garages, or other types of automotive services facilities; mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations; areas where repair of machinery and equipment, that are visibly leaking oil, fluid or antifreeze, is undertaken; storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials; chlorinated/brominated swimming pool water and filter backwash; the washing of toxic materials from paved or unpaved areas; washing impervious surfaces in industrial/commercial areas; and concrete or cement laden wash water from concrete trucks, pumps, tools, and equipment.

3.2 PUBLIC INFORMATION AND PARTICIPATION

The Principal Permittee developed and implemented a Public Information and Participation Program (PIPP) that met the following objectives:

- Measurably increase the knowledge of the target audience regarding the MS4, the impacts of stormwater pollution on receiving waters, and potential solutions to mitigate the problems caused;
- Measurably change the waste disposal and runoff pollution generating behavior of target audiences by encouraging implementation of appropriate solutions; and
- Involve and engage socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of stormwater pollution.

The public education campaign was designed to meet the objectives of the 2001 NPDES Permit. Modifications have been made based on research results and current social marketing theory to achieve the desired behavior change. Permittees worked hard to comply with the requirements of the PIPP under the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by Permittees.

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3.3 INDUSTRIAL/COMMERCIAL FACILITIES CONTROL

Pursuant to the Permit, Permittees required the implementation of pollutant reduction and control measures at industrial and commercial facilities, with the intent of reducing pollutants in stormwater runoff to the MEP. The pollutant reduction and control measures used include source control BMPs, and operational and maintenance procedures. The objective of the Industrial/Commercial Facilities Control Program was to track, inspect, and ensure compliance at industrial and commercial facilities that were identified as critical sources of pollutants in stormwater.

Any inspection obligations in exceedance of Federal regulations constitute a State mandate and should be funded by the Regional Board in accordance with the precepts set forth in Article XIII, Section 6, of the California Constitution. The Regional Board shall consider the economic impacts of mandating Permit requirements that exceed Federal regulations. The Federal regulations only require Permittees to have a program to monitor and control pollutants in stormwater discharges from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and industrial facilities that the municipalities determine are contributing a substantial pollutant loading to the MS4. Permittees reserve their right to object to any further requirement, and the discussion reporting on activities taken pursuant to the Permit and recommendations for improvements, if inspections are included in the next Permit, should not be construed as a waiver of this objection.

Permittees developed and maintained databases for facilities within their own jurisdictions that were identified as critical sources of stormwater pollution in the 2001 NPDES Permit. The critical sources tracked are summarized below:

- Restaurants;
- Automotive service facilities;
- Retail gasoline outlets (RGOs) and automotive dealerships;
- U.S. EPA Phase I facilities (Tiers 1 and 2);
- Other federally-mandated facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)];
- Municipal landfills;
- Hazardous waste treatment, disposal, and recovery facilities; and
- Facilities subject to Superfund Amendments and Reauthorization Act (SARA) Title III (also known as Emergency Planning and Community Right-To-Know Act EPCRA).

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Each Permittee collected information and updated on a regular basis an inventory of critical sources. Permittees collected the following information for each industrial and commercial facility:

- Name of facility and name of owner/operator;
- Address;
- Coverage under the General Industrial Activity Storm Water Permit (GIASP) or other individual or general NPDES permits; and
- A narrative description, including Standard Industry Classification (SIC) codes, that best reflects the industrial activities and principal products at each facility.

The first round of inspections under the 2001 NPDES Permit, for the critical source facilities identified above, were completed by August 1, 2004. Inspections are currently underway for the second round, which are expected to be completed in fall 2006. The critical source facilities received educational materials on stormwater pollution prevention practices and were inspected to ensure that the facility:

- Does not pour oil and grease or oil and grease residue onto a parking lot, street, or adjacent catch basin;
- Keeps trash bin areas clean and trash bin lids closed, and does not fill trash bins with washout water or any other liquid;
- Does not allow illicit discharges, such as the discharge of wash water from floor mats, floors, porches, parking lots, alleys, sidewalks, and street areas (in the immediate vicinity of the establishment), filters or garbage/trash containers;
- Removes food waste, rubbish, or other materials from parking lot areas in a sanitary manner that does not create a nuisance or discharge to the storm drain;
- Maintains the facility area so that it is clean and dry and without evidence of excessive staining;
- Implements housekeeping BMPs to prevent spills and leaks;
- Properly discharges wastewaters to a sanitary sewer and/or contains wastewaters for transfer to a legal point of disposal;
- Is aware of the prohibition on discharge of nonstormwater to the storm drain;
- Properly manages raw and waste materials, including proper disposal of hazardous waste;

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- Protects outdoor work and storage areas to prevent contact of pollutants with rainfall and runoff;

- Labels, inspects, and routinely cleans storm drain inlets that are located on the facility's property;

- Routinely sweeps fuel-dispensing areas for removal of litter and debris, and keeps rags and absorbents ready for use in case of leaks and spills;

- Is aware that wash down of facility area to the storm drain is prohibited;

- Is aware of design flaws (such as poor grading that does not prevent run-on, or inadequate roof covers and berms), and that appropriate BMPs are implemented;

- Inspects and cleans storm drain inlets and catch basins within each facility's boundaries no later than October 1 of each year;

- Posts signs close to fuel dispensers, which warn vehicle owners/operators against "topping off" of vehicle fuel tanks and the use of automatic shut-off dispenser nozzles;

- Routinely checks outdoor waste receptacle and air/water supply areas, cleans leaks and drips, and ensures that only watertight waste receptacles are used and that lids are closed;

- Trains employees to properly manage hazardous materials and wastes as well as to implement other stormwater pollution prevention practices; and

- Has, if needed, a current Waste Discharge Identification (WDID) number for facilities discharging stormwater associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and is effectively implementing BMPs in compliance with Los Angeles County Code, Regional Board Resolution 98-08, and the SQMP.

While Permittees were not required to inspect facilities under the 2001 NPDES Permit that had been inspected by the Regional Board within 24 months, the Principal Permittee found it difficult to schedule inspections in advance without timely and detailed information posted on the Regional Board's website on facilities they have or are scheduled to inspect. The information provided on the website was not specific enough to the Municipal Permittees, and specifically for the unincorporated areas of the County of Los Angeles. The Regional Board's spreadsheet of industrial facilities inspected (see link: http://www.waterboards.ca.gov/rwqcb4/html/programs/stormwater/sw_industrial_inspections.html) does not provide detailed enough jurisdictional information with respect to the unincorporated areas of Los Angeles County. Mailing address city names are provided, though these city names are not necessarily the same as the actual jurisdiction.

Permittees evaluated compliance of industrial/commercial facilities that were identified as critical sources under the 2001 NPDES Permit. Various industrial/commercial facilities inspections resulted in additional BMPs being required. Most of the BMPs required were to address issues involving operations that were exposed to stormwater, washing operations, and trash/litter management.

Permittees participated in various task forces, including the Los Angeles County District Attorney Strike Force, the City of Los Angeles Strike Force, and the Federal Los Angeles Environmental Group Strike Force, and worked closely with the Regional Board and other Permittees to resolve stormwater-related violations and other issues.

Permittees have found that the program has been effective in educating and bringing awareness to restaurant and other business operators on stormwater pollution prevention measures. The success of this program resulted in increasing efforts made by business owners to reduce pollutants in stormwater in order to comply with regulations.

Public Works, Environmental Programs Division, was the lead agency to implement pollutant reduction and control measures through inspections of industrial and commercial facilities within the unincorporated areas of Los Angeles County. 3,743 critical source facilities in the unincorporated areas were inspected in the first round. Approximately 15 percent of all sites inspected resulted in BMPs being required to address stormwater-related pollution. Less than 1 percent of all facilities were referred to the Regional Board for violations.

As part of other mandates on the County of Los Angeles, inspections of critical source facilities with underground storage tanks (in the unincorporated areas and 74 Permittee Cities) and/or with industrial waste permits (in the unincorporated areas and in 38 Permittee Cities) were conducted on a regular basis, to enforce stormwater regulations and requirements of the Industrial/Commercial Facilities Control Program during each inspection.

The Industrial/Commercial Facilities Control Program was designed to meet the objectives of the 2001 NPDES Permit. Permittees worked hard to comply with the requirements of the Industrial/Commercial Facilities Control Program under the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by Permittees.

3.4 DEVELOPMENT PLANNING

Permittees implemented a Development Planning Program that attempted to minimize impacts from stormwater and urban runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA.

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Public works, in consultation with Permittees, funded the *Peak Discharge Impact Study*, which was coordinated by the Southern California Stormwater Monitoring Coalition and project managed by the Southern California Coastal Waters Research Project. Interim Peak Flow Criteria were adopted by Public Works on January 31, 2005. The technical report is available on the internet at ftp://ftp.sccwrp.org/pub/download/pdfs/450_peak_flow.pdf.

In general, Permittees developed and made SUSMP guidelines available to developers. Applicable projects have been conditioned to meet the SUSMP requirements prior to a Building or Grading Permit being issued.

Public Works developed a technical manual for siting and design of BMPs for the development community. The various types of structural BMPs Permittees have required developers to incorporate into their projects include catch basin inserts, hydrodynamic devices, vortex separators, biofilters, on-site clarifiers, vegetative swales, perforated pipes in rock filled trenches, and detention basins.

Most private consulting engineers, contractors, and developers doing business with the Public Works are aware of the requirements of the Development Planning Program. Further, vendors of proprietary BMPs as well as advocates of nonproprietary practices are routinely invited to make presentations to the Public Works staff, a practice that keeps staff up-to-date on current stormwater treatment methods and helps them make informed decisions about applicability and effectiveness. The Principal Permittee has gone above and beyond the requirements of the Permit by establishing a BMP Task Force and developing the BMPLA.org website, which includes a Yellow Pages for BMP manufacturers, distributors, product descriptions, and services.

The Development Planning Program was designed to meet the objectives of the NPDES Permit. Permittees worked hard to comply with the requirements of the Development Planning Program under the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by Permittees.

3.5 DEVELOPMENT CONSTRUCTION

Any inspection obligations in exceedance of Federal regulations constitute a State mandate and should be funded by the Regional Board in accordance with the precepts set forth in Article XIII, Section 6, of the California Constitution. The Regional Board shall consider the economic impacts of mandating Permit requirements that exceed Federal regulations. The Federal regulations do not require Permittees to inspect the broad scope of construction sites required by the 2001 NPDES Permit. Permittees continue to reserve their objection to any inspection program that goes beyond that required by the Federal regulations.

Pursuant to the 2001 NPDES Permit, Permittees implemented a Development Construction Program to control runoff from construction activity at all construction sites within its jurisdictions. Construction projects were adequately reviewed for compliance

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with the NPDES Permit, which included the development of SWPPP and compliance with the SUSMP. As necessary, enforcement actions were taken against construction sites in violation of Permit requirements. Increased requirement awareness has led to the success of this program.

Leading the effort to better implement this program, the Principal Permittee has placed materials clarifying the requirements of the Development Construction Program on its website and developed a brochure on Water Quality Regulations, which is provided to the public with building permits issued by the Building and Safety Division.

The Development Construction Program was designed to meet the objectives of the 2001 NPDES Permit. Permittees worked hard to comply with the requirements of the Development Construction Program under the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by Permittees.

3.6 PUBLIC AGENCY ACTIVITIES

The Public Agency Activities Program under the 2001 NPDES Permit has been fully implemented by the Permittees. An inspection program for public facilities is in place to ensure field yards are implementing recommended BMPs. The most noted success of the Public Agency Activities Program is greater awareness among the County and cities' staff members of stormwater issues. The Permittees in cooperation with the County Sanitation Districts of Los Angeles completed the Treatment Feasibility Study. This study investigated the possible diversion of dry-weather discharges or the use of alternative treatment control BMPs to treat flows that may impact public health and safety and/or the environment. Other program successes include increased cleanout of problem catch basins and street sweeping, proper coverage of trash receptacles and storage bins for potential pollutants, proper implementation of BMPs on public construction sites, installation of pervious pavement in city parking lots and drainage swales to increase filtration, and equipped facilities with clarifiers for vehicle washing.

Notable improvements as a result of the Public Agency Activities Program are:

- Increased staff awareness;
- Decreased potential for pollutant runoff from public facilities; and
- Upgraded fuel systems at maintenance yards with features that meet and exceed the requirements of the Permit. Some features include: utilizing aboveground storage tanks, secondary containment berms, canopies that extend over the concrete fuel pad, and fuel pads graded to prevent sheet flow.

The Public Agency Activities Program was designed to meet the objectives of the 2001 NPDES Permit. Permittees worked hard to comply with the requirements of the Public Agency Activities Program under the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by Permittees.

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3.7 ILLICIT CONNECTIONS/ILLICIT DISCHARGES ELIMINATION

Permittees have increased public awareness of the impacts of illicit connections and illicit discharges. The Public Hotline (1-888-CLEAN-LA) continues to effectively manage the receiving, tracking, and reporting of public complaints. For some Permittees, Closed Circuit TV monitoring has been employed to screen for illicit connection, and for others field screenings have been conducted.

Noteworthy improvements to the Illicit Connections/Illicit Discharges Program include:

- Improved interagency coordination;
- Prompt response to reported illicit discharges;
- Increased public and city staff awareness; and
- Increased public reporting.

The Illicit Connections/Illicit Discharges Elimination Program was designed to meet the objectives of the 2001 NPDES Permit. Permittees worked hard to comply with the requirements of the Illicit Connections/Illicit Discharges Elimination Program under the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by Permittees.

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4.0 PRIORITIES FOR PROGRAM IMPROVEMENT

Municipal stormwater and urban runoff management programs in the Los Angeles region were initiated with the June 18, 1990, adoption of Order 90-079. A revised Municipal NPDES Permit was issued in July 1996, and another in December 2001 (Order 01-182). Permittees currently find themselves near the end of this third Permit cycle and have conducted in-depth reviews of their current management programs with an eye toward continued improvement. Program improvement and effectiveness is a priority for Permittees for many reasons. Permittees have an obligation to responsibly manage public funds as well as to protect the quality of the environmental resources within their jurisdictions. In addition, Permittees in the Los Angeles region recognize that effectively managing the impacts of stormwater and urban runoff in a cost-effective manner is in the best interest of all County residents.

This section discusses issues and concepts identified by Permittees as key factors in improving their management programs during the upcoming Permit cycle. These issues and recommendations have a general applicability across multiple program elements. The Permittees have implemented programs that meet and often exceed the basic provisions of the existing Permit, but also recognize that continued progress requires program approaches that are strategic, beneficial, measurable, cost-effective, adaptive, and fiscally responsible.

As will be further elaborated in the remainder of this ROWD, the Permittees have made important strides toward the incorporation of these management principles into their programs, and are committed to increasing their emphasis in the next Permit cycle. Based on their experience developing and implementing programs, the Permittees have determined that key aspects of existing programs can be significantly enhanced. These proposed enhancements to the existing programs will allow for improved implementation and cost-effective operations, thus allowing for reallocation of money and resources to other problem areas without sacrificing water quality protection or other public services. The key challenge in approaching this objective under a re-issued Permit is to provide sufficient opportunity for learning and adapting while ensuring that key Permit programs remain beneficial, compliant, reasonable, cost-effective, and enforceable. To a large extent, doing so depends on how compliance is gauged and the process that is utilized to oversee and evaluate Permit programs.

With this in mind, the remainder of this section provides a more in-depth discussion of specific priorities for the continued improvement of Permittees programs, and the types of changes that the Permittees have determined are necessary to achieve them. In many cases, it should be noted that specific improvements are achievable by Permittees within the current Permit framework. In some instances, however, desired changes will also require Regional Board action that may include specific Permit amendments. On this note upon an issuance of a renewed Permit, the revised SQMP will be developed and submitted to the Regional Board.

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4.1 PROGRAM COMPONENTS

Recommended improvements for the next Permit cycle include streamlining specific requirements, providing Permittees with a safe harbor provision, maintaining steady implementation of programs that have been proven to work well, and making results-based modifications to other programs to better utilize limited resources. Components in each of the programs have been identified as requiring some modification to improve the overall intent of the Permit, which is to develop; achieve; and implement a timely, comprehensive, cost-effective stormwater pollution control program to reduce the discharge of pollutants in stormwater to the MEP.

4.2 PRIORITY 1 – RECOMMENDED LANGUAGE FOR RECEIVING WATER LIMITATIONS INCLUDING FINDINGS OF FACT, SAFE HARBOR PROVISION, AND DEFINITIONS

The Permittees recommend that the Permit contain Receiving Water Limitations language, which is consistent with applicable law and with which the Permittees can comply. Order 96-054, the 1996 NPDES Permit, included language that stated "Timely and complete implementation by a Permittee of the stormwater management programs prescribed in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations." It further provided that where an exceedance of a water quality objective had occurred, that the Permittees were to submit stormwater programs that "will increase the likelihood of preventing future exceedances of water quality objectives." This language was subsequently omitted by the Regional Board in Order 01-182. It is imperative that Permittees have the support of the Regional Board when making a good faith effort to comply with Permit requirements. Permittees must first be given an opportunity to work with the Regional Board to fine-tune programs that are not successful at meeting Receiving Water Limitations. Exposing Permittees to immediate third party lawsuits is unproductive, discourages collaborative working relationships with nongovernmental organizations, and does not achieve the primary goal of improving water quality.

Permittees recommend the following language be used for the Receiving Water Limitations Section:

Findings of Fact:

1. *Urban runoff includes discharges from residential, industrial, commercial, and construction areas within the Permit area. In addition to Urban runoff, the MS4s regulated by this Order receive flows from agricultural activities, open space, State and Federal properties and other land uses not under the control of the Permittees.*

2. *The Permittees lack legal jurisdiction over stormwater discharges into their respective MS4s from agricultural activities, California and Federal properties*

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and facilities, school districts, colleges and universities, utilities and special districts, wastewater management agencies and other point and nonpoint source discharges otherwise permitted by or under the jurisdiction of the Regional Board. The Regional Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges. Similarly, certain activities that generate pollutants present in urban runoff are beyond the control or the authority of the Permittees to eliminate. Examples of these include, but are not limited to, the operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear, residues from application of pesticides, nutrient runoff from agricultural activities, and background conditions (e.g., wildlife and leaching of naturally occurring minerals, metals, and other elements from local geology).

3. *The Regional Board finds that the unique aspects of the regulation of urban runoff discharges through MS4s, including, but not limited to, the intermittent nature of discharges, difficulties in monitoring, and limited physical control over the discharges will require adequate time to implement and evaluate the effectiveness of BMPs. Therefore, this Order includes a procedure for determining whether urban runoff discharges are causing or contributing to exceedances of water quality standards and for evaluating whether the SQMP must be revised in order to comply with water quality standards. This Order establishes an iterative process to achieve compliance with water quality standards.*

Receiving Water Limitations:

1. *The Permittees shall implement BMPs to the MEP to attempt to reduce or eliminate the possibility that urban runoff discharges from the Permittees' MS4s will cause or contribute to an exceedance of water quality standards.*

2. *The Permittees shall comply with Paragraph 1 through the use of reasonable and cost-effective BMPs to the MEP and other actions to reduce pollutants and the discharges in accordance with the SQMP. It is expected that compliance will occur through an iterative process and the application of increasingly more effective BMPs.*

3. *If exceedances of water quality standards persist, notwithstanding implementation of SQMP and its components and other requirements of this Permit, the Permittees shall comply with the following procedure:*

    a. *Upon a determination by the Permittee that discharges are causing or contributing to an exceedance of an applicable water quality standard, the Permittee shall notify and thereafter submit a written report to the Executive Officer that describes the BMPs that are currently being implemented and the additional BMPs that will be implemented to prevent or reduce those pollutants that are believed to be causing or contributing to the exceedance of the water quality standard. This written report may*

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be incorporated in the annual stormwater report unless the Executive Officer directs an earlier submittal. If the exceedance of the water quality standard is due to or believed to be due to discharges to the MS4 that are outside the Permittees jurisdiction or control, the Permittees shall advise the Executive Officer in this report.

b. Upon receipt of the written report, the Executive Officer may request additional BMPs to be implemented.

c. Within 90 days after the Executive Officer's approval of additional or modified BMPs, the Permittees shall revise the SQMP to reflect those BMPs.

d. If the Permittees have complied with the procedure set forth above and are implementing the revised SQMP, the Permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same water quality standards unless the Executive Officer determines it is necessary to develop additional BMPs and provides written notice to the Permittees of this determination.

e. Compliance with the procedures set forth in this section shall satisfy the requirements of this Order and constitute compliance therewith.

Definitions:

1. Maximum Extent Practicable or MEP is the standard established by Congress in Clean Water Act Section 402(p)(3)(B)(iii) that municipal dischargers of stormwater MS4s must meet. For the purpose of this Order, MEP is generally, but not necessarily, less stringent than best available control technology, the standard which industrial dischargers of stormwater must meet. MEP generally emphasizes pollution prevention and source control and includes consideration of technical feasibility, practicability, cost-effectiveness, benefit derived, regulatory compliance, and public acceptance. Where cumulative cost exceeds cumulative benefit, a program or BMP is not considered practicable.

2. Urban runoff is that water discharged to the MS4 for which the Permittees are responsible when further discharged from the MS4 to receiving waters. Urban runoff includes discharges from residential, industrial, commercial, and construction areas within the Permit area. Urban runoff excludes flows from agricultural activities, open space, State and Federal properties, NPDES-permitted discharges, and urban and nonurban land uses that are not under the regulation of the Permittees.

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4.3 PRIORITY 2 – FUNCTION OF WATERSHED MANAGEMENT COMMITTEES

Order 01-182 requires WMCs to carry out specific responsibilities as a group. These responsibilities include:

a. Facilitate cooperation and exchange of information among Permittees;
b. Establish goals and objectives and associated deadlines for the WMA as the program implementation progresses;
c. Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics, and analysis of results from studies and the monitoring program;
d. Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;
e. Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;
f. Continue to prioritize the industrial/commercial critical sources for investigation, outreach, and follow-up; and
g. Meet four times per year and as necessary.

Permittee resources are severely limited. Requiring Permittees to perform additional tasks under the WMCs is extremely difficult because it takes valuable resources away from working on other Permit requirements that have a more significant impact on water quality. These WMC responsibilities are redundant with Permittee obligations under the different programs and it is recommended that they be removed in the next Permit.

Permittees agree that it is important for key personnel within a WMA to meet on a quarterly basis to facilitate cooperation when implementing stormwater programs and to exchange experiences and information that may be of value. However, Permittees recommend having the flexibility to independently determine how to implement Permit programs in the manner that best suits them, whether that be individually or as a WMA. Permittees recommend that the WMC meeting structure be combined with the impaired water body jurisdictional groups to form one joint meeting since many of the same Permittee representatives are handling both obligations. This recommendation would reduce the need for parallel meetings that are unnecessary. WMAs are redundant since Permittees will be forced into watershed-based relationships as a result of impaired water bodies. In addition, quarterly public education meetings address WMC responsibilities a., b., and g.

4.4 PRIORITY 3 – INDUSTRIAL AND COMMERCIAL FACILITIES CONTROL PROGRAM IMPROVEMENTS

Pursuant to the 2001 NPDES Permit, Permittees were required to track, inspect, and ensure compliance at industrial and commercial facilities that were identified as critical sources of pollutants in stormwater. Industrial and commercial facility inspections help to directly identify businesses that contribute pollutants to the MS4. Commercial

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facilities such as restaurants, automotive service facilities, retail gasoline outlets, and automotive dealerships, were required to be inspected twice during the 5-year term of the 2001 NPDES Permit. Facilities in Tier 1 and Tier 2 Categories were required to be inspected at the same frequency. However, for Tier 2 facilities, Permittees may reduce the frequency of additional compliance inspections to once every 5 years provided that they inspect at least 20 percent of the facilities in Tier 2 each year.

To provide for an effective inspection program, Permittees found it unnecessary and a waste of resources to repeatedly inspect facilities that are found to be in compliance with the General Industrial Activities Stormwater Permit (GIASP). A much more effective inspection strategy would be to repeatedly target industrial/commercial facilities that are not in compliance.

Any inspection obligations in exceedance of Federal regulations constitute a State mandate and should be funded by the Regional Board in accordance with the precepts set forth in Article XIII, Section 6, of the California Constitution. The Regional Board shall consider the economic impacts of mandating Permit requirements that exceed Federal regulations. The Federal regulations only require Permittees to have a program to monitor and control pollutants in stormwater discharges from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and industrial facilities that the municipalities determine are contributing a substantial pollutant loading to the MS4. Permittees reserve their right to object to any further requirement, and the discussion reporting on activities taken pursuant to the Permit and recommendations for improvements, if inspections are included in the next Permit, should not be construed as a waiver of this objection.

Permittees recommend that all Critical Sources such as commercial facilities (restaurants, automotive service facilities, retail gasoline outlets and automotive dealerships) and Phase I facilities (both Tier 1 and 2) be inspected once within the first two years of the new Permit cycle. Facilities determined to be in compliance will not be inspected for the remaining duration of the Permit cycle. However, all facilities determined to have failed to adequately implement the necessary BMPs shall have a follow-up inspection within 4 weeks from the date of the initial inspection. Permittees shall make subsequent inspections and take the necessary enforcement actions to get the facility into compliance. For facilities in violation of the GIASP, Permittees may escalate referral of such violations to the Regional Board after one inspection and one written notice to the operator regarding the violation. After the facility is brought into compliance, Permittees will be required to conduct another inspection of the problem facility during the remaining duration of the Permit cycle. Permittees propose no net decrease in the total number of inspections from the current Permit.

Permittees recommend that annual GIASP inspection fees collected by the State Water Resources Control Board be distributed to Permittees for conducting industrial facility inspections. Financial constraints make it difficult for Permittees to carry out the level of inspections required by the Regional Board. Providing Permittees with sufficient

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monetary resources will facilitate full implementation of this program. It is recommended that the Regional Board give Permittees the discretionary ability to eliminate industrial and commercial facility inspections for businesses that are continually found to be in compliance with GIASP requirements and/or exhibit no activities in exposure to stormwater.

It is recommended that Permittees be given the option to identify and describe industrial and commercial facilities by the Standard Industrial Classification (SIC) Code or the North American Industrial Classification System (NAICS). Some Permittees do not use SIC Codes to characterize businesses in their jurisdiction and therefore would prefer to use the NAICS as a substitute.

Permittees recommend removing the requirement to inspect laundries (SIC 72) from the Tier 2 Categories listed in Attachment B – Critical Sources Categories under Order 01-182. Permittees have found that inspecting laundries and dry cleaners do not result in an improvement to water quality since they do not contribute to water quality problems as documented in past inspections.

4.5 PRIORITY 4 – PEAK-FLOW CONTROL AND STANDARD URBAN STORMWATER MITIGATION PLAN (SUSMP)

The Regional Board should further consider the impacts that the Development Planning Program provisions will have on the development of low-income/affordable housing as required under Water Code, Sections 13241(e) and 13263. Permittees propose the following Development Planning Program modifications:

Peak Flow and Hydromodification

The Permittees shall participate in ongoing studies organized by the Southern California Stormwater Monitoring Coalition (SMC) to establish development standards and guidelines to prevent accelerated stream erosion or sediment deposition and to protect stream habitat in Natural Drainage Systems. Included in the studies shall be the review of current peak-flow standards, hydromodification standards from other semi-arid regions, journal articles and other relevant sources related to hydromodification, and channel erosion.

Development standards and guidelines will address post-development peak stormwater discharge rates, velocities, and duration (peak-flow control), and changes to sediment production in Natural Drainage Systems.

The standards will be used to ensure that post-development Natural Drainage Systems mimic predevelopment systems.

Natural Drainage Systems are primarily located in areas tributary to the following streams:

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- Malibu Creek;
- Topanga Canyon Creek;
- Upper Los Angeles River;
- Upper San Gabriel River;
- Santa Clara River; and
- Los Angeles County Coastal Streams (Los Angeles Basin Plan Table 2-1).

The standards and guidelines shall be in place by December 10, 2010, or 6 months after publication of the SMC research, whichever is later. During this period, the interim peak- flow standards will continue to be used to regulate hydromodification.

A Permittee or group of Permittees may substitute for the Countywide peak-flow control criteria with a Hydromodification Control Plan (HCP), on approval by the Regional Board, in the following circumstances:

1. Stream or watershed-specific conditions indicate the need for a different peak-flow control criteria, and the alternative numerical criteria is developed through the application of hydrologic modeling and supporting field observations; or
2. A watershed-wide plan has been developed for implementation of control measures to reduce erosion and stabilize drainage systems on a watershed basis.

Developer Technical Guidance and Information

Modify Item B to read:

Six months following the adoption of the stormwater permit, the Permittees will create, publish, and distribute a BMP technical guidance document for the development community in Los Angeles County that will include:

- Sizing criteria;
- Sample/standardized designs;
- Maintenance consideration and recommended procedures;
- Pollutant removal performance; and
- Cost consideration.

The document will be submitted to the Regional Board for review; however, if within 3 months of submittal no approval or rejection is received, the document will be adopted for use by Public Works.

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4.6 PRIORITY 5 – SPECIFIC BMP REQUIREMENTS

Under Order 01-182, all Permittees were required to place and maintain trash receptacles at all transit stops within their jurisdiction. Prescriptive requirements, such as this, limit the ability of Permittees to analyze and determine the cost-effectiveness and appropriateness of BMPs to address pollutants of concern. Although the Permit has a provision for BMP substitution, Permittees have expressed concern that this provision is unclear and requires a rather lengthy process to successfully achieve approval for the use of an alternative BMP.

It is recommended that Permittees be given the flexibility to select suitable BMPs and their respective locations, to address pollutants of concern. Permittees also recommend that the explicit requirement to place and maintain trash receptacles at all transit stops be removed from the Permit.

4.7 PRIORITY 6 – STORM WATER POLLUTION PREVENTION PLANS (SWPPP) REDUNDANCY

The General Construction Activities Stormwater Permit (GCASP), Order 99-08-DWQ, requires all dischargers, where construction activities disturb one or more acres, to develop and implement a SWPPP, eliminate or reduce nonstormwater discharges to storm drain systems and other waters of the nation, and perform inspections of all BMPs. Requiring a Local SWPPP to substitute for a State SWPPP is redundant. Permittees recommend eliminating the requirement for a local SWPPP and using the State SWPPP requirement under the GCASP.

4.8 PRIORITY 7 – ILLICIT CONNECTION/ILLICIT DISCHARGE ELIMINATION PROGRAM IMPROVEMENTS

Permittees are required to eliminate all illicit connections and illicit discharges to the storm drain system and to document, track, and report all occurrences. The Permit requires the field screening of open channels, underground pipes, and underground pipes with a diameter of 36 inches or greater by specific dates. Based on an annual evaluation of patterns and trends of illicit connections and illicit discharges, it can be concluded that the following land use types contributed an average of 62.2 percent of all illicit connections and 81.5 percent of all illicit discharges discovered:

- High Density Single-Family Residential
- Retail and Commercial
- Light Industrial
- Multiple-Family Residential
- Transportation

Permittees recommend that field screening be concentrated in the five land use types above to maximize resources and target the areas where most illicit connections and

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illicit discharges are currently found. It is recommended that field screening in other land use types be optional since Permittee resources are limited.

Permittees recommend that the term "illicit disposal" be removed from the definitions section of the Permit since it serves no purpose and is not used in the Permit. Other definitions need to be more explicitly defined to establish consistent implementation and reporting by Permittees. The definition for "illicit discharge" should be revised to read, "means any discharge to a constructed storm drain system, excluding streets and gutters, that is prohibited under local, state, ..." This revised definition will clearly identify an illicit discharge as a nonstormwater discharge that has entered a constructed storm drain system. Permittees do not consider a spill or discharge that is only in the gutter or roadway as being an illicit discharge since these types of incidents are typically handled immediately and never reach the receiving waters. Similarly, the definition for "illicit connection" should be revised to read, "means any unpermitted connection to a constructed storm drain system, excluding streets and gutters,..."

4.9 PRIORITY 8 – PERMIT FORMAT

Permittees find the format of the 2001 NPDES Permit difficult to follow. Permittees recommend that the Regional Board also include tables and matrices to assist Permittees with Permit requirements, expectations, and submittal deadlines. Permittees recommend that the Permit include watershed-specific sections to address impaired water bodies.

4.10 PRIORITY 9 – PERMIT IMPLEMENTATION COSTS

Many Permittees have had to budget and divert earmarked money from other municipal requirements to meet the obligations of the 2001 NPDES Permit. Permittees are concerned about the year-to-year increase in program implementation costs and do not foresee new revenue streams to help bridge the gap between Permit compliance and other municipal programs. The Regional Board should not overlook the lack of adequate resources to implement the requirements of the Permit. Consideration should be given to developing and implementing program requirements that target the largest and most frequent sources of stormwater pollution, and that utilize Permittee resources prudently so as not to exhaust them beyond reasonable means. Some Permittees have cited examples such as excessive industrial and commercial facility inspections as having detracted resources from their illicit connection and illicit discharge field-screening program. In addition, Permittees recommend that annual GIASP inspection fees collected by the State Water Resources Control Board be distributed to Permittees for conducting industrial facility inspections.

4.11 PRIORITY 10 – DISCHARGE EXEMPTION REFERENCE

The discharge exemption for potable drinking water supply and distribution system releases makes reference to American Water Works Association (AWWA) guidelines for dechlorination and suspended solids reduction practices. Permittees have determined

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that these AWWA guidelines do not exist. Therefore, it is recommended that the AWWA reference be removed from the Permit.

4.12 PRIORITY 11 – LEGAL AUTHORITY

The task of amending or adopting a Permittee-specific stormwater and urban runoff ordinance to enforce all requirements of the Permit takes a significant amount of time to complete. It is recommended that the Regional Board provide Permittees a minimum of 12 months from the date of Permit adoption to complete all necessary changes to possess adequate legal authority to comply with the Permit.

4.13 PRIORITY 12 – ANNUAL REPORT ENHANCEMENTS

Permittees recommend streamlining the Municipal Stormwater Permit Annual Report to only require the reporting of significant records that demonstrate BMP effectiveness and compliance with the implementation of SQMP components to reduce the discharges of pollutants in stormwater to the MEP. Redundant requirements such as the preparation of an assessment of the effectiveness of SQMP requirements to reduce stormwater pollution, which evaluates watershed-wide assessments conducted by each WMC, is unnecessary and a waste of resources. A Principal Permittee assessment of the Permittee assessments is excessive and redundant and does not provide any new information that could not be concluded from reviewing watershed-wide assessments. It is recommended that only one assessment per watershed be required.

Many Permittees have had difficulties in submitting Annual Reports by the October 15 deadline. Problems exist with the short timeframe that Permittees are given between the end of the fiscal year (typically June 30) and the deadline for submitting Annual Reports to the Principal Permittee so that data can be compiled and summarized by the Principal Permittee for submittal by October 15. This limited time period is not sufficient for Permittees to coordinate with internal divisions or departments to gather all the final information needed to compile their Individual Annual Report. In addition, adequate time is not given for financial numbers to be finalized. This preliminary information and data may affect the accuracy of Permittee reporting. Permittees recommend changing the Annual Report deadline from October 15 to November 15 of each year.

Permittees consider some information required for the Annual Report to be irrelevant to achieving the goals of the Permit. It is recommended that the following Annual Report questions be eliminated:

- Section IV.C.7 – How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?
- Section IV.C.8 – What is the percentage of total development projects that were conditioned to meet SUSMP requirements?
- Section IV.D.5 – How many building/grading permits were issued to sites requiring Local SWPPPs last year?

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- Section IV.D.6 – How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Stormwater Permit last year?
- Section IV.D.7 – How many building/grading permits were issued to construction sites less than one acre in size last year?

The following Annual Report tables should be modified to eliminate confusion and improve the quality of data submitted:

- Section IV.F.10 – Delete and replace with the following illicit connections table:

Number of Suspected Illicit Connections Reported	Number of Suspected Illicit Connections Investigated	Number of Illicit Connections Terminated	Number of Suspected Illicit Connections found not to be Illicit	Number of Suspected Illicit Connections that resulted in Enforcement Action

- Section IV.F.13 – Delete and replace with the following illicit discharges table:

Number of Suspected Illicit Discharges Reported	Number of Suspected Illicit Discharges Investigated	Number of Illicit Discharges Terminated	Number of Suspected Illicit Discharges found not to be Illicit	Number of Suspected Illicit Discharges that resulted in Enforcement Action

4.14 PRIORITY 13 – PUBLIC INFORMATION AND PARTICIAPATION ENHANCEMENT

Permittees recommend that the next Permit remove the requirement to ensure a minimum of 35 million impressions per year on the general public about stormwater quality via print, local TV access, local radio, or other appropriate media. We believe a better process to quantify the effectiveness of a public information and participation program is to use a presumptive measurement approach. This presumptive measurement approach will quantify a percent reduction or improvement in water quality as a result of implementing an integrated and cost-effective public information and participation program.

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4.15 IMPLEMENTATION APPROACHES

In the past, Permittees have worked diligently to develop comprehensive watershed programs. Permittees have made significant progress on SQMP implementation, but there is room for improvement, with many challenges remaining ahead. Working across watershed boundaries will require that Permittees continue to develop relationships and trust as well as standardized procedures to facilitate increased collaboration. This will increase the effectiveness of watershed programs being implemented. Permittees and the Regional Board must also increase their understanding of the scientific basis of water quality and pollution source control. Allowing for increased flexibility in the next Permit is crucial to future successes. Adopting prescriptive and inflexible Permit requirements would be premature and seriously undermine processes and commitments that have already been put into place. The Regional Board should not adopt new requirements until sufficient data has been collected so as to ensure success to a reasonable level of probability. The scientific data underlying all Regional Board decisions should be subject to peer review consistent with State and Federal law.

Permittees will work together to develop and revise Model Program elements to assist with Permit compliance. Implementation approaches will be evaluated and amended to reflect Permit requirements and achieve the goal of implementing program components to reduce the discharges of pollutants in stormwater runoff to the MEP. Program elements shall be revised to comply with regional, watershed specific requirements, and address pollutants of concern for impaired water bodies.

4.16 TMDL IMPLEMENTATION PLANS

The CWA of 1972 require States to develop a list of impaired waters and the pollutants causing them to be impaired, also known as the 303(d) List. States then establish a pollutant specific TMDL for each listed water body for the particular pollutant causing the impairment. TMDLs are guides to be used in bringing impaired water bodies into compliance with water quality standards necessary to sustain their designated beneficial uses. One of the objectives of this NPDES Permit is to protect the beneficial uses of receiving waters in Los Angeles County by requiring Permittees to reduce the discharge of pollutants in stormwater to the MEP. TMDL Implementation Plans will assist responsible agencies to bring impaired water bodies into compliance with water quality standards.

The projected or anticipated means to comply with waste load allocations established by a valid TMDL are often identified in an implementation plan, which include a number of iterative, adaptive, and integrated approaches that when combined should bring impaired water bodies into compliance with water quality standards. Permittees recommend a Memorandum of Understanding (MOU) between the Regional Board and responsible agencies be adopted in lieu of including TMDLs in the NPDES Permit. TMDLs applicable to responsible agencies should be implemented through the adoption of separate MOUs setting forth reasonable and cost-effective BMPs to be implemented by the Permittees. Such MOUs should provide that good faith compliance and

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implementation of the BMPs set forth in the developed implementation plan should constitute compliance with the adopted TMDLs. The use of MOUs is authorized by the Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options, adopted by State Board Resolution 2005-0050 (June 16, 2005). The effluent limitations in the Permit itself should be expressed as BMPs. See EPA Memorandum, Establishing TMDL Waste Load Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs (November 22, 2002), p.4.

The responsible agencies for the Santa Monica Bay Beaches Bacteria TMDLs will implement and evaluate an array of BMPs developed based on an iterative, adaptive watershed management approach. The responsible agencies will use their respective TMDL implementation plan in an effort to comply with water quality standards. Table 3 below identifies each of the responsible agencies for the different jurisdictional areas in the Santa Monica Bay.

Table 3 – Santa Monica Bay Beaches Bacteria TMDL

Jurisdictions	Responsible Agencies	Implementation Plan
1 and 4	County of Los Angeles City of Malibu California Department of Transportation (Caltrans)	Santa Monica Bay Beaches Bacteria TMDL Implementation Plan for Jurisdictions 1 and 4
2 and 3	County of Los Angeles Caltrans City of El Segundo City of Los Angeles City of Santa Monica	Santa Monica Bay Beaches Bacteria TMDL Implementation Plan for Jurisdictions 2 and 3
5 and 6	County of Los Angeles Caltrans City of El Segundo City of Hermosa Beach City of Manhattan Beach City of Redondo Beach City of Torrance	Santa Monica Bay Beaches Bacteria TMDL Implementation Plan for Jurisdictions 5 and 6
7	County of Los Angeles City of Los Angeles City of Palos Verdes Estates City of Rancho Palos Verdes City of Rolling Hills City of Rolling Hills Estates	Santa Monica Bay Beaches Bacteria TMDL Implementation Plan for Jurisdiction 7

The responsible agencies for the Marina del Rey Harbor Mothers' Beach Back Basin Dry- and Wet-Weather Bacteria TMDL are the County of Los Angeles, Caltrans, and the Cities of Los Angeles and Culver City. These responsible agencies will use the

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Marina del Rey Harbor Mothers' Beach Back Basin Dry- and Wet-Weather Bacteria TMDL Implementation Plan in an effort to comply with water quality standards.

The responsible agencies for the Ballona Creek Trash TMDL are the County of Los Angeles, and the Cities of Beverly Hills, Culver City, Inglewood, Los Angeles, Santa Monica, and West Hollywood. These responsible agencies will use an iterative adaptive BMP implementation strategy in an effort to comply with water quality standards.

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5.0 WATER QUALITY MONITORING

The 2001 Permit states that the results of the monitoring program should be used to "refine the SQMP for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County." Techniques to quantify the relationship between SQMP implementation and water quality are still in their infancy, and will mature through an iterative process over many Permit cycles. The recommendations described in this ROWD have been made with this in mind. Resources are proposed to be shifted toward those studies and monitoring programs that allow for a better measure of SQMP effectiveness and lead to reduction in pollutant loading from urban and storm runoff. Table 1 compares key monitoring requirements under the 2001 Permit with Permittees' recommendations in this ROWD.

In preparing this ROWD, Permittees have also taken into account the five core management questions set forth in the Stormwater Monitoring Coalition's report entitled "Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California":

Question 1: Are conditions in receiving waters protective, or likely to be protective or beneficial uses?
Question 2: What is the extent and magnitude of the current or potential receiving water problems?
Question 3: What is the relative urban runoff contribution to the receiving water problems?
Question 4: What are the sources to urban runoff that contribute to receiving water problems?
Question 5: Are conditions in receiving waters getting better or worse?

Table 2 shows if and to what extent each of these questions is addressed by both the 2001 Permit and the Permittees' recommendations. Finally, Table 3 contains a list of impaired water body special studies and monitoring programs for which the Permittees are responsible. Striving to obtain a streamlined and cost-effective monitoring program under the new Permit, Permittees recommend that these studies and programs be integrated with other monitoring requirements as much as possible.

5.1 CORE MONITORING

A. Mass Emissions Monitoring

Mass Emissions Monitoring is conducted in order to approximate the pollutant loads discharged by the MS4 system, to assess temporal trends at the Mass Emissions sites and to determine if flows from the MS4 system contribute to exceedances of water quality standards.

1. Existing Permit Requirements:
   - Monitor 7 Mass Emissions sites during the first storm, 2 additional storms and during 2 dry-weather flows (3 storm flows and 2 dry weather flows).

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- Monitor 6 Mass Emissions sites (automated sites only) for total suspended solids (TSS) during all storms with at least 0.25" of rain. Collected data to be used in conjunction with TSS correlation attempts.
- Samples at Mass Emissions sites may be taken with automatic samplers as under Order 96-054. Grab samples must be taken for pathogen indicators and oil and grease. Automated samplers should be set to monitor storms of at least 0.25".
- Samples at the Santa Clara River Mass Emissions site are taken manually due to the infeasibility of installing automated samplers. Flow weighted composites are to be collected during the first 3 hours of a storm, or for the duration if less than 3 hours. A minimum of 3 aliquots separated by a minimum of 15 minutes is collected within each hour of discharge.
- Annually an analysis of the correlation of TSS and other pollutants of concern is performed and reported.

2. Issues and Recommendations
   - Wet-weather data has been collected at most Mass Emissions Sites for approximately 10 years. Several constituents that consistently exceed water quality objectives exhibit no statistically significant trend as discussed in the Los Angeles County 1994-2005 Integrated Receiving Water Impacts Final Report, and it is unlikely that these constituents will be reduced to below water quality objectives in a short-time frame. Using existing data, several data modeling exercises were performed to simulate different sampling strategies for wet-weather data. It was concluded that collecting samples 2 times a year, or 3 times on alternate years, would be sufficient to determine trends over an approximately 40-year time period with a confidence of 95 percent. These modeling efforts and a more detailed discussion can be found in the Los Angeles County 1994-2005 Integrated Receiving Water Impacts Final Report. The Permittees recommend monitoring 2 storms and 2 dry-weather events per year.
   - Data collected during the period between 1994 and 2005 was analyzed for TSS correlation with other pollutants of concern and the results were reported in the Los Angeles County 1994-2005 Integrated Receiving Water Impacts Final Report. Statistically significant TSS correlations were found only in the Santa Clara Watershed, a natural bottom river, for total chromium, lead, iron, and arsenic as well as for dissolved copper and boron. No TSS correlations were found to be significant in the other watersheds.
   - Permittees recommend that the sampling of storms exclusively for TSS be discontinued since few significant correlations were found in the previous 10 years. TSS correlation was intended as a monitoring shortcut whereby TSS measurements could be used to approximate other pollutant loads while avoiding more expensive analyses. However, since few significant TSS correlations were found in the Santa Clara Watershed, and none in the other watersheds, TSS correlation cannot serve its intended purpose as a surrogate for more expensive analysis and should be discontinued.

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B. Water Column Toxicity Monitoring

Water Column Toxicity Monitoring is performed in order to evaluate the toxicity of water being discharged from the MS4 system at the Mass Emissions Sites, to determine the causes and extent of toxicity in receiving waters and to modify and utilize the SQMP in order to eliminate or reduce sources of toxicity in MS4 discharges.

1. Existing Permit Requirements
   - Two storm events (including the first of the season) and two dry-weather events are annually analyzed for toxicity. Ceriodaphnia dubia (water flea) 7-day survival/reproduction and Strongylocentrotus purpuratus (purple sea urchin) fertilization tests are used as a minimum.
   - A Phase I Toxicity Identification Evaluation (TIE) is performed on samples exhibiting a toxicity of 1 Toxic Unit or more for the water flea and a toxicity of 2 Toxic Unit or more for the purple sea urchin.
   - A Toxicity Reduction Evaluation is performed if a pollutant or class of pollutants is responsible for 50 percent of 3 or more TIEs at the same location.

2. Issues and Recommendations
   - Only 9.6 percent of all toxicity tests for C. dubia (water flea) resulted in TIEs and no trends were apparent. Furthermore, no dry-weather toxicity tests for C. dubia (water flea) were toxic. Therefore, the Permittees recommend reducing the dry weather C. dubia (water flea) toxicity testing at the Mass Emissions sites to 1 test per year unless the first dry-weather event C. dubia test of each year exhibits toxicity, in which case the second dry-weather event should also be tested for C. dubia (water flea) toxicity.
   - Toxicity Testing should be performed at Tributary Monitoring sites for 2 storms and 2 dry events in order to detect pollutant effects that are not detected by physical or chemical analysis. The toxicity tests should be identical to those for the Mass Emissions Sites.

C. Shoreline Monitoring

The Shoreline Monitoring Program is intended to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff.

1. Existing Permit Requirements
   - The City of Los Angeles is responsible for Shoreline Monitoring under the 2001 Permit and the revised Santa Monica Bay Shoreline Monitoring Requirements approved June 14, 2005.
   - Twenty shoreline water quality stations are monitored.
   - Three additional sites are to be evaluated for future monitoring.

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- Three indicator groups (Total coliforms, Fecal Coliforms, and Enterococcus) are monitored using membrane filtration, multiple tube fermentation, or chromogenic substrate test kits.
- Sampling occurs weekly or 5 days a week depending upon historical water quality at the sampling sites.
- Sampling occurs during daylight hours and may be omitted during hazardous weather.
- Monitoring frequencies may be modified based on adjacent beach use and storm drain proximity as recommended by the Santa Monica Bay Restoration Commission's Technical Advisory Committee (SMBRC TAC) and the Los Angeles County Department of Health Services (LA County DHS).
- Data is transmitted daily to the LA County DHS.
- LA County DHS is responsible for taking appropriate action in accordance with State law when exceedances of bacterial water quality standards occur.

2. Issues and Recommendations

The Regional Board's 2005 revision to the shoreline-monitoring requirement only partially aligned the Permit's requirement with the Coordinated Shoreline Monitoring Program (CSMP) approved by the Regional Board on April 28, 2004. Some of the Permittees' concerns on this matter were presented in comment letters submitted to the Regional Board by the City of Redondo Beach and Los Angeles County Department of Public Works on April 27 and May 10, 2005, respectively.

The allowable number of exceedance days depends on monitoring frequency. In choosing to conduct weekly monitoring, responsible agencies agreed to a proportional reduction in the allowable number of exceedances from that for daily monitoring. While the rationale behind the SMBRC TAC's recommendation to base monitoring frequency on usage and historical water quality is understandable, Permittees believe that weekly monitoring, which is consistent with AB411, provides reasonable public health protection. Instead of more monitoring, scarce public funds should be directed toward identifying and eliminating anthropogenic sources contributing to shoreline water quality impairments.

Permittees recommend that the CSMP in its entirety replace the existing shoreline monitoring program under the 2001 Permit. Monitoring should be the joint responsibility of those Permittees, which are responsible agencies to address impaired water bodies. Permittees welcome the opportunity to discuss this issue with the SMBRC TAC.

D. Tributary Monitoring

Tributary monitoring is performed in order to identify subwatersheds where stormwater discharges are causing or contributing to exceedances of Water Quality

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Standards, and to prioritize drainage and subdrainage areas that need management actions.

1. Existing Permit Requirements
   - A minimum of six tributaries per year is monitored for a minimum of 1 year each. If no exceedances of water quality objectives are found at a station within one year, the station may be moved upon approval of the Regional Board's Executive Officer. If exceedances for the same constituent are found in 3 out of 4 sampled events in a year, the Permittees shall initiate a focused effort to identify the sources of pollutants within that subwatershed.
   - Monitoring started in the Los Angeles River Watershed and is rotated between watersheds subject to the approval of the Regional Board's Executive Officer. Descriptions and explanation of proposed sites and a summary of the previous year's data are to be included in the Annual Monitoring Report. The first tributaries to be monitored were prescribed in Order 01-182.
   - Tributary sites are monitored for the first storm of the year and 3 additional storms. At least 1 dry-weather event per year is monitored at each site. (4 storm events and 1 dry-weather event)
   - Tributary sites are monitored using the same sampling protocol as Mass Emissions sites and samples are analyzed for: pH, dissolved oxygen, temperature, conductivity, TSS, indicator bacteria, all priority pollutants, all constituents for which the water body is impaired downstream, and all constituents that caused toxicity or exceeded water quality criteria at the associated Mass Emissions Site the previous year. Flow data is also collected.

2. Issues and Recommendations
   - Tributary Monitoring sites should be located within a watershed for a period of 2 years. Watersheds should be rotated until all watersheds within the permit area have been monitored before returning to a previously monitored watershed. Watersheds are monitored for 2 years for 2 distinct reasons. First, 2 years allows for better calibration of monitoring equipment and adjusting sampling protocols to site specific factors (traffic patterns, equipment quirks, flow calibration). Secondly, and more importantly, 2 years of monitoring provides time so that subwatersheds with consistently high levels of pollutant loading can be identified, sources within subwatersheds can be identified and the identified sources of pollutants can be properly addressed or eliminated.
   - Tributary monitoring sites will be located in the San Gabriel River Watershed, including the Coyote Creek Watershed, for the 2006-07 monitoring year. Monitoring should continue in this watershed for a total of 2 years, and monitoring in the next watershed should begin during the 2008-09 monitoring year. The Los Angeles River Watershed and Ballona Creek Watershed have each been previously monitored under the

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Tributary Monitoring Program. The Santa Clara River, Malibu Creek, and Dominguez Channel Watersheds should be monitored in the future.

- Dry-weather flows occur for a larger portion of the year than storm flows and may be monitored at a much lower expense than storm flows. Dry-weather flows may also provide insight into chronic conditions within the MS4 system that may be masked by the high volumes in a storm flow. Three wet-weather sampling events are sufficient to detect and double check exceedances, in keeping with the purpose of tributary monitoring. Therefore, the Permittees recommend reducing wet-weather sampling to 3 events and increasing the dry-weather sampling to 2 events. Resources saved by reducing wet-weather monitoring will be used to analyze tributary flows for toxicity.
- The Permittees propose the addition of toxicity testing to the Tributary Monitoring Program so as to identify toxic pollutant classes that are not otherwise found using standard physical and chemical tests. The toxicity tests should be identical to those for the Mass Emissions Sites.

5.2 REGIONAL MONITORING

A. Estuary Sampling

The objective of the estuary-sampling requirement is to "sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertibrate community to determine the spatial extent of sediment fate from storm water, and the magnitude of its effect." This objective is consistent with questions 1, 2, and 5 of the Model Monitoring Program.

1. Existing Permit Requirements
   The 2001 Permit requires the Principal Permittee to participate in the Bight '03 project, specifically with respect to the project's estuary sampling component. The Permit language provides great detail on the extent of the participation; this has been summarized in Table 1.

2. Issues and Recommendation
   Based on a preliminary review of available results, it appears that the Bight '03 project has been conducted such that the 2001 Permit's requirement has been fulfilled. We now better understand the extent and magnitude of impairments in Los Angeles County's estuaries. While some characterization work will remain necessary, we believe it is time to look more systematically at 1) determining the sources of urban runoff that contribute to elevated sediment toxicity levels and 2) how to reduce that contribution. The former question corresponds to question 4 in the MMP; the latter, while not a question formulated in the MMP, is essential for improving estuary sediment quality.

   The Permittees recommend continuing participation in and fund future bight-wide studies (e.g., Bight '08). However, Permittees' contribution

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should be directed toward follow-up studies designed to answer questions most pertinent to reducing toxicant loading into Los Angeles County's estuaries from urban and storm runoff. These questions will be formulated in the coming months in consultation with Regional Board and SCCWRP, and may include, but are not limited to, the following:

- What are the specific toxicants causing recurring sediment toxicity in Ballona Creek Estuary? Dominguez Channel Estuary?
- What are sources of urban runoff that contribute to sediment toxicity?
- Partitioning coefficients between water column and sediment?
- Suspended sediment toxicity sampling protocol?
- Sediment transport mechanism and deposition patterns?
- What is the state of current technology available to reduce toxicant loading from urban and storm runoff?

B. Bioassessment

Existing Permit Requirements

- Participate in the SMC and with the Surface Water Ambient Monitoring Program (SWAMP) in development of a regional Index of Biological Integrity (IBI).
- Perform bioassessment monitoring every October.
- Monitor a minimum of 20 sampling sites and coordinate with SWAMP in site selection.
- Collect a minimum of 3 replicate samples at each site.
- Submit annual monitoring report containing all physical, chemical, and biological data collected and analyzed during bioassessment

1. Issues and Recommendations

- Regional IBI: Permittees will continue participation in the development and testing of a regional IBI for low graded and ephemeral streams and estuaries.

- Site Selection: Permittees will select the number and location of sampling sites through the protocol expected to be developed in the regional IBI. Permittees will consider those sites already sampled in the 3 years of the current Permit for the sake of continuity.

- Indicator Species: Permittees will choose fresh and salt-water benthic species to indicate the health of low graded and ephemeral streams and estuaries from the regional IBI to be developed.

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- Impaired Water Body Studies: Permittees will give consideration to how the bioassessment monitoring required by the MS4 Permit can enhance impaired water body studies.

5.3 SPECIAL STUDIES

A. New Development Impact Study

1. Existing Permit Requirements

- With support from the City of Santa Clarita, determine impacts from new development in the Santa Clara River Watershed.
- Compare water quality between 2 subwatersheds, 1 with and 1 without postconstruction SUSMP BMPs.
- As agreed, if in the event of not finding suitable subwatersheds for study, develop a water quality model to simulate results for a single watershed in the Santa Clara River Watershed.

2. Issues and Recommendations

- A watershed of multiple-land uses has been selected for the water quality model simulation and monitoring instrumentation is being installed.

- The model will evaluate the effectiveness of SUSMP implementation by calculating the changes of runoff flows and contaminant loading due to certain BMPs installed. As a result, a matrix of most suitable BMPs for certain types of land use will be recommended.

- Upon the sampling of at least 3 storms, the model will be calibrated and run for various scenarios of BMP types and placement.

- Results will be used to support a study proposed by the SMC to evaluate the effectiveness of postconstruction Low Impact Development (LID) BMPs in new development.

- Permittees will participate with the SMC LID study.

The proposed changes in the study requirements are summarized in Table 1 as compared with the requirements under the existing Permit. The SMC's management questions for the New Development Impact Study are addressed in Table 2.

3. Integration of impaired water body specific programs

- Results of the SMC LID BMP study will be evaluated for their possible inclusion in impaired water body specific programs. The results of the

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study will provide a variety of options of structural BMPs to help implement impaired water body specific programs. Furthermore, the results of the study will help with impaired water body specific programs by minimizing the impact of any future development or redevelopment within the watershed.

4. Comparison of existing and proposed programs in addressing management questions by SMC.

B. **Peak Discharge Impact Study**

1. Existing permit requirements

- Evaluate peak-flow controls
- Determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by upstream development.

2. Issues and Recommendations

- A study, conducted jointly with the SMC, was funded in whole by Public Works and managed by the Southern California Coastal Waters Research Project.
- The study was completed in a manner sufficient only to develop interim standards, which were promulgated and submitted to the Regional Board on January 31, 2005.
- Interest in hydromodification issues among the Permittees and members of the SMC led to a technical workshop in October 2005, associated with the first annual conference of the California Stormwater Quality Association.
- Proceedings of the workshop were assembled and published by SCCWRP and USC Sea Grant in December 2005.
- Interest in peak discharge and hydromodification issues is still high among Permittees and the SMC member agencies.
- Ongoing research is being discussed to take up where the Public Works-funded study left off.
- Permittees will continue participating with in-kind services and in a peer-review capacity in the SMC hydromodification impacts research and develop numeric criteria by December 10, 2010, or 6 months after publication of the SMC research, whichever is later.
- Until that time, the interim peak-flow criteria will be enforced, applying to all areas draining directly or indirectly to natural streams.

The proposed changes in the study requirements are summarized in Table 1 as compared with the requirements under the existing Permit.

3. Integration of impaired water body specific programs.

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4. Comparison of existing and proposed programs in addressing management questions by SMC.

   The SMC's management questions for the Peak Discharge Impact Study are addressed in Table 2.

C. BMP Effectiveness Study

1. Existing Permit Requirements

   - Conduct or participate in studies to evaluate the effectiveness of structural and treatment control BMPs.
   - Monitor the reduction of pollutants of concern in stormwater for 5 or more different types of BMPs.
   - Evaluate the requirements, feasibility, and cost of maintenance for each BMP.
   - Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in stormwater.

2. Issues and Recommendations

   - Five structural BMPs have been tested, including infiltration trench, catch basin inserts, enhanced manhole, hydrodynamic separator, wet vaults, and bioswale.
   - Detailed results are provided in Appendix H of the Los Angeles County 1994-2005 Integrated Receiving Water Impacts Report, which was submitted to Regional Board in August 2005.
   - Three of the tested BMPs warrant further evaluation, 1 will be evaluated by another agency, and 1 does not warrant further testing.
   - At least 2 replacement BMPs will be included in the study. The BMPs will be from those structural BMPs incorporated in the Permittees' Sun Valley Park Drain and Infiltration System project.
   - Because BMP evaluation for trash removal is already required under the Public Agency Activities Program, trash will not be one of the pollutants to be monitored.

     The proposed changes in the study requirements are summarized in Table 1 as compared with the requirements under the existing Permit.

D. Participation in Studies Organized by the SMC

County Public Works was a founding member of the Southern California SMC and will continue to be an active member. Diligent efforts will be made to participate in ongoing or future studies organized by the SMC at various levels,

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including peer review, in-kind services, and monetary contributions. In particular, Public Works will participate in the following studies:

- Regional Index of Biological Indicators
- Laboratory Intercalibration
- Reference Watershed Study
- Low Impact Development BMP Evaluation, Guidance and Training
- Stormwater Toxicity Protocols
- Peak Flow/Hydromodification Study

5.4 INTEGRATION OF IMPAIRED WATER BODY SPECIFIC PROGRAMS

Alignment of Permit-mandated monitoring with those required under other actions of the Regional Board should be required. The shoreline-monitoring program is a good example. Impaired water body monitoring programs and special studies currently in progress, or are expected to be conducted during the 2006 Permit cycle, have been summarized in Table 3. All impaired water body projects should be conducted by those Permittees, which are also responsible agencies for these impaired water bodies.

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APPENDIX A – PERMITTEE PROGRAM ACCOMPLISHMENTS

Permittees have worked hard to comply with the 2001 NPDES Permit requirements and in certain instances have gone above and beyond the Permit requirements. The following are some examples of accomplishments provided by Permittees:

Public Information and Participation Program

- The Principal Permittee raised public awareness of stormwater pollution through the following efforts: Countywide media campaigns for the Stormwater Urban/Runoff and Used Motor Oil Recycling programs; the broadcast of pollution prevention public service announcements (PSAs) through the "4 Our Planet" media partnership with KNBC television station; and a partnership with the Heal the Bay and innovative K-12 environmental education programs. More than 153 million impressions were achieved.

- The Principal Permittee partnered with the Cities of the Malibu Creek Watershed to purchase "4 Our Planet" PSAs on KNBC television station targeting specific pollutants within the watershed.

- Principal Permittee ethnic outreach efforts included English, Spanish, and Chinese campaigns to promote used motor oil and filter recycling and stormwater pollution prevention to a Black, Latino, and Chinese population.

- Two community pilot projects, Florence Firestone and Union Pacific, were implemented to provide an opportunity for the general public, local business, and community leaders to participate in a beautification event and facilitate the beginning of a long-term goal of keeping their communities clean by educating others about pollution prevention with the collateral materials and the knowledge they acquired from County stormwater messages.

- Quarterly public outreach strategy meetings were organized and hosted annually by the Principal Permittee. Updates, information, and materials were provided to the Permittees to improve and enhance their outreach efforts and keep them informed about the Countywide media campaign.

- Over 10 BMP workshops were held for corporate managers of restaurant chains and retail gas station chains to facilitate the proper handling and disposal of materials to divert them from entering the storm drain system. Approximately 145 restaurant managers and corporate staff attended the training workshops.

- The Principal Permittee continues to conduct environmental education programs developed to meet the educational needs of students enrolled in grades K-12 and will enhance curriculum assessment and tracking efforts through its partnership with

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the California Regional Environmental Education Consortium. More than 301,700 students in 436 schools received stormwater pollution prevention curriculum through these school outreach programs.

- The joint calendar project, coordinated across multiple watersheds, allowed participating cities to distribute to residents a full color, one-page, poster-type calendar delivering the stormwater pollution prevention message through compelling photographic images.

- The Ballona WMC developed and distributed a joint mailer to promote stormwater pollution prevention throughout the watershed. A bifold pamphlet was developed providing a "To Do" list of activities that could cause pollution and suggested things that individuals can do to reduce or eliminate the adverse impacts of these activities. 133,550 copies of the brochure were printed and distributed by the participating agencies via direct mailing or as inserts into newsletters.

- The City of Los Angeles' Stormwater Program website had over 95,000 more hits in 2004-05 than the previous year. This 38 percent increase, along with responses to public surveys, indicate that the messages on preventing stormwater pollution, improving urban runoff water quality, and protecting our water resources are reaching an expanded audience.

- The City of Los Angeles' Stormwater Public Education Program, in partnership with the California Coastal Commission and Malibu Foundation, cosponsored the 12th annual Ocean Day, Beach Clean at Dockweiler Beach on May 20, 2005.

- The City of Manhattan Beach has continued to promote awareness of stormwater pollution prevention through its "Ocean Safe City" message, which targets residents and businesses within the City. It is estimated that over half of the City's residents (20,000) participated in the Hometown Fair, Household Hazardous Waste Awareness Week, and Earth Day events. The City operated a booth at each event and gave out stormwater educational material to both adults and children.

- The City of Rancho Palos Verdes promoted stormwater pollution prevention at several City sponsored events throughout the year, as well as using the City newsletter and other media outlets to inform and educate its residents about the importance of stormwater pollution prevention. The City participated with other Ballona Creek WMA Cities to develop and produce a cooperative mailer, and then distributed it to all single-family households within the City.

- The City of Rolling Hills Estates and the City of Rolling Hills jointly staff a public education booth at the 2-day annual Peninsula Street Fair. Teen volunteers conduct a hands-on demonstration using the County's Enviroscape model with particular emphasis on targeted pollutants (pet waste, horse manure, fertilizers, and pesticides). After each demonstration, the teens distribute public education brochures such as the equestrian and landscaping BMP brochures and related

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promotional items donated by the County. The City of Rolling Hills Estates also conducts the same outreach at its annual City Celebration.

- The Cities of Rolling Hills Estates and Rolling Hills distributed copies of USEPA/Weather Channel's video *After the Storm* and Algalita Marine Research Foundation's video *Plastics in the Open Ocean* to middle and high school environmental science teachers in public and private schools. All 6 periods of AP Environmental Science students at Palos Verdes Peninsula High School were shown these videos.

- The City of Alhambra staffs a public education booth at its annual Chinese New Year Celebration, Water Awareness Week, Seniors Health Fair, and Earth Day events where pollution prevention posters are displayed and public education brochures and related promotional materials are distributed (emphasis on trash, pet waste, homeowner maintenance such as landscaping and painting, and fertilizer and pesticide use). During some outreach events, the City's Enviroscape Model is demonstrated with the assistance of kids as the rainmakers.

- The City of Hermosa Beach invited restaurant owners/operators to a stormwater educational seminar to discuss the Municipal NPDES Permit and its implications pertaining to their day-to-day operations. The establishments were then inspected and rated. Those, which received the higher rates, were recognized by the City Council as the "Clean Ocean Establishment" and honored by receiving a certification and a sticker to display at their facility.

- The City of Hermosa Beach participated with other members of the Santa Monica Bay-Ballona Creek Watershed Management Committee to produce and mail 10,000 direct mail pieces to all Hermosa Beach residents. Another project through the joint effort was the development of the 2004 and 2005 calendars, which were produced and distributed to the public as a complimentary item.

- The City of Hermosa Beach has provided various PSAs to the local cable company in order to be aired as frequently as possible. These PSAs were obtained from different sources, such as Public Works and Earth 911. Where possible the PSAs were modified and tailored for the City's need. Examples were the "CAN-IT" and "Don't feed the Storm Drain" PSAs.

- The City of Signal Hill promoted local and Countywide stormwater pollution prevention programs and events on the City's cable television channel and website and in the Press Telegram and Signal Tribune newspapers. The City of Signal Hill's cable channel also reaches City of Long Beach residents and businesses.

- City of Signal Hill published in the Press Telegram a public education piece entitled "Think Environment" to raise public awareness of the importance of preventing stormwater pollution and promote the City's and County's stormwater pollution

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prevention programs. This piece reached 109,000 newspaper subscribers in the Signal Hill/Long Beach area.

- City of Signal Hill developed pamphlets that are handed out to contractors and homeowners when issuing building/construction permits. These pamphlets explain the BMPs that should be implemented and is specific to the activities of the construction project such as painting or masonry/concrete work.

- West Hollywood received a Partners in Education grant from the Santa Monica Bay Restoration Commission to provide Russian/English pollution prevention posters/flyers, waterbrooms, and follow-up visits to area restaurants.

- In 2002, the City of Santa Clarita became aware that there was diazinon contamination in a local creek. With cooperation and assistance from Los Angeles County, the City launched a very aggressive campaign to abate the contamination. An intensive investigation effort, a focused public outreach campaign, and cooperation from local retailers and residents all lead to a 96 percent reduction of the initial diazinon levels. These efforts were implemented in compliance with the Regional Board's requirements and highlight the power of public outreach.

- The City of Santa Clarita is proud to continue its annual "River Rally," a river clean up and stewardship event. River Rally helps restore the Santa Clara River through picking up trash and debris and also helps educate local residents about the importance of protecting the environment. Over the past 11 years, River Rally has grown from 100 participants to over 1,400 last year. Participants range from the elderly to young children, with many youth organizations also lending their support. Everyone's enthusiastic efforts have made the event a great success the City is proud to sponsor. In fact, the City was honored by the Los Angeles Regional Board with the Water Quality Stewardship Award in 2004. Over the event's lifetime, volunteers have removed over 196,000 pounds of trash and debris that otherwise would have made its way downstream, affecting neighboring communities and the health of the river. River Rally's continuing popularity has helped City staff promote stormwater pollution prevention, litter prevention, air quality, household hazardous waste disposal, tree planting, and other environmental issues.

- The four Cities on the Palos Verdes Peninsula—Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills, and Rolling Hills Estates—have partnered to run a ¼ page, full-color ad 4 times per year in the Palos Verdes Peninsula News on days of promotional circulation when distribution reaches every household on the Palos Verdes Peninsula. The advertisement design uses an award-winning ad concept and photograph that is tailored to target our watershed pollutants and behaviors of concern.

- Three Cities on the Palos Verdes Peninsula, Palos Verdes Estates, Rancho Palos Verdes, and Rolling Hills Estates, jointly hosted a restaurant BMP training workshop conducted by the County of Los Angeles. In addition to invitations mailed by the

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County, this event was promoted through the City of Rolling Hills Estates' work with the Peninsula Chamber of Commerce and shopping center property management companies, one of which provided the meeting space for the workshop.

- The City of Culver City actively participated in environmental events, such as Children's Earth Day (Eco-station), Ballona Creek clean-up, Fiesta La Ballona, and Ballona Creek Marsh Fair.

- The City of Pasadena, in coordination with the County of Los Angeles, organized a Gardening Workshop. The workshop included stormwater-related issues and handouts to assist the public in reducing pollutants to the MS4.

- The City of Redondo Beach participated in the Heal The Bay Coastal Clean-up day by purchasing T-shirts and donating them to the volunteers of this program. The City also conducted educational activities at various organized events such as the event held at the Seaside lagoon by the Wyland foundation and the event at the SeaLab, which attracted many children. The City's Quarterly Newsletter publishes a regular stormwater-related advertisement that provides the community with a phone number if they have questions and the Adelphia Cable Company broadcasts various stormwater-related PSAs.

- The Mayor and City Council of Redondo Beach formed a Water Quality Task Force in August 2005 made up of a diverse cross section of the community, including individuals from teachers, youth, boaters, nonprofit, general public, chamber of commerce, and harbor businesses. Within 12 months the Task Force is to provide the City Council with recommendations that will address water quality in the harbor and other waterfront areas of the City.

- The City of Torrance has promoted local and Countywide stormwater pollution prevention programs during California Coastal Clean-up Day at Torrance Beach and at the City Yard Open House and the Health and Rideshare Fairs.

- The City of Torrance, in conjunction with Metropolitan Water District of Southern California, sponsors Protector Del Agua water efficient landscape classes on an annual basis that teaches residents how to design and maintain landscapes that use less water and therefore generate less urban run off. In addition, the 2 agencies developed a Water Wise native plant garden and demonstration a water efficient landscape garden at the Madrona Marsh Nature Center and provide corresponding brochures that demonstrate how these gardens look and how they can reduce irrigation water and run off.

- The Principal Permittee partnered with the Cities of Malibu Creek Watershed in the creation of the "Living Lightly in Our Watershed Guide", which was distributed to every household watershedwide. This guide has continued to be updated and distributed at Public Libraries, City Halls, and through the Las Virgenes Municipal Water District's new home buyer program.

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- Newsletters containing a stormwater pollution prevention article and another on recycling and proper disposal of household hazardous waste were mailed to all 50,000 Burbank addresses including business.

- Stormwater education discussions and materials are passed out at all tours of the City of Burbank Recycling Center. This includes groups and visitors from near by elementary schools and community organizations. A mock demonstration of the watershed highlights all the water collection features in the City and stresses the importance of catch basins for stormwater runoff.

- The City of Vernon conducted a stormwater pollution prevention and compliance workshop geared for commercial and industrial businesses. Since there are over 160 facilities operating under the GIASP and over 800 facilities requiring an industrial/commercial inspection with the City of Vernon, the workshop has been instrumental in obtaining voluntary compliance for the Municipal Stormwater Permit and the GIASP. The City of Vernon also distributed bulk faxes to all businesses notifying them of important stormwater event information.

- The City of Los Angeles' Stormwater Public Education Program has received awards for many of its accomplishments, including:
  - 2005 American Public Works Association's (APWA) Diversity Exemplary Practices (Program/Organization Category) Award winner for its School Assembly/Ocean Day Program. (Fiscal Year 2004-05)
  - 2002 APWA project of the Year Award for its outreach to home improvement centers and pet stores, and for the cost savings realized by the City through public-private partnerships. (Fiscal Year 2002-03)

- The City of Los Angeles' Used Oil Recycling Public Education Program has received awards for many of its accomplishments, including:
  - 2004 *Togetherness Award* from the California Integrated Waste Management Board (CIWMB) in recognition of a public/private partnership that exemplifies outstanding coordination and cooperation in the implementation of a used oil collection program. The El Sereno public outreach program saw a 42 percent increase in the amount of oil collected at local collection centers. (Fiscal Year 2003-04).
  - 2003 CAL EPA Program Innovation Award for the "Your Street" public education campaign. (Fiscal Year 2002-03).

- The City, in partnership with the California Coastal Commission and Malibu Foundation, also cosponsored several annual Ocean Day, Beach Clean-Up events at Dockweiler Beach (Fiscal Years 2003-04 and 2004-05).

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- In April 2005, the City of Los Angeles launched the "Los Angeles River – The Future is Now" public outreach campaign. (Fiscal Year 2004-05).

- The City of Hidden Hills provided and staffed a public outreach booth during the City's Annual Fiesta Day events held on October 1 and 2 in 2005. The outreach booth provided residents with training and outreach materials and allowed the City to educate many of its residents on stormwater pollution prevention and BMPs used to minimize the amount of pollutants entering the City's storm drains.

- The City of South Gate has completed installing inserts in all City-owned catch basins and has contracted for regular inspections and cleaning.

- Pasadena has passed an Ordinance to lower the threshold of the SUSMP application for the redevelopment projects from 5,000 square feet to 1,000 square feet and the same Ordinance includes provisions to include all hillside projects regardless of their size for the SUSMP application and the numerical limits.

- The City of Inglewood partnered with the County of Los Angeles during the CanIt campaign resulting in a successful clean-up day event. Staff regularly attends public events, such as Earth Day celebrations or West Basin Municipal Water District's Water Harvest Festival to distribute stormwater information brochures, present stormwater pollution demonstrations, and provide commemorative giveaways. The City contacted and worked with Heal the Bay to identify a Beach Clean Up location in the Dominguez Watershed. Prior to this activity, only locations along the beach near the Dominguez Channel were clean-up spots. Heal the Bay supplied the City with stormwater pollution workbooks for kids, which staff distributed to the City's Recreation Department and the School District. The City is contracted with Adopt-A-Waterway. The City also arranges for stormwater messages, such as the USEPA video *After the Storm*, to air on the City's cable channel.

<u>Industrial/Commercial Facilities Control</u>

- The City of Signal Hill implemented pollutant reduction and control measures that resulted in the installation of an onsite stormwater detention system as part of a 12-acre Shopping Center development.

- West Hollywood assesses regulated businesses using an annual fee for NPDES inspections and is adding another fee for annual inspections of postconstruction BMPs.

- The City of Torrance and Metropolitan Water District of Southern California sponsor the Commercial and Industrial Institutional Conservation Program that provides a rebate of $150 per Water Miser Boom, which are used to clean hard surfaces and use only 20 percent of the water previously used for wash down of hard surfaces and most of the water used evaporates or can be pushed toward landscaped areas, thereby virtually eliminating run off from surface cleaning.

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- The City of Vernon has effectively integrated stormwater inspections with the inspections required under the Health and Environmental Control Department's jurisdiction, such as the Hazardous Materials Inspection Program, the Garment Inspection Program, the Food Processing Inspection Program, and the Solid Waste Inspection Program. The City of Vernon also conducted a stormwater pollution prevention and compliance seminar that promoted voluntary compliance of these facilities.

- The City of Los Angeles Inspection and Enforcement Program is a member of the City Attorney's multiagency environmental task force, which has launched several investigative initiatives against chronic health and safety and environmental violators for possible enforcement action and/or criminal prosecution. The combined authorities of the California Environmental Protection Agency, California Air Resources Board, Regional Board, California Department of Toxic Substances Control, Los Angeles County Health Hazmat Division, and many other agencies have targeted auto dismantlers, metal plating businesses, dry cleaners, and other industries through its Sun Valley, MacArthur Park, Wilmington, and Chrome Plating Initiatives. The inspections are a proactive response to community concerns involving quality-of-life issues. (Fiscal Years 2003-04 thru Fiscal Year 2005-06).

Development Planning

- The City of Rolling Hills Estates has adopted a landscaping ordinance that requires new landscapes to be designed to conserve water using a water budget approach. These requirements apply to new landscaping for commercial, office, and institutional developments and to developer-installed landscaping in residential subdivisions.

- The City of Manhattan Beach requires commercial trash enclosures to be fully enclosed and to be constructed with drainage to the sanitary sewer system. The purpose of these construction requirements is to prevent stormwater contact with the trash enclosures and to prevent water that does come in contact with the enclosures from entering the storm drains. The City reviews building plans for the trash enclosure requirements and has been proactive in reaching out to businesses to increase awareness of the requirements.

- The City of Rolling Hills' Zoning Ordinance contains strict development standards for development ratios on each property—the City is entirely residential with minimum lot sizes of one acre. Only 35 percent of the net lot area may be developed with impervious surfaces, including all structures, patios, and other paved areas. Given that the minimum lot size in the City is 1 acre, this provision promotes infiltration of stormwater into the ground and not onto streets. The City's water efficient landscaping ordinance requires use of a water budget and utilization of native and/or drought resistant vegetation while preserving established native flora and natural features of the lots.

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- The City of Rolling Hills encourages residents to install pervious surfaces when landscaping or installing/reconstructing driveways. Many residents have replaced their driveways with grass-crete and other porous material. Access to stables is encouraged to be gravel and not paved. The City's Zoning Ordinance precludes large impervious surfaces, i.e., driveways may not cover more than 20 percent of the area of the yard in which they are located; uncovered motor courts/parking pads may not cover more than 10 percent of the yard in which they are located. Tennis courts and sports courts are encouraged to have pervious surfaces. Additionally, the County implements the hillside home requirement that roof runoff be diverted to vegetated areas for all new development within the City.

- The City of Santa Clarita requires a "solid roof" for the trash enclosures on all development and redevelopment projects that have trash requirements.

- The City of Vernon has implemented specific postconstruction inspection, maintenance, and mitigation plan requirements for operators of all treatment control BMPs, which are designed to retain water. Approval for the installation of a water retaining BMP is performance based and requires the implementation of a maintenance plan. The plan consists of weekly BMP inspections (during presence of water in BMP), accurate inspection and maintenance logs, and a plan of action in the event that a vector problem is discovered. These requirements are a result of vector control concerns where treatment control BMPs product manufacturers fail to provide an adequate vector exclusion device or attachment for their water retaining product. Compliance determination is achieved through the Vernon Industrial/Commercial Inspection Program.

- In November 2003, the City hosted a day-long conference at the USC Davidson Center to educate the land development industry on SUSMP and Site Specific Mitigation requirements, and how to negotiate the City's permitting process. (Fiscal Year 2003-04)

Development Construction

- The City of Rolling Hills implements strict grading practices. Only 40 percent of the net lot area of a lot may be disturbed during construction. The City does not allow import or export of soil from construction projects so that all grading must be balanced on-site.

- The City of Torrance developed local pamphlets that are handed out to contractors and homeowners when issuing building/construction permits. These explain the BMPs that should be implemented and is specific to activities of the construction project.

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Public Agency Activities

- Runoff from wash racks at the Rolling Hills Estates municipal stables is diverted to the sanitary sewer via an approved pretreatment permit. Pretreatment of this runoff consists of screening to remove horsehair and gross solids.

- The City of Rolling Hills Estates has a proactive litter abatement program for keeping public rights-of-way, streets, medians, parks, and trails free of litter and debris. It also has a successful Adopt-a-Trails Cleanup and Maintenance program. The City has accelerated street sweeping with all public streets swept twice per month. The City has placed recycling bins for beverage containers in a number of City parks and commercial areas.

- The City of Hermosa Beach operates an aggressive Public Agency Program, which includes street sweeping and catch basin cleaning activities. In addition, the City has outfitted 60 percent of its own and 100 percent of the County-owned (downtown area) catch basins with inserts to help reduce the amount of debris entering the storm drain system. An annual contract with a private contractor is funded to ensure proper cleaning and maintenance of the installed devices.

- The City of Signal Hill established an E-Waste Collection Program to collect and recycle electronic waste that was dumped in the public right-of-way. The City also established a Curbside Collection Program for used motor oil. Do-it-yourselfers are provided a free used motor oil/filter container that can be left at the curbside and collected by the City for recycling. Approximately 150 gallons of used motor oil is recycled annually through this program.

- The City of Signal Hill established the Willow Street/Cherry Avenue Corridor Clean-Up Program. This program collects trash and debris along the City's 2 busiest commercial corridors on a weekly basis.

- The City of Signal Hill has expanded its Bus Shelter Cleaning Program from 1 cleaning per week to 3 cleanings per week.

- The City of Signal Hill installed pet waste collection stations at City parks and along its trail systems. The pet waste collection stations have proven to be successful as they are highly used.

- The City of Signal Hill serves as the lead agency in a partnership with the City of Long Beach and the County of Los Angeles on the Hamilton Bowl Trash Reduction project. This project will construct and evaluate the effectiveness of various trash removal devices in removing trash from stormwater runoff.

- West Hollywood has installed debris excluders with grant funds from the California Coastal Conservancy, Los Angeles County, and the City's General Fund.

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- West Hollywood's porous pavement parking lot at Spaulding Avenue was awarded the American Public Works Association's Project of the Year Award and the Outstanding Government Project Award from the American Society of Civil Engineers.

- West Hollywood provides daily hand pick up of litter and street sweeping services on major arterials.

- In an effort to prevent illegal disposal of household hazardous waste (HHW) and to provide residents a safe and responsible means of HHW disposal, the City of Santa Clarita has implemented a very successful door-to-door HHW collection program. During the term of the 2001-2006 NPDES Permit, Santa Clarita has collected over 356,857 pounds of hazardous waste with over 3,880 households participating.

- The Santa Clara River Steering Committee was recognized for its work in the restoration of the local watershed and was honored with the 2003 Water Quality Award for Water Body Restoration.

- The Rolling Hills City Hall area is landscaped with native and drought resistant plants and maintained with minimal irrigation and application of fertilizers and pesticides.

- The City of Carson constructed approximately 4,000 feet of landscaped median islands. As an erosion control measure, the City also constructed rolled asphalt concrete curbs on all properties adjacent to the street where erosion has been a problem.

- The City of Culver City was awarded a grant totaling $1.252 million for structural stormwater BMPs. The grant project, which consists of the following multifunctional BMPs, will be completed by June 2008:
    - Two bioretention cells or rain gardens in City parks that will provide infiltration, pollution remediation for multiple pollutants, and aesthetic recreational medium for the public.
    - Six hundred seventy two innovative, 2-tiered catch basin inserts that will provide full-capture for gross pollutants, including trash.
    - Five hundred low-flow, high-pressurized water broom for critical or potentially high polluting businesses to reduce/eliminate nuisance flows and prevent dry-weather pollution from commercial areas. Bilingual door-to-door education will be provided to business employees to ensure sustained and consistent use of water brooms.
    - Fifty tamper-free recycling bins and trash receptacles in high trash-generating areas, such as schools and convenience stores.

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- The City of Pasadena temporarily blocks catch basins during events, such as the Rose Parade, where there is an elevated risk of excessive trash entering the storm drain system.

- The City of Santa Clarita, through its negotiations with its residential solid waste hauler, successfully negotiated the free collection of E-Waste through its bulky item collections program. Now residents can have up to 4 free bulky item collections per year of up to 3 items per collection.

- The City of Burbank continues to perform street sweeping of all City streets once a week. This level of street cleaning helps to remove potential contaminants from reaching the catch basins.

- All City of Burbank employees involved with stormwater management and pollution prevention are provided with a wallet-size card containing contact information to address stormwater concerns from the public as well as a list of allowable discharges.

- City of Los Angeles voters overwhelmingly supported Proposition O, the Clean Water, Ocean, River, Beach, Bay Storm Water Cleanup Measure – General Obligation Bonds, on November 2, 2004. Proposition O passed with nearly 76 percent of City residents voting "yes" on the proposition.

- Data from the City of Los Angeles Status and Trends Monitoring Program, which was established to characterize indicator bacteria levels and heavy metal pollutants in the Los Angeles River, Ballona Creek, and Dominguez Channel watersheds, has been used for a variety of purposes, including TMDL development by regulatory agencies, determining baseline pollutant levels referenced in Sanitary Sewer Overflow sampling protocol, and for prioritizing watershed management strategies.

- The City of Los Angeles installed 4 floating wetland islands in Echo Park Lake to reduce nutrient loads and other pollutants associated with urban runoff. Two additional wetland islands were installed in MacArthur Park Lake and Debs Park Pond, respectively. (Fiscal Years 2004-05 and 2005-06)

<u>Illicit Connections/Illicit Discharges Elimination</u>

- The City of Rolling Hills Estates revised its solid waste ordinance to enhance its code enforcement authority over improper disposal of manure among the equestrian community. The ordinance requires that manure be kept in an enclosed storage container and removed at least once per week, or that manure used for composting be kept in an enclosed composting container. The City facilitates this requirement by offering enclosed manure storage containers and curbside manure removal service with off-site composting through its residential solid waste franchise agreement.

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- Manure collection and off-site composting services for owners of horses is available through the City of Rolling Hills' franchise waste hauler.

- The City of Pasadena has established a separate hotline for reporting illicit discharges. The number is 626-744-STRM.

- The City of Vernon has effectively integrated illicit discharge and illicit connection detection and elimination procedures with the inspections required under the Health and Environmental Control Department's jurisdiction (i.e., Hazardous Materials Inspection Program, the Garment Inspection Program, the Food Processing Inspection Program, and the Solid Waste Inspection Program). All facilities inspected, regardless if the facility is covered under the Vernon Commercial/Industrial Inspection Program, are evaluated to ensure there are no illicit discharges from the facility.

TMDL Program

- The City of Los Angeles is leading the stakeholder group CREST (Cleaner Rivers through Effective Stakeholder TMDLs), whose participants include the USEPA, Regional Board, local jurisdictions, environmental groups, and other agencies to develop TMDLs for cleanup of the Los Angeles River and Ballona Creek Watersheds. CREST seeks input from all stakeholders to develop work plans, to define and perform special studies, and to develop monitoring and implementation strategies. (Fiscal Year 2004-05)

- Since approval of the Los Angeles River and Ballona Creek Trash TMDLs in September 2001, the City of Los Angeles has developed an Implementation Strategy and Plan that relies on both institutional and structural BMPs to comply with the TMDL waste load allocations. The installation of the structural BMPs have been prioritized in the high-trash generation areas of the City with the following BMPs installed to date: 8 netting systems; 10 hydrodynamic devices; 5 outlet screens; 1,400 catch basin inserts; and 4,100 catch basin opening screen covers.

BMP and Capital Improvement Projects

- Wetlands were constructed by the City of Los Angeles in AF Hawkins Park in South Los Angeles that will treat on-site stormwater runoff and will serve as a water feature that enhances the park's aesthetic values. (Fiscal Year 2004-05)

- The City of Los Angeles and the Los Angeles County Flood Control District are developing the Tuxford Green project as a joint project that will decrease flooding and improve stormwater quality at the intersection of Tuxford Street and San Fernando Road. Underground cisterns will be built to remove trash, debris, oil and grease, and suspended pollutants. A demonstration landscaping feature will

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also be constructed above the cisterns to be irrigated in part by the retained water. (Fiscal Year 2004-05)

- Construction began in July 2004 on improvements, including nontraditional stormwater management techniques, at the City's Sun Valley Park and Recreation Center. The City of Los Angeles, the Los Angeles County Flood Control District, area residents, businesses, and environmental groups developed this pilot project that will alleviate local flooding, enhance recreational opportunities, and demonstrate the effectiveness of nontraditional stormwater management techniques. (FY 03-04)

- As part of the City of Los Angeles' LowFlow Diversion (LFD) Program, 7 LFDs were constructed to prevent/eliminate beach closures in Santa Monica Bay during the summer months. The City received the 2004 National Environmental Achievement Award for Public Service from the American Municipal Sewerage Agencies (AMSA) upon completion of this project.

Los Angeles River Programs

- Established in March 2005, the City of Los Angeles has led the Los Angeles River Plastics Initiative Industry Task Force to develop recommendations on reducing plastic bag litter in the river. Task force members include a cross-section of representatives from industries that manufacture or distribute plastic bags and polystyrene products, retailers, waste and recycling interests, environmental and Los Angeles River Watershed advocacy groups, and City staff. (Fiscal Year 2004-05)

- In May 2004, the City of Los Angeles hosted a day-long conference at the USC Davidson Center for the scientific community regarding the science and biology of the Los Angeles River. The conference included presentations on the current water quality and habitat monitoring efforts taking place along the Los Angeles River, and concluded with a 6-member panel discussing the critical issues facing the Los Angeles River. (Fiscal Year 2003-04)

Interagency Coordination and Planning

- The City of Los Angeles has embarked on developing an Integrated Resources Plan (IRP) that addresses the facility needs of the City's wastewater, recycled water, and urban runoff/stormwater management programs through the year 2020. The County and municipalities neighboring the City are active participants in the IRP process. It is anticipated that this effort will benefit individual stormwater programs and overall interagency coordination. (Fiscal Year 2003-04)

- The City of Los Angeles is working with the Los Angeles Unified School District (LAUSD) and Tree People to incorporate stormwater BMPs in the design guidelines for schools. This cooperative effort is part of LAUSD's school construction and

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renovation program. The City's 3 goals are for the schools to: 1) retain all stormwater on-site; 2) reuse or recharge all stormwater on-site; and 3) incorporate off-site water, whenever feasible. (Fiscal Year 2004-05)

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Table 1 Proposed Changes between Order 01-182 and New Permit

Program		Existing Requirements	Proposed Requirements
CORE MONITORING	Mass Emissions Monitoring	Monitor 3 storms >/= 0.25" (including first) and 2 dry weather flows Monitor all storms of 0.25 inches or more for TSS	Monitor 2 Storms >/= 0.25" (including first) and 2 dry weather flows Discontinue Separate TSS Monitoring
		Correlate TSS with other Constituents	Discontinue TSS Correlation
	Water Column Toxicity Monitoring	Perform Ceriodaphnia dubia (water flea) 7-day survival/reproduction and Strongylocentrotus purpuratus (purple sea urchin) fertilization tests for 2 storms (including first) and 2 dry weather flows at Mass Emission Sites.	Perform Ceriodaphnia dubia (water flea) 7-day survival/reproduction for 2 storms and 1 dry weather event at Mass Emission Sites. If the results from the first dry weather event are toxic, perform an additional C. dubia (water flea) test on the second dry event. Perform Strongylocentrotus purpuratus (purple sea urchin) fertiiization tests for 2 storms (including first) and 2 dry weather flows at Mass Emission Sites.
		No Tributary Monitoring Component	Perform Ceriodaphnia dubia (water flea) 7-day survival/reproduction and Strongylocentrotus purpuratus (purple sea urchin) fertilization tests for 2 storms (including first) and 2 dry weather flows at Tributary Monitoring Sites. Testing protocol should be the same as for Mass Emissions Sites.
	Shoreline Monitoring	Responsiblility of City of LA	Joint reponsibility for those Permittees which discharge to an impaired water body.
		A combination of daily and weekly monitoring at 18 Santa Monica Bay locations.	Align the Permit with impaired water bodies by conducting weely monitoring throughout Santa Monicay Bay as described in the Coordinated Shoreline Monitoring Program approved by the Regional Board on April 28, 2004.
	Tributary Monitoring	Monitor 4 storms >/= 0.25" (Including first) and 1 dry weather flows	Monitor 3 Storms >/= 0.25" (Including first) and 2 dry weather flows.
		No Toxicity Testing at Tributary Monitoring Sites	Analyze toxicity at Tributary Sites for 2 storms and 2 dry weather events. See Water Column Toxicity Monitoring above.
REGIONAL MONITORING	Estuary Sampling	Participate on the Bight 2003 study's steering committee	Participate on the Bight 2008 study's steering committee
		Sample a maximum of 25 sites in each estuary (Ballona Creek, Malibu Creek, LA River, SG River, and Dominguez Channel) once during the permit term	Consult with SCCWRP and Regional Board to formulate follow-up questions for Bight 2003, including but not limited to: 1. What are the specific toxicants causing recurring sediment toxicity in Ballona Creek Estuary? Dominguez Channel Estuary? 2. What are sources of urban runoff that contribute to sediment toxicity? 3. Partitioning coefficients between water column and sediment? 4. Suspended sediment toxicity sampling protocol? 5. Sediment transport mechanism and deposition patterns? 6. What is the state of current technology available to reduce toxicant loading from urban and storm runoff? The number of studies conducted depends on funding availability.
		Sample 25 sites outside of the direct outfalls to assess cumulative effects	
		Analyze all samples for:Sediment chemistry (priority pollutants),Total Organic Carbon (TOC),Grain size,Sediment toxicity	
		Create a map of each estuary depicting degraded areas and the spatial distribution of sediment from storm water	
		Suggest appropriate locations for regular sediment monitoring based on the results of this study.	
	Bioassessment	Participate in the SMC and with the SWAMP in development of a regional Index of Biological Integrity (IBI)	Continue participation in the development and testing of regional IBI.
		Perform bioassessment monitoring every October	Perform in spring to coordinate with other Regional Bioassessment Monitoring efforts from the San Gabriel River Regional Program.
		Monitor a minimum of 20 sampling sites and coordinate with SWAMP in site selection.	No change.
		Collect a minimum of three replicate samples at each site	No change.
		Submit annual monitoring report containing all physical, chemical, and biological data collected and analyzed during bioassessment	No change.
SPECIAL STUDIES	New Development Impact Study	Water quality model simulations for a multi land use watershed to evaluate impact of watershed development and SUSMP effectiveness Dry and wet weather monitoring at the selected watershed	No change is proposed. Continue the existing requirements until project completion. Participate in the SMC's Low Impact Development study.
	Peak Discharge Impact Study	Develop numeric criteria to control/reduce the post-development peak flow impact	Provide in-kind services support in the SMC hydromodification impacts research and develop numeric criteria by Dec. 10, 20010, or 6 months after publication of the SMC research, whichever is later.
	BMP Effectiveness Study	Test at least five types of structural BMPs for their feasibility, cost of maintenance, and removal performances of pollutants (trash, suspended sediments, pathogen indicators, nutrients, heavy metals, and oil and grease)	Continue the study with three previously tested and two new BMPs for more storm events. Remove trash from the list of pollutants to be monitored, because BMP evaluation for trash removal is already required under the Public Agency Activities Program.
	Studies associated with the SMC	None	Regional IBI§ Laboratory Intercalibration§ Reference Watershed Study§ Low Impact Development Guidance and Training§ Stormwater Toxicity Protocols§ Peak Flow/Hydromodification

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Table 2. Relevance to core management questions set forth under the Model Monitoring Program.

			Question 1: Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?	Question 2: What is the extent and magnitude of the current or potential receiving water problems?	Question 3: What is the relative urban runoff contribution to the receiving water problem(s)?	Question 4: What are the sources to urban runoff that contribute to receiving water problem(s)?	Question 5: Are conditions in receiving waters getting better or worse?
CORE MONITORING	Mass Emissions Monitoring	Current Program	This program examines flows as they pass by Mass Emission Sites (MES). Conditions in receiving waters upstream and downstream of the sites are not directly measured, but characterization of flows at the MES can be used to infer conditions in adjacent recieving waters.	This program is not intended to directly measure conditions in receiving waters.	This program characterizes urban runoff and other flows that pass through the MS4 system. Other inputs into receiving waters must also be analyzed in order to use this program to evaluate relative contributions from the MS4 system.	The Mass Emissions Monitoring Program can only identify pollutant sources at the watershed level.	Data collected under this program can be analyzed for trends. However, at this point in time the data set is too small to determine long term trends. This program is designed to monitor water quality at specific sites and does not directly examine recieving waters upstream or downstream of the MES.
		Proposed Program	This program will continue to examine flows as they pass by Mass Emission Sites (MES). Conditions in receiving waters upstream and downstream of the sites are not directly measured, but characterization of flows at the MES can be used to infer conditions in adjacent recieving waters.	This program is not intended to directly measure conditions in receiving waters.	This program continues to characterize urban runoff and other flows that pass through the MS4 system. Other inputs into receiving waters must also be analyzed in order to use this program to evaluate relative contributions from the MS4 system.	The proposed program will continue to identify pollutant sources only at the watershed level.	Data will continue to be collected such that long term trends can be analyzed in the future. This program is designed to monitor water quality at specific sites and does not directly examine recieving waters upstream or downstream of the MES.
	Water Column Toxicity	Current Program	The current program provides sufficient information to determine if waters discharged from the MS4 system are toxic to certain insects and sea urchins during 4 events per year. This can be used to infer effects on beneficial uses in the receiving waters.	This program is not intended to directly measure conditions in receiving waters.	This program characterizes the toxicity of urban runoff and other flows that pass through the MS4 system. Other inputs into receiving waters must be analyzed in order to use this program to evaluate relative contributions from the MS4 system.	This program can be used to identify the sources of toxic pollutants.	While the current data set is too small to determine long term trends in toxicity at the mass emission stations, it forms the baseline of toxicity which can be used to determine long term trends in the future. This program is designed to monitor water quality at specific sites and does not directly examine recieving waters upstream or downstream of the MES. However, inferences can be made about the water quality in adjacent
		Proposed Program	The proposed program will provides sufficient information to determine if waters discharged from the MS4 system and from six tributaries are toxic to certain insects and sea urchins during 3 to 4 events per year. This can be used to infer effects on beneficial uses in the receiving waters.	This program is not intended to directly measure conditions in receiving waters.	This program continues to characterize the toxicity of urban runoff and other flows that pass through the MS4 system. Other inputs into receiving waters must be analyzed in order to use this program to evaluate relative contributions from the MS4 system.	This program will continue to have the potential to identify the sources of toxic pollutants.	Continuing to collect toxicity data, including that fo tributaries, will increase the size of the data set and allow for trend determination at specific locations within the MS4 system. This program is designed to monitor water quality at specific sites and does not directly examine recieving waters upstream or downstream of the monitored locations. However, inferences can be made about the water quality in adjacent recieving waters.

Table 2. Relevance to core management questions set forth under the Model Monitoring Program.

			Question 1: Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?	Question 2: What is the extent and magnitude of the current or potential receiving water problems?	Question 3: What is the relative urban runoff contribution to the receiving water problem(s)?	Question 4: What are the sources to urban runoff that contribute to receiving water problem(s)?	Question 5: Are conditions in receiving waters getting better or worse?
CORE MONITORING	Shoreline Monitoring	Current Program	This program measures bacteria levels in receiving shoreline waters and can be used to evaluate impacted beneficial uses.	This program is designed to evaluate water quality conditions at the shore and does not examine waters inside the watershed. Bacteria levels measured in the receiving waters at the shore can be evalulated over time to determine trends.	This program measures bacteria levels near outlets of the MS4 system. However, the specific contribution from urban runoff and other sources is not measured.	Sampling stations have been located near storm drain outlets to measure bacterial loads discharged through the MS4 system. Impaired water body development studies all potential sources for bacteria.	The program measures exceedences of water quality objectives and this data can be analyzed for long ferm trends. This program measures receiving water conditions (bacteria levels) at the shoreline.
		Proposed Program	This program will continue to measure bacteria levels in receiving shoreline waters and can be used to evaluate impacted beneficial uses.	The program will continue to evaluate shore water and not focus on waters inside the watershed. As additional data is collected, trend analysis will continue for shoreline receiving waters.	Impaired water body specific programs have provisions for source inventories and may include source identification studies which will better define all sources, including contributions from urban runoff.	Implemented impaired water body specific programs have provisions for source inventories.	The program will continue to measure exceedences of water quality objectives which will be analyzed for trends. This program will measure receiving water conditions (bacteria levels) at the shoreline.
	Tributary Monitoring	Current Program	This program examines flows as they pass by Tributary Monitoring Sites(TMS). Conditions in receiving waters upstream of the sites are not directly measured, but characterization of flows at the TMS and the MES can be used to estimate conditions between the TMS and MES as well as in adjacent recieving waters.	This program is not intended to directly measure conditions in receiving waters but measurements at the TMS and MES can be used to estimate receiving water conditions in the reaches between.	This program characterizes the toxicity of urban runoff and other flows that pass through the MS4 system. Other inputs into receiving waters must be analyzed in order to use this program to evaluate relative contributions from the MS4 system.	Tributary Monitoring identifies subwatersheds which contribute higher loads of pollutants and can be used to identify specifc sources.	Subwatersheds are only being monitored for 2 years each and there is not sufficient data at this time to determine a trend. However, data collected under this program can be used for trend analysis if and when the tributary sites are remonitored in the future. This program is designed to monitor water quality at specific sites and does not directly examine recieving waters upstream or downstream of the monitored sites.
		Proposed Program	This program will continue to examine flows as they pass by Tributary Monitoring Sites(TMS). Conditions in receiving waters upstream of the sites are not directly measured, but characterization of flows at the TMS and the MES can be used to estimate conditions between the TMS and MES as well as in adjacent recieving waters.	This program is not intended to directly measure conditions in receiving waters but measurements at the TMS and MES can be used to estimate receiving water conditions in the reaches between.	This program continues to characterize the toxicity of urban runoff and other flows that pass through the MS4 system. Other inputs into receiving waters must be analyzed in order to use this program to evaluate relative contributions from the MS4 system.	The Tributary Monitoring Program will continue to identify subwatersheds with higher pollutant loadings and could be used to identify specific sources.	The program continues to collect data at tributary sites which can be used in the future to analyze trends at those locations. This program is designed to monitor water quality at specific sites and does not directly examine recieving waters upstream or downstream of the monitored sites.

Table 2. Relevance to core management questions set forth under the Model Monitoring Program.

			Question 1: Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?	Question 2: What is the extent and magnitude of the current or potential receiving water problems?	Question 3: What is the relative urban runoff contribution to the receiving water problem(s)?	Question 4: What are the sources to urban runoff that contribute to receiving water problem(s)?	Question 5: Are conditions in receiving waters getting better or worse?
REGIONAL MONITORING	Estuary Sampling	Existing Program	Designed to answer this question, the program has found that some of the LA County estuaries may not be protective of beneficial uses.	Designed to answer this question, the program has delineated the extent and magnitude of the problem.	Program has identified urban runoff as the primary contributer to receiving water problems.	The program was not designed to answer this question.	By its cyclical nature, the bight monitoring program addresses this trend question.
		Proposed Program	Funding would be shifted away from this question to address question 4 as well as how to reduce toxicant loading from urban runoff.	Funding would be shifted away from this question to address question 4 as well as how to reduce toxicant loading from urban runoff.	Funding would be shifted away from this question to address question 4 as well as how to reduce toxicant loading from urban runoff.	Permittees' funding for Bight 2008 would be devoted to answer this question as well as how to reduce toxicant loading from urban runoff.	Funding would be shifted away from this question to address question 4 as well as how to reduce toxicant loading from urban runoff.
	Bioassessment	Existing Program	The study intends to evaluate the biological impact that pollution has on receiving waters within Los Angeles County.	The task identifies a broad range of receiving waters throughout the County including reference sites and highly developed areas to assess the "health" of the water bodies.	The study compares highly urbanized and reference site water bodies to evaluate the qualitative affects of urban runoff on stream biology.	The program provides a general comparison between stream environments and characterizes the biological integrity of water bodies. It does not attempt to target sources of pollutant contribution.	Bioassessment allows for the analysis of relative biological degradation within water bodies. All sites have shown marginal improvement, and they appear to have not degraded.
		Proposed Program	no change	Coordinating efforts with other bioassessment monitoring programs in the region has the potential to provide a broader range of comparative information that will allow for more robust trend analysis and knowledge of the extent and magnitude of bioassessment issues in Los Angeles County.	no change	By aligning monitoring sites with MES and tributary core monitoring sites, water quality and toxicological data can be evaluated in conjunction with biological conditions. If trends are observed, it may be easier to provide source assessment.	no change
SPECIAL STUDIES	New Development Impact Study	Existing program	The required monitoring program identifies the current load of the pollutants at the wateshed outlet. Obtained load can be used to determine the beneficial use of receiving water	Same as Question No. 1	The model simulations can identify impact of watershed development in the increase of pollutant loading to receiving waterbody. The reduction of pollutants in urban runoiff with SUSMPs can also be evaluated by the model.	The modeling study and monitoring at the outlet of the watershed are not intended to identify the specific sources of the pollutant but to evaluate the effectivess of SUSMPs in reduction of pollutants in the receiving water.	Successfully implemented SUSMP can reduce the pollutant loading with appropriate combinations of BMPs for different type of land use.
		Proposed New program	no change	no change	no change	no change	no change
	Peak Discharge Impact Study	Existing program	The enhanced stream channel erosion has been observed as a result of increased peak discharge from watershed development.	The study intends to evaluate the magnitude of the increased erosion directly caused by watershed development.	The study compares the narturally occuring stream channel erosion with the one enahnced by the upstream wateshed development	The increased peak discharge from watershed development is known to enhance stream channel erosion.	Numerical crieteria to be used for future watershed development can help minimize the stream erosion.
		Proposed New program	no change	no change	no change	no change	Interim Peak Flow Standard has been implemented to protect the natural stream.
	BMP Effectiveness Study	Existing program	The required monitoring program identifies the current load of the pollutants within the	Same as Question No. 1	Same as Question No. 1	Same as Question No. 1	Successfully identified BMPs can reduce the pollutant loading.
		Proposed New program	no change	no change	no change	no change	no change

Table 3. Impaired water body specific monitoring programs and special studies that are, or will be, conducted by Permittees.

Requirement	Impaired Water Body	Project Description	Status
Coordinated Shoreline Monitoring Program	Santa Monica Bay Beaches Bacteria for Dry and Wet Weather	Weekly shoreline bacteria water quality monitoring at 60+ locations throughout Santa Monica Bay.	This program was approved the the Regional Board in April 2004. Monitoring commenced in November 2004.
Main Ship Channel Bacteria Water Quality Study	Los Angeles Harbor Bacteria	A one-year sampling program to assess the bacteriological water quality in the Inner Harbor and Main Ship Channel of Los Angeles Harbor.	Work plan was approved by the Regional Board in September 2005.
Coordinated Monitoring Plan	Los Angeles River Nutrients	A monitoring program to measure an improvement in the impaired water body.	Submitted to Regional Board in March 2005. Awaiting approval.
Bacteria Nonpoint Source Study	Marina del Rey Harbor Bacteria	A one-year study to determine the relative bacterial loading from sources including storm drains, boats, birds, and other nonpoint sources.	In progress. Final report will be submitted to the Regional Board by March 2007.
Coordinated Monitoring Plan	Marina del Rey Harbor Bacteria	A monitoring program to measure ambient water quality as well as an improvement in the impaired water body.	Originally submitted to the Regional Board in July 2004. The plan is currently being revised to incorporate Regional Board's comment.
Reference Watershed Study	Malibu Creek and Lagoon Watershed Bacteria	A one-year study to establish a defensible bacteriological reference condition for the Malibu Creek and Lagoon watershed.	Expect to begin in July 2006. Final project report will be submitted to the Regional Board by January 2008.
Bacteria Water Quality Monitoring Plan	Malibu Creek and Lagoon Watershed Bacteria	A monitoring program to measure ambient water quality as well as an improvement in the impaired water body.	Submitted to Regional Board in May 2006. Awaiting approval.
Coordinated Monitoring Plan	Ballona Creek Metals	A monitoring program to measure ambient water quality as well as an improvement in the impaired water body.	Due to the Regional Board in January 2007.
Coordinated Monitoring Plan	Ballona Creek Estuary Toxic Pollutants	A monitoring program to measure ambient sediment quality as well as an improvement in the impaired water body.	Due to the Regional Board in January 2007.

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Table 3. Impaired water body specific monitoring programs and special studies that are, or will be, conducted by Permittees.

Requirement	Impaired Water Body	Project Description	Status
Coordinated Monitoring Plan	Los Angeles River Metals	A monitoring program to measure ambient water quality as well as an improvement in the impaired water body.	Due to the Regional Board in April 2007.
Coordinated Monitoring Plan	Ballona Creek Bacteria	A monitoring program to measure ambient water quality as well as an improvement in the impaired water body.	This impaired water body is scheduled to come into effect in March 2007.
Water Column-Sediment Partitioning Coefficients	Marina del Rey Harbor Toxic Pollutants	A study to evaluate partitioning coefficients between water column and sediment to assess the contribution of water column discharges to pollutant concentrations in the benthic sediments of the harbor.	Due to the Regional Board by March 2011.
Low Detection Level Techniques	Marina del Rey Harbor Toxic Pollutants	study is to evaluate the use of low detection level techniques to determine water quality concentrations for those contaminants where standard detection limits cannot be used to assess compliance for California Toxic Rule standards or are not sufficient for estimating source loadings from tributaries and storm water.	Due to the Regional Board by March 2011.
Coordinated Monitoring Plan	San Gabriel River Metals	A monitoring program to measure ambient water quality as well as an improvement in the impaired water body.	This impaired water body is scheduled to come into effect in March 2007.
Coordinated Monitoring Plan	Los Angeles River Bacteria	A monitoring program to measure ambient water quality as well as an improvement in the impaired water body.	This impaired water body is scheduled to come into effect no later than 2012.

City of Downey

FUTURE UNLIMITED

June 12, 2006

Jonathan S. Bishop
Executive Officer
Los Angeles Regional Water Quality Control Board
320 West Fourth Street, Suite 200
Los Angeles, CA 90013

Re: City of Downey Report of Waste Discharge (ROWD) in response to Los Angeles Regional Water Quality Control Board Order No. 01-182 (NPDES MS4 Permit).

Dear Mr. Bishop:

The City of Downey is pleased to submit the attached City of Downey Specific Report of Waste Discharge (ROWD) in response to Order No. 01-182 adopted by the Los Angeles Regional Water Quality Control Board on December 13, 2001. The National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit resulting from this order was issued to Los Angeles County Flood Control District as Principal Permittee, with the City of Downey, and 83 other municipal agencies, as Permittees. This, the 2001 MS4 permit, requires submission of this ROWD as a condition or application for a future (i.e. 2006) NPDES MS4 permit.

The City of Downey has implemented an aggressive stormwater program that is making significant and cost effective strides in meeting our shared current and future water quality goals. As you will note in the City's ROWD, the City's achievements in managing urban runoff demonstrate that Downey has taken a regional leadership role in integrated water management and protecting water quality.

The attached ROWD demonstrates Downey's commitment to continue improving water quality within our jurisdiction and the region. We encourage you to review our submission and consider what we have already accomplished, not just during this permit cycle, but by implementing BMPs that will produce dividends for decades into the future. The City of Downey has a demonstrated legacy of encouraging others to respect our regional water resources, and will continue to assist your staff, in motivating others to our shared water quality goals. If you have any outstanding questions or wish to discuss these issues further, please contact me at 562-904-7284.

Sincerely,

Gerald M. Caton
City Manager

11111 BROOKSHIRE AVENUE POST OFFICE BOX 7016 DOWNEY, CALIFORNIA 90241-7016 www.downeyca.org

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REPORT OF WASTE DISCHARGE

Renewal Application for the City of Downey, California
National Pollutant Discharge Elimination System (NPDES)
Municipal Separate Storm Sewer System (MS4) Permit

June 12, 2006

Prepared by the

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Department of Public Works
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1.0 INTRODUCTION

1.1 PURPOSE

This Report of Waste Discharge (ROWD) constitutes a National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer System (MS4) Permit application for renewal of the Waste Discharge Requirements (WDRs) adopted on December 13, 2001 by the Regional Water Quality Control Board, Los Angeles Region (Board) in Part 6, Section S, of Order No. 01-182 (NPDES No. CAS004001). The City of Downey is one of the Permittees identified within Order No. 01-182, which was issued to the Los Angeles County Flood Control District [the Principal Permittee], the County of Los Angeles, and incorporated Cities within southern Los Angeles County, except the Cities of Long Beach and Avalon. While the Los Angeles County ROWD integrates the activities and programs implemented by all of the Permittees identified within Order No. 01-182, this Downey ROWD focuses on local programs and proposed terms for a City of Downey NPDES MS4 Permit. The city of Downey is unique in being quartered between four distinctly different hydrologic watershed units, and having its own municipal water supply, water conservation, runoff water quality protection, and enforcement programs, warranting issuance of a jurisdictionally distinct MS4 Permit.

This ROWD emphasizes Best Management Practices ("BMPs"), in lieu of strict numeric limits as was first proposed by the United States Environmental Protection Agency ("EPA"): "EPA expects that most WQBELs for NPDES-regulated municipal storm water discharges will be in the form of BMP's and that numeric limits will only be used in rare instances." (US. EPA Memorandum of November 22, 2002, from Robert Wayland, Director of Wetlands, Oceans and Watershed & James Hanlon, Office of Wastewater Management, EPA Headquarters, to all Water Division Managers – Regions 1-10). This BMP approach recognizes that the City of Downey has limited financial, technical and scientific resources to apply toward ineffective pollution source control programs. It also recognizes the rudimentary level of understanding regarding the cost and pollution control effectiveness of BMPs. For example, Caltrans' "peer reviewed" studies indicate that the recent structural BMPs, such as the sand-filters identified in the Los Angeles River Metals TMDL, do not reduce the concentration of metals in surface waters, below California Toxic Rule (CTR) levels. Clearly additional investments in studies, design, construction and testing of the iterative BMPs process are warranted.

Following the issuance of Order No. 01-182, numerous Permittees, including the City of Downey, filed legal challenges to many of the terms and provisions of that order, as well as to the procedure, review, and approval process followed by the Board in adopting it. These legal challenges remain pending before the Court of Appeal of the State of California, Second Appellate District, as Appellate Court Case No. B184034.[1]

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[1] The following Permittees are appellants and continue to challenge many of the provisions in Order No. 01-182: The Cities of Arcadia, Artesia, Bellflower, Beverly Hills, Carson, Cerritos, Claremont, Commerce, Covina, Diamond Bar, Downey, Gardena, Hawaiian Gardens, Industry, Irwindale, La Mirada, Lawndale, Monrovia, Norwalk,

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In recognition of the accelerating environmental significance of the 2001 WDRs and the Board's apparent intent to incorporate numeric objectives into future MS4 Permits, the City of Downey requests that before the City or County ROWD becomes the basis for issuance of new WDRs or Permit, the Regional Board and State Water Resources Control Board (State Board) first take all actions required to comply with the California Environmental Quality Act ("CEQA"). In particular, recognizing that any exemption provided under California Water Code section 13389 is limited to only CEQA Chapter 3. Moreover, there exists no CEQA exemption for State and Regional Board imposed permit requirements that go beyond federal law as set forth under the Clean Water Act. Compliance with CEQA requirements, prior to the issuance of a new municipal permit, is essential in order that feasible alternatives to potentially-significant environmentally-adverse permit terms can be evaluated and unavoidable adverse impacts resulting from the project (i.e. WDRs and MS4 permit) be evaluated and properly mitigated.

The City of Downey further asserts that Order No. 01-182 amounts to the imposition of an unfunded mandate and thus requests that any programs mandated under any new MS4 permits only be imposed, where the prohibiting unfunded mandate requirements of the California Constitution, have been fully complied with.

Since the Regional Board does not have State-wide jurisdiction, it also does not solely have the authority to issue an NPDES MS4 permit under the Clean Water Act. Therefore, the City of Downey requests that any NPDES MS4 permit, under which the City of Downey is a permittee, be issued only after it has been reviewed and formally approved by the State Water Resources Control Board ("State Board").

The City is submitting the Downey ROWD with the understanding that it is not waiving any rights, objections or challenges previously brought, or which may arise, in connection with the issuance of Order No. 01-182, or any other related objections and challenges that may have been brought by the City in regards to other water quality orders, directives or regulations. This ROWD is also submitted with the understanding that the City is not waiving or relinquishing any rights it already has, or may have, in connection with any new permit to be issued in replacement of Order No. 01-182. The City of Downey reserves the right to object to the terms, or modification of terms, of previous, current and future NPDES MS4 Permit, not addressed in this ROWD and the contents herein, do not constitute a waiver of the right to challenge objectionable terms

1.2 REGULATORY BACKGROUND

The 1972 Clean Water Act (CWA) established the NPDES Permit program to regulate the discharge of pollutants from point sources to waters of the United States. In response to the 1987 CWA amendments, the United States Environmental Protection Agency (USEPA) developed the 1990 Phase I NPDES Stormwater Program, which

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Paramount, Pico Rivera, Rancho Palos Verdes, Rosemead, Santa Clarita, Santa Fe Springs, Signal Hill, South Pasadena, Torrance, Vernon, Walnut, West Covina, Westlake Village, Whittier, and the County of Los Angeles and the Los Angeles County Flood Control District.

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established a framework for regulating urban stormwater runoff. The Phase I program addressed sources of stormwater runoff with the greatest potential to negatively impact water quality and required NPDES Permit coverage for stormwater discharges from:

- Municipal separate storm sewer systems (MS4) serving populations of 100,000 or more; and
- Companies that fall within eleven industrial activity categories, including construction activities that disturb five or more acres of land.

Phase I MS4 Operators were required to obtain NPDES Permit coverage for stormwater discharges under their control. The most significant requirement was development of a proposed stormwater management program that would meet the maximum extent practicable (MEP) standard for reducing the discharge of pollutants from the MS4.

1.3 OBJECTIVES

The objective of this City of Downey ROWD is to develop a specific MS4 Permit that focuses on the CWA goal of "reducing pollutants to the MEP" while taking into account:

- Feasibility of implementation measures, based on available resources;
- Cost, effectiveness, and dependability of those implementation measures;
- Overall water quality improvements and elimination of impairments;
- Improving regional Stormwater Quality Management Programs (SQMP);
- Considered suggestions and approaches to improve water quality;
- Integration with other impaired receiving water body specific programs.

With the Board having recently proposed to reopen the 2001 MS4 Permit to insert numeric indicator bacteria standards, when these microorganisms are known to replicate within the drainage system, the City of Downey ROWD is focus on controlling runoff discharges to the MEP; especially in city owned and maintained MS4 elements. Based on this nexus, the City of Downey has invested significant effort in identifying and distinguishing between state, county, city and privately owned and maintained elements of the drainage system. While our effort is not yet complete, due in part to outstanding contractual disputes, we have determined that most of the catch basins and underground drainage systems elements within our jurisdiction are owned and operated by Los Angeles County. While the City of Downey will continue to assist other agencies in reducing runoff generation to all MS4 drainage elements, based on the regulatory approach now being identified by the Board, it is our interpretation that that the most effective point of pollutant source control will be at the point of discharge, which is for the most part under the control (i.e. ownership and management) of other agencies.

1.4 PROGRAM DESCRIPTION

On December 13, 2001, the Regional Board adopted Order No. 01-182, which designates the Los Angeles County Flood Control District as the Principal Permittee, while the City of Downey, County of Los Angeles, and 83 other incorporated Cities are delegated Permittees. The Los Angeles County MS4 Permit for stormwater and urban runoff assigns the responsibility for coordinating and facilitating permit compliance

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activities to the Principal Permittee, but not responsibility for ensuring permittee compliance. As previously indicated, many parts of Order No. 01-182 have been challenged in a lawsuit filed in Los Angeles County Superior Court by a number of the Permittees thereunder. This legal challenge remains pending on appeal, in the Court of Appeal of the State of California, Second Appellate District, Case No. B184034.

In the 2001 MS4 Permit, the Regional Board laid the foundation of implementing future watershed based management approaches to regional water quality protection. Since the City of Downey is nearly equally split between the Los Angeles and San Gabriel Rivers Watershed Management Areas, the City has contributed to the implementation of this philosophy by actively participating on both Water Management Area Committees, the county-wide NPDES MS4 Permit Executive Advisory Committee (EAC), and several other watershed efforts (e.g. watershed specific management and monitoring plans).

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2.0 APPLICANT INFORMATION

The City of Downey primarily manages the Los Angeles County MS4 Permit through the Administrative and Engineering Divisions, of the Department of Public Works. The Program Administrative contact is Desi Alvarez, Director of Public Works, the Program Coordinator is Gerry Greene, Senior Civil Engineer and Water Resources Control Specialist, the Public Education Coordinator is Carol Rowland, Administrative Assistant and Keep Downey Beautiful Coordinator. These individuals can be directly contacted through telephone number 562-904-7102, facsimile number 562-904-7296, or by writing to the Department of Public Works, P.O. Box 7016, Downey, CA 90241-7016.

The official mean elevation of the City of Downey is about 117' above mean sea level (AMSL), but ranges from about 140' in the North to less than 80' in the South. At 12.56 square miles in area, the city is primarily situated on alluvial soils of mostly sandy silts with some clay lenses. As shown in Figure 1, bout 5.59 and 6.97 square miles of the total City of Downey area are located in the Los Angeles and San Gabriel River Watersheds respectively. With the exception of some of the smaller drainage areas, must of the sub watersheds within the City of Downey are owned and maintained by either the County of Los Angeles or the California Department of Transportation. In some instances, short lengths of City owned drainage systems discharge in the County owned and maintained system, which may result in additional interagency discussion about proportioning of responsibility between the two MS4 operators.

Within the Los Angeles River Watershed, the most northwesterly quarter (3.40 square miles) of the City drains to Reach 1 of the Rio Hondo (A small landscaped area operated by the Los Angeles County Flood Control District appears to drain to the lowest portion of Rio Hondo Reach 2, but the irrigation system is vandalized inoperable and no dry-weather discharges have been recently observed from the area). The southwesterly 2.35 square miles of Downey drains to Reach 2 of the Los Angeles River, with Firestone Boulevard and the adjacent rail line demarcating the grade break between drainages. In this area, the Rio Hondo and Los Angels Rivers are both concrete lined trapezoidal channels; however the former is flat bottom with very little flow, while the Los Angeles River has a center low flow channel to convey treated wastewater flows from upper watershed areas. The Rio Hondo confluence with the Los Angeles River is located just North of Imperial Highway in the City of South Gate.

Within the San Gabriel River watershed, the northeasterly 1.38 square miles of the City, drains to the rip rap lined, soft-bottom Reach 2 of the San Gabriel River, which contains and infiltrates dry weather and most storm flows behind inflatable rubber dams. Most areas South of Florence Boulevard (5.43 square miles), including the most commercial and industrial portions of Downey, drain to Reach 1 of the San Gabriel River which is characterized by an effluent-conveying, low flow channel within a concrete-lined trapezoidal channel.

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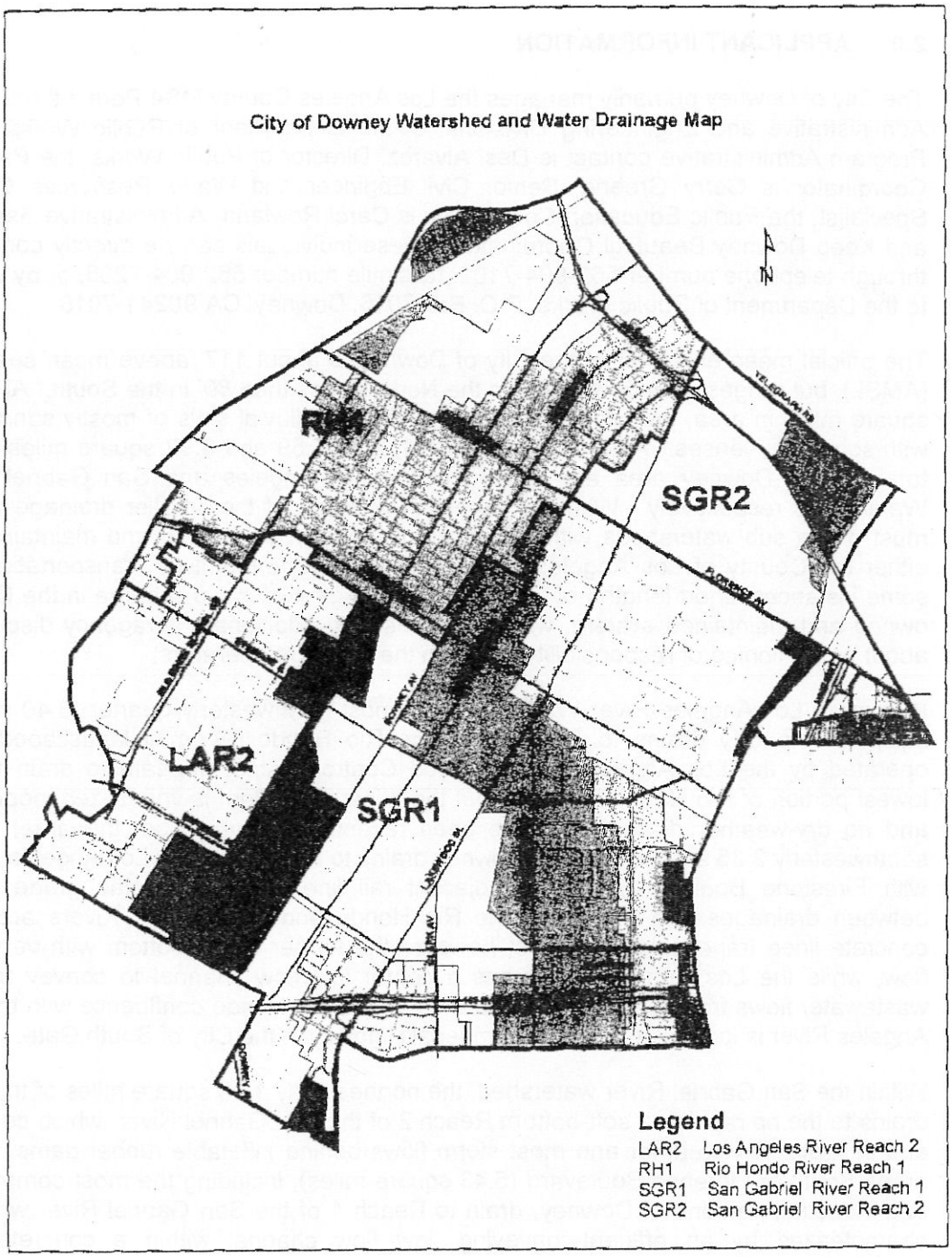

Figure 1. City of Downey Watershed and Stormwater Drainage Area Map.

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During the 2000 Census, the mostly residential population was estimated at 107,323, and based on past growth is likely to reach 120,000 by early 2007. At the last census, there were 34,759 housing units, but this figure has probably risen above 35,000, due to infill redevelopment resulting form lot splits and the construction of higher density residential units. At the last census, 2,400 businesses were identified in the City of Downey; however, partially in response to permit required changes to the business license database, over 3,600 businesses were listed during the first quarter of 2006.

Groundwater elevations vary annually and seasonally, but are generally forty feet or more below ground surface. Potable water is supplied entirely by local groundwater. The City of Downey Utility Division supplies potable water and operates the city sewage collection system. The County Sanitation Districts of Los Angeles County operate a series of trunk sewers that accept wastewater from the Downey owned and operated collection system and convey it to Sanitation District treatment plants. Stormwater is collected in a series of drainage inlets, catch basins, and drains, most of which are owned and maintained by the Los Angeles County Flood Control District. Operation and maintenance of the city owned and operated portions of the drainage system is funded from the City of Downey General Fund and must compete with other public services such as the Police and Fire Departments, Parks, and Community Services for scare fiscal resources.

Although the frequently changing level of intra-city and interdepartmental cooperation and contribution of effort make estimating MS4 Permit program related expenditures difficult or impossible to fully quantify, identifiable expenditures have increased from an estimated $715,000 in 2001-02 to $1,165,000 in 2004-05; a 63% increase over only 3 years and much greater than the growth in the general fund during the same period. The unfunded NPDES MS4 Permit mandates continue to impact the provision and supply of other municipal services, leading the City of Downey to seek additional support from the State Board for General Industrial and Construction Inspections and other Board mandated program requirements.

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3.0 2001 NPDES MS4 PERMIT PROGRAM ACCOMPLISHMENTS

The 2001 Los Angeles County NPDES Municipal Stormwater Permit contained implementation requirements for Discharge Prohibitions, Receiving Water Limitations, Storm Water Quality Management Program Implementation, Special Provisions, Definitions, and Standard Provisions. Some of these requirements are new and were imposed on the Permittees by the Regional Board, while others have evolved over multiple permit cycles based partially on Permittee implementation experience. The MS4 permit prohibitions and limitations have been observed and implemented to the MEP standard of compliance; however, many of the Permit terms remain subject to challenge or interpretation through the pending legal challenge to Order No. 01-182.

As an individual Permittee, the City of Downey program met and often exceeded the implementation provisions of the Permit, but continued progress requires an adaptive integrated approach that's strategic, beneficial, measurable, and very cost-effective.

3.1 STORMWATER QUALITY MANAGEMENT PROGRAM (SQMP)

The City of Downey would like to gratefully acknowledge the significant efforts of the Los Angeles County Department of Public Works (LACDPW) in implementing the Countywide Monitoring Program including evaluation, assessment, and synthesis of the data that went in to the Monitoring Report which was submitted by August 15th of each year from 1994 to 2005. The County also installed channel nets and catch basin inserts and excluders, in their facilities to reduce the discharge of trash and other pollutants from their portion of the regional MS4. As Principal Permittee, it also authored the Integrated Receiving Water Impacts Report that was submitted on August 15, 2005, coordinated the collection, processing, and submittal of annual reports to the Regional Board, and developed the County-wide digital report submission format.

As a general requirement, the City of Downey implemented the components of the Los Angeles County SQMP to reduce the MS4 discharge of pollutants to the MEP. Since the Regional Board has identified each adjacent river reach as being impaired for multiple pollutants (e.g. trash, nutrients, indicator bacteria, metals, and toxicity), the City of Downey has implemented an aggressive development planning program to reduce the current and future discharge volume and mass emission of pollutants to local receiving waters. Based on the limited nationwide experience in identifying MEP-compliant best management practices (BMPs), and even more constrained fiscal resources, the City of Downey has made a good faith effort to require and implement the most effective combination for stormwater and urban runoff and pollution source controls. The City of Downey further encourages the Regional Board to adopt and endorse the adequacy of the February 2, 2004 Draft Technical Manual for Stormwater BMPs in Los Angeles County, so that another valuable tool would become available to our residents, developers, and businesses.

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On February 11, 2003 the City of Downey, City Council unanimously adopted Ordinance 1142, completely revising Article 5, Chapter 7 of the City of Downey Municipal Code (DMC) and granting staff the legal authority to prohibit nonstormwater discharges to the storm drain system, as mandated through the 2001 MS4 Permit. Ordinance 1142, replaced the antiquated stormwater ordinances 1036, 1095, and 1130, which had been adopted in response to prior NPDES MS4 permit requirements, but contained conflicting water quality protection requirements. The entire DMC is available at www.downeyca.org/city_clrk_municode.php or can be located within Quick Links portion of the City website www.downeyca.org. Ordinance 1142 has been directly sent to dozens of other cities, developers, consultants and violators in association with our city stormwater program development, construction and enforcement activities.

3.2 PUBLIC INFORMATION AND PARTICIPATION

The City of Downey has actively attended and participated in the Los Angeles County Public Information and Participation Program (PIPP), including donations of $2,000 during both 2004-5 and 2005-6. Furthermore we have reviewed draft materials for both County and State agencies so that the resulting public education materials more closely follows the intent goals of the complex regional water quality program. City of Downey staff have also made dozens of presentations to various stakeholder groups including other Watershed Management Committees, the California Water Environment Association, the Southern California Association of Goverments (SCAG) Water Policy Task Force (WPTF) and, at the request of Board staff, to School District Personnel at the Los Angeles County Board of Education on May 1, 2006. While we acknowledge and share in the successes of the County Program elements identified in the County ROWD, we have continued and upgraded our own public education programs including the long standing Keep Downey Beautiful (KDB) Campaign.

In 1977, members of the Citizens' Health and Environmental Sanitation Committee (CHESC) initiated the KDB program with the goal of keeping Downey clean and safe through litter control and promoting public interest in improving the City. Since 2001, KDB has used the Litter Index (LI) method developed by Keep America Beautiful (KAB) to quantify litter control efforts, make the litter prevention work easier and reporting results credible. The annual LI is undertaken by a team of at least four scorers who visit 5 subareas, selected as a fair representation of the land uses within each City of Downey Council District. Using a four point scoring system where 1 indicates no litter observed, the sub-areas were rated and the data collected and averaged to obtain area scores. Based on the results of the LI, KDB conducts and monitors progress from monthly cleanups in the most littered areas and City-wide clean ups in the Fall and Spring. City wide cleanups consist of litter abatement, graffiti control, and planting at designated areas. KDB also assists with an average of seven community service projects per year (referred to locally as custom cleanups) and in September 2005 the Heal the Bay inland site clean up. These volunteer efforts begin with brief presentation regarding the cause and effects litter on the community and watersheds.

- **KDB averages 20 cleanups per year and over 5 tons of trash collected.**

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KDB also has an after school educational and community outreach program that since 2001 has emphasized environment protection and storm water pollution prevention and annually reaches over 600 elementary and middle school youths. KDB uses a variety of educational materials including videos such as the *Synthetic Sea*, *Don't Trash California*, and *Waste in Place*. The KAB curriculum is aimed at making students more aware of the source, characteristics and disposal options for municipal solid wastes. Unsworth Elementary School recently received a grand prize award of $1,500 in the Wal-Mart Kids Recycling Challenge by collecting 2,768 pounds of shopping bags, nearly a third of what was collectively recycled by 37 comparable Los Angeles areas schools.

KDB sponsors a booth at the annual Downey City Street Faire and, along with public educational brochures, such as "Don't Trash California" and promotional items, this year distributed a test called "*What Goes in the Storm Drain*?". At the May 13, 2006 Kid's Day event, KDB sponsored an Environmental booth and used the Los Angeles County Enviroscape model which emphasizes runoff transport and pollutants source controls.

In addition to KDB, the City of Downey Department of Public Works coordinates:

- A quarterly newspaper format newsletter, entitled *One Person's Trash* is mailed to all City of Downey residents and businesses. The front page is devoted to City specific issues such as litter prevention, used oil recycling, pollution source control, storm water and urban runoff pollution prevention, while interior pages consists of national environmentally themed articles.

- A water quality protection themed coloring contest for elementary school artists. The winners are acknowledged during a City Council meeting and the art itself used in preparing the following year's City published calendar. Three thousand 2006 calendars were printed with funding from the California Integrated Waste Management Board and 15 local business sponsors and included the name, addresses, phone numbers and a map to locate the 12 used oil and 6 oil filter recyclers in the City of Downey.

- During the annual Street Faire event, City of Downey Public Works staff hand out BMP related brochures, stickers with contact numbers for City Services, and educate residents about the municipal drainage system.

During the current Permit period, City of Downey Staff sponsored or made several professional presentations per year regarding stormwater issues, BMP applications and the challenges of TMDL implementation. During the last quarter these included:

- On February 28, 2006, the City Stormwater Coordinator was the Storm Water Programs Issues Session Chair at the California Water Environment Association (CWEA) Pretreatment, Pollution Prevention and Stormwater (P^3S) Committee meetings in Burbank.

- March 9, 2006 presentation to the Southern California Association of Governments (SCAG) Water Policy Task Force (WPTF) entitled *Downey's*

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BMP Strategy for Managing Stormwater Runoff: What Do the MS4 Permit Annual Reports Tell Us About BMPs?

- An April 7, 2006 Panel Session presentation entitled *Numeric TMDLs and Municipalities: Are the Science, Regulations, BMPs, Money, or Political-will there yet?* at the 78th CWEA Conference in Sacramento.
- On May 1, 2006 assisted Regional Board MS4 Permit Staff by making a presentation on Infiltration BMPs to Los Angeles County School Districts.
- A May 25, 2006 presentation on *BMPs for Public Works Projects* for the Orange County General MS4 Permittee Meeting.

The City of Downey recommends deleting from the PIPP is the effort to hold workshops to educate corporate managers of restaurants and gas station chain. Despite the commendable effort of the County and their consultants, after sending out thousands of invitations, 10 BMP workshops attracted only 145 managers and staff. At the February 22, 2006 workshop held in Lakewood at the behest of the Cities of Cerritos, Downey, Lakewood, and La Mirada, and despite sending out over 500 hundred invitation letters (along with a hundred direct letters regarding unsatisfactory DHS restaurant inspections in the City of Downey) with a follow up reminder phone call, less than a dozen participants attended. This was a regrettable and significant waste of scarce municipal resources, which appears to have been repeatedly observed.

The City of Downey managed and provided matching funds, along with Los Angeles County, several other Permittees, and the USEPA, for a Coalition for Environmental Protection Restoration and Development (CEPRD) study entitled *Market-Based Strategies for Reducing Trash Loading to Los Angeles Area Watesheds.* We hope to continue this effort during the next year with either a follow up study or the analysis and installation of a trash collecting system in conjunction with several upper Los Angeles River Watershed cities (pending further project regulatory approvals).

During the next MS4 Permit cycle, the City of Downey intends to continue participating in, and supporting, the Los Angeles County on the Public Information and Participation Program, while emphasizing our current highly successful City based effort. We will track the Los Angeles County proposed social marketing theory effort to determine if it achieves the desired behavioral changes in areas comparable to the demographic characteristics observed in the City of Downey. However it is also important to note that our existing program has made a clearly demonstrable impact on our community and does not require the same level of Regional Board oversight that other areas might.

3.3 INDUSTRIAL/COMMERCIAL FACILITIES CONTROL

As noted in our annual MS4 Permit reports, implementation of the industrial and commercial source control program, within the City of Downey, has been inconsistent due to both inter- and intra-agency challenges and our current greater emphasis on enforcement, public education, development, and construction program efforts. However progress was made in implementing all aspects of this program.

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Within the City of Downey implementation of this program was initially separated into 4 tasks: 1) Database Development; 2) Restaurant Source Inspections; 3) General Industrial Activity Stormwater Permit (GIASP) Inspections, and 4) Other Critical Source Inspections. Due in part, to the challenges observed in implementing these tasks, we have also instituted a fifth task to identify businesses that are operating without the appropriate business license; however supplies needed to better implement all of these task efforts only recently became available and scheduling conflicts during the remaining period term suggest that it is unlikely to be fully implemented by late 2006.

Under the 2001 Permit, the City of Downey was to develop and maintain a database for facilities within our jurisdiction identified as critical sources of stormwater pollution. The types of "critical sources" tracked as a result of the 2001 Permit are summarized below:

- Restaurants;
- Automotive service facilities;
- Retail gasoline outlets (RGO's) and automotive dealerships;
- U.S. EPA Phase I Facilities (Tier 1 and 2);
- Federally-mandated [40 CFR 122.26(d)(2)(iv)(C)] Facilities;
- Municipal landfills;
- Hazardous waste treatment, disposal, and recovery facilities;
- Facilities subject to SARA Title III (also known as EPCRA).

The critical source information that is now being collected and regularly updated by the City of Downey includes the following information about each identified industrial and commercial facility:

- Name of facility and name of owner/operator;
- Address of facility and operator;
- Coverage under the GIASP or other individual or general NPDES permits;
- An SIC related code that reflects the activities or products at each facility.

In 2002, when the MS4 Permit requirements were first shared with the City of Downey Finance Department, they opined that our proprietary software included the necessary data. In 2003, when an ASCII file of the data was finally made available, the 4-digit industry codes was found to not be based on SIC and a wide variety of business types were spread among a few dozen codes. Due to recognized SIC limitations and NAFTA non-compliance, the City of Downey moved to implement the 6-digit North American Industrial Classification System (NAICS), but was delayed by a repeatedly extended 8 month backorder on deliveries from the National Technical Information Service (NTIS). The NAICS codes were first employed during late 2004, for the 2005 Business License Renewal effort, but by mid 2005 it was clear that about half of the designations were made by a Cashier (no longer employed by the City), who neither sought help from engineering, nor made a considered use of the common NAICS codes provided to her. Our correction effort has continued into the second quarter of 2006, but since few businesses are aware of either the SIC or NAICS codes, a significant portion of the effort is expended in correcting invalid and sometimes deceptively selected codes.

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In late 2003, while waiting for the back ordered NTIS discs, the city focused on the MS4 Permit Restaurant Inspection requirement by contracting with the Los Angeles County Department of Health Services (DHS) to conduct the inspections. The DHS list of restaurants was compared with the City of Downey Business License database and found to include about 30% more records than the city license data file. The city promptly initiated an effort to bring these new businesses into licensing compliance. The DHS inspections formally began in December 2003 and have continued since then, with the two inspections per permit cycle expected to be completed by the end of 2006.

While the City of Downey Business License list expanded considerably through comparison with the DHS list, there is no comparable master list for the City automotive industry and the 2004-05 inspection effort was significantly frustrated by business licenses not in the database, licensed businesses that were closed during business hours, invalid business names, and addresses. Following the previously alluded to 2006 Business License database correction effort, a laptop has been purchased for the Stormwater Coordinator and will hopefully reduce the challenges observed during the previous inspection cycle. Despite these challenges, Code Enforcement and Public Works have continued to respond to complaints of Illicit Discharges and have both educated and initiated enforcement for the following MS4 permit violations:

- Improper oil and grease disposal;
- Trash bins open, loose trash in the bin area, illegal bin area washout;
- Illicit wash water discharges (e.g. floormats, filters or garbage containers);
- Improper/infrequent removal of food waste and rubbish from parking area;
- Evidence of excessive staining, food wastes, or excessive wash down;
- Lack of housekeeping BMPs to prevent spills and leaks;
- Improper discharge of wastewaters or non-stormwater drainage;
- Improper raw, waste or hazardous materials disposal;
- Improper exposure of work and storage areas to rainfall and runoff;
- Improper maintenance of privately owned drainage inlets on the facility;
- Lack of employee stormwater pollution prevention training re-enforcement;
- Lack of fuel-dispensing area maintenance and spill or leak controls;
- Improper washdown of facility areas and facilities to the MS4;
- Lack of appropriate BMPs to mitigate pollutant source design flaws;
- Lack of annual on-site drainage inlet maintenance, prior to October first;
- Lack of fueling station signage about "topping off";
- Lack of automatic shut-off dispenser nozzles;
- Excessive spill, staining or failure to use watertight waste receptacles;
- Improper employee training regarding hazardous materials and wastes;
- GIASP identified facilities must have a current WDID and active SWPPP.

The City of Downey did not explicitly track GIASP coverage status, choosing to annually compare the subset of the GIASP requiring City of Downey Business Licenses (based on industry code) to the state maintained list of GIASP Permittees. Nineteen (two incorrectly identified as being in Downey) facilities were identified in June of 2002. Since then, three facilities ceased operation, one corrected its address, three joined the GIASP permit without municipal action, and six have been directed (one in May 2006),

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by the City, to obtain coverage. Currently there are 23 GIASP Permittees listed in the City of Downey; however one is physically on the South Gate side of our City boundary. Efforts to complete the GIASP inspections have been frustrated by conflicting information supplied by Industrial Permittees in early 2005, indicating that they had already had a state inspection, the slow posting of state inspections, indicating that the site had actually not been inspected, and various challenges with SIC and NAICS codes. A more skeptical inspection effort is planned for the summer of 2006.

As indicated above, and by the Principal Permittee, municipal Permittees found it impossible to schedule GIASP inspections based on the lack of timely information regarding planned or completed state inspections on the Board website (see link: www.waterboards.ca.gov/rwqcb4/html/programs/stormwater/swindustrial/inspections.html). While overlapping inspections resulted in additional BMP attention at critical source facilities, the acknowledged resource limitations of both state and local agencies, demands that more specific and complete information be available from the Regional Board, during future Permit cycles, to avoid redundant efforts. Until that time the critical source program should be curtailed or focused on more significant pollutant sources. Despite these challenges, the City promptly responds to complaint calls and refers firms to the Board to obtain, or settle disputes regarding inclusion under, the industrial permit.

The City of Downey Critical Source Control Program was designed to meet the objectives of the 2001 NPDES Permit. Some of the select accomplishments of our staff related to the 2001 Permit include:

- One fourth of the 24 GIASP Permittees currently in the City of Downey, were directed into the program through the efforts of City Staff;
- Downey Restaurant Critical Source Inspections have located and eliminated both illicit connections and illegal discharges, many of which have been previously reported to the Regional Board by letter;
- Downey Automotive Critical Source Inspections have eliminated both illicit connections and illegal discharges, many of which have been previously reported to the Regional Board by letter;
- Downey has converted to the NAICS classification system, which is more precise and avoids spurious inappropriate critical source listing (e.g. coin laundromats and dry-cleaners) that exist in the 2001 MS4 permit;
- Downey has taken the initiative to identify and license, businesses that were unlicensed in 2001, prioritizing small automotive repair facilities;
- Based on an Industrial Wastewater Permit termination, City and Regional Board staff cooperated in forcing an owner to obtain a NOT for their site;
- While the 2000 census reported 2,400 Downey businesses, partially due to our MS4 Permit efforts, that figure now exceeds 3,600 (most of which are not critical pollutant source business types).

The Industrial/Commercial Facilities Control Program remains subject to legal challenge, and is a program which the City of Downey does not intend to continue under the renewed permit. Any inspection obligations, that exceed federal regulations, constitute a State mandate and should be funded by the Board in accordance with the

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precepts set forth in Article XIII, section 6 of the California Constitution. The Board shall consider the economic impacts of mandating Permit requirements that exceed federal regulations. The federal regulations only require Permittees to have a program to monitor and control pollutants in stormwater discharges from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and industrial facilities that the municipalities determine are contributing a substantial pollutant loading to the MS4. The City therefore objects to any additional requirements being included in the renewed Permit without compensatory support.

3.4 DEVELOPMENT PLANNING

The City of Downey has generally emphasized infiltration as a decentralized response to the unfunded MS4 Permit mandate and the City Planning Department typically refers most building projects to the Public Works Department for review. With the exception of the 160 acre NASA Boeing redevelopment, most projects fall planning into one of four categories: 1) Single family Residential; 2) Non-SUSMP; 3) SUSMP; and 4) GCASP.

Small residential construction and addition projects of 400 square feet or more typically submit the square footage of their new impervious structures and can either submit an infiltration design of their own, or adopt a "standard" device configuration that is available from the Engineering Department. While other watersheds are moving toward a ¼ to 1/2 inch retention design, the City of Downey has retained the SUSMP 0.75" design criteria for sizing infiltration devices, and configures them to utilize inlets under downspouts or trench drains to intercept general site flows and convey them to a stand alone infiltration unit available from a local vendor. Although the infiltration volume is based on the area of the additional impervious surfaces, the inlet is often placed to maximize whole site flow interception and "mitigate" more surface area than just the addition. Since these devices do not connect directly to building elements and are quite rudimentary to install, the infiltration unit may be sketched or simply attached and referenced on the construction drawings. Once approved, the parcel location and device are recorded in the City of Downey GIS system. No maintenance agreements or covenants accompany these installations, which cost between five hundred and a few thousand dollars each. These residential redevelopment requirements are identified as needed to address regional water quality protection and runoff reduction initiatives.

Larger, non-SUSMP projects, typically receive a focused Engineering Division review of their plan submittal, to insure that 0.75" design criteria is correctly calculated and that a landscaped area is included immediately upstream of the infiltration unit inlet whenever possible. Those projects that increase site imperviousness over the existing condition are required to provide peak flow detention capacity. The plans must include a list of standard erosion control measures to be in place during construction. Projects that might shift to the SUSMP category based on unexpected demolition (e.g. parking lot replacement), are cautioned that prior stop work orders have resulted in construction delays of 1 to 6 months, with significantly higher costs for SUSMP review and approval.

14-1099

Projects that might require SUSMP preparation are typically conditioned on meeting applicable Water Board imposed requirements and the proponents are encouraged to meet with the City Stormwater Coordinator at the earliest stage of the development process. Projects that increase the amount of impervious area following redevelopment are generally required to file a more rigorous SUSMP that includes peak flow detention design considerations. Typically City of Downey SUSMP projects are designed to meet the 0.75" design standard using at minimum a combination of landscaped (bio) swales and infiltration. City Engineering staff assist developers and their design professionals in evaluating and selecting among potential BMP solutions to their development challenges. Projects in this category are required to include a BMP and erosion control plan with their plan submittals. On three occasions, Board remediation efforts and SUSMP infiltration design efforts occurred, indicative of a regulatory conflict or overlap that should be addressed. All SUSMP projects are required to file a Covenant and Agreement with the County Recorder for BMP maintenance and design conservation, prior to issuance of occupancy permits. A standard email, with hotlinks to the SUSMP guidelines and other supporting regulatory information such as the MS4 Permit and 303(d) listings, is liberally provided to developers and their consultants, even though the SUSMP provisions are being challenged by the city. Applicable projects will continue to be conditioned on meeting SUSMP requirements prior to new MS4 Permit issuance.

Redevelopment projects, over one acre in extent, are required to meet City of Downey SUSMP infiltration requirements and file a Notice of Intent (NOI) prior to issuance of a City Grading Permit. (Due to delays in Waste Discharge Identification Number issuance by the State, Downey has accepted other indicators of NOI application.) Exceptions to the normal City of Downey SUSMP and GCASP process have occurred at the Downey Landing Redevelopment Projects, which file a separate appendix to the City of Downey annual MS4 report, and at Downey Unified School District projects, due to the District's contention that the City does not have jurisdiction over their operations. In order to minimize construction phase misunderstandings, Engineering Staff pre-review project SWPPPs before construction begins, at the developer's or contractor's request. While this effort has resulted in site specific SWPPPs that include fewer generic and unused BMPs, it has not reversed the tendency for these documents to fall into disuse and be poorly maintained after the initiation of construction.

Despite the delay of Regional Board Staff in adopting the February 2, 2004 draft LACDPW technical manual for siting and design of BMPs for the development community, the City has tried to distribute and incorporate its recommendations to the developer, consultant and contractor communities. During this permit period developers in the City of Downey have incorporated into their projects: basin inserts, hydrodynamic devices, vortex separators, biofilters, on-site clarifiers, vegetative swales, perforated pipes in rock filled trenches, various infiltration systems, retention, and detention basins.

Since the development constructed today, will impact water quality forty or more years into the future, the City of Downey Development Planning Program was designed to exceed the 2001 Permit objectives. The following Figure 2 shows that through this aggressive city program, more that 550 infiltration BMP projects have been permitted and most are already constructed and operational. The accomplishments of this City

14-1100

directed program are scattered nearly randomly throughout each of the adjacent watershed drainage areas and benefits the regional MS4 systems owned and operated by several agencies. Over time, this important City of Downey contribution will reduce the discharge of runoff and the indicator bacteria that current replicate in the drainage systems of these agencies. A summary of the City of Downey Development Planning program accomplishments include:

- By 2005, all single family residential redevelopments, or additions of more than 400 square feet, included a 0.75" design criteria infiltration device;
- Over 550 redevelopment projects in the City of Downey are conditioned to include BMPs; most based on infiltration of the 0.75" design criteria;
- These BMP projects have been recorded in the City GIS system and can be queried and displayed by BMP type, volume and other parameters;
- Over 1% of the City of Downey housing stock already incorporates some infiltration feature, usually sized based on the 0.75" design criteria;
- By June 1, 2006, over 1.4 million cubic feet (32 acre-feet) of infiltration storage volume, has been constructed within the City of Downey;
- Ignoring evaporation, transpiration, and over-irrigation, an average 14" storm season that is 80% retained (based on the 0.75" design criteria), could potentially infiltrate 20 million cubic feet or 500 acre feet of water;
- Based on the above assumptions, the City of Downey Integrated Water Management Effort could already be potentially infiltrating nearly 3% of our annual groundwater supplied potable demand of 17,000 acre-feet;
- A significant fraction of this same volume should be credited as the City of Downey's contribution to regional pollution source control efforts.

The City of Downey has implemented one of the most focused and aggressive Development Planning Programs in Los Angeles County. While the City intends to comply with the Standard Urban Stormwater Mitigation Plan (SUSMP) program during the duration of this permit, this element is subject to a legal challenge and the City of Downey is proposing to discontinue its application during the next MS4 permit cycle.

14-1101

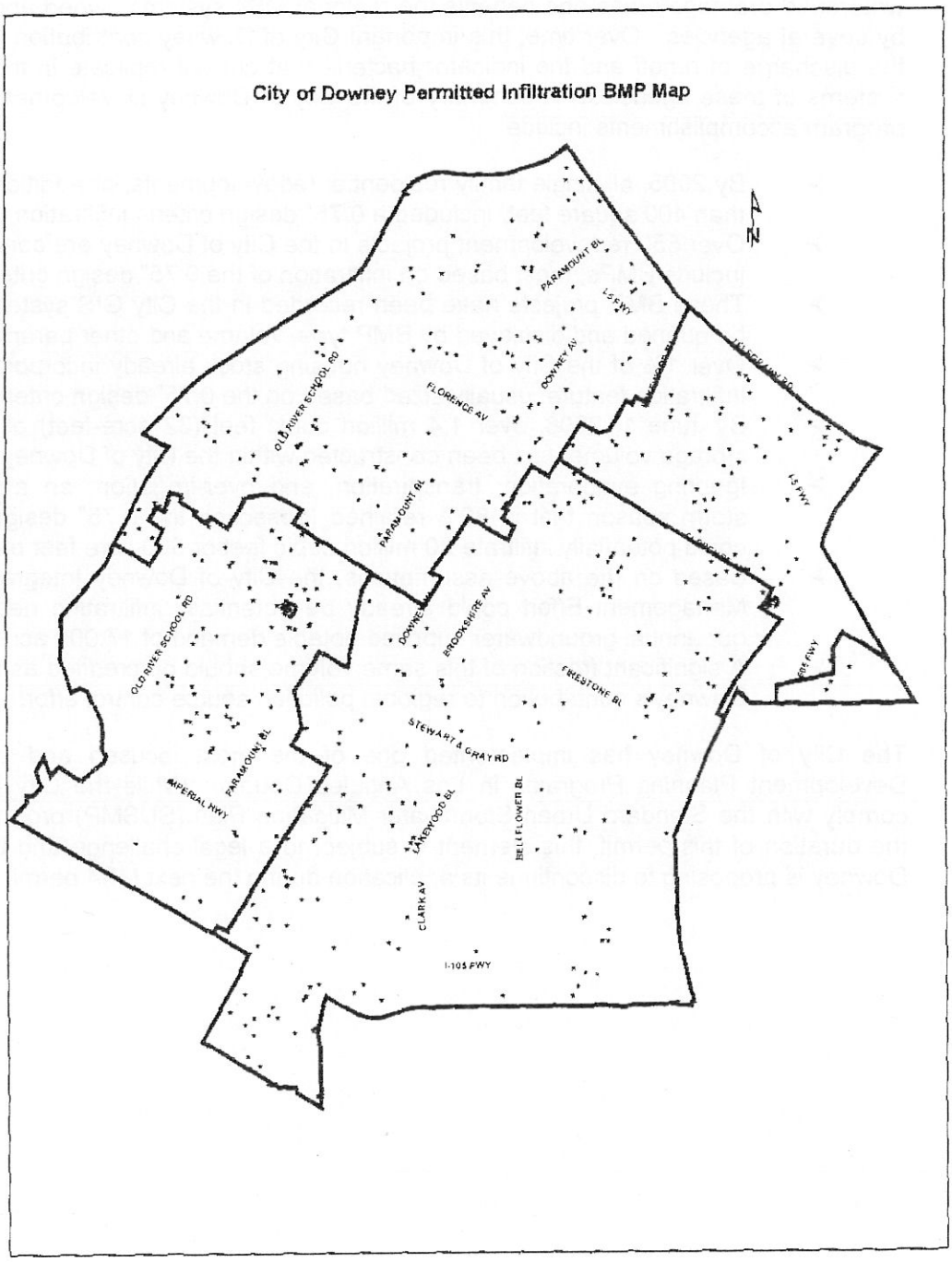

Figure 2. City of Downey Permitted Infiltration BMP Map.

14-1102

3.5 DEVELOPMENT CONSTRUCTION

The Principal Permittee Development Construction Program requirements are on its website and in a Water Quality Regulations brochure which is available to the public.

The City of Downey Development Construction Program focuses on addressing runoff issues during the design phase, by developing construction site drawings that address the potential site pollution generation issues for each of the four levels identified in the Development planning section. Construction projects were adequately reviewed for compliance with NPDES Permit requirements, including development of Storm Water Pollution Prevention Plans (SWPPP) and compliance with the SUSMP requirements of the 2001 NPDES Permit. Various levels of enforcement actions were taken against construction sites found to be in violation of MS4 Permit requirements as identified through the modified Downey Municipal Code (Stormwater Ordinance 1142).

The City of Downey Building and Safety Department provides informal, but frequent, oversight of private construction projects while conducting their required structural inspections. This oversight may include informal suggestions, preventive actions, and the issuance of correction or violation notices for erosion or other pollution control failures. They also observe whether infiltration devices are installed at project sites and may suggest installation tips; however, they do not provide a formal installation inspection service since these devices are not characterized in the Building Code.

Public Works inspectors, observe and inspect projects that impact the Public Right or Way or other publicly-owned structures, such as the drainage system, including sidewalks, driveway approaches and culverts. During this activity they will also note and initiate corrective action for sediment tracking or other pollution generating activity.

Recalcitrant sites, or projects that are significant or intentional pollutant sources, are referred to Code Enforcement, the Stormwater Coordinator, or both when firm enforcement measures are potentially warranted. Referrals can be initiated by Building and Safety Inspectors, Public Works Inspectors, other municipal staff, other agency staff, and the public, including contractors and developers. Enforcement measures are proportional, progressive, and may also be forwarded for attention by Board staff. The latter is especially true for repeat offenders and specialty contractors that tend to spend little time in the City of Downey (e.g. swimming pool gunite services), but show a blatant disregard for regional water quality protection and MS4 Permit requirements.

Formal GCASP site inspections occur annually during the rainy season, however the City Stormwater Coordinator and Public Works Inspector also conduct informal Friday site visits to verify weekend BMP placement. These inspections have noted significant resistance among contractors in updating SWPPPs, but much less resistance to BMP upkeep and maintenance. While we have issued NOVs and reported technical violations to the Board for further action, our emphasis has been on controlling the discharge of construction site pollutants, especially sediments. We have also expended significant effort in persuading these sites to obtain their Notice of Termination (NOT) at project conclusion, but efforts to link issuance of Certificate of Occupancy to NOT

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confirmation have been unproductive due to delays and complications in NOT processing and acceptance by the Board. Since the State Board collects fees for GCASP sites and is responsible for the discharges that emanate from them, the City of Downey proposes to eliminate inspections at these sites during the next permit cycle.

Certain aspects of this program remain subject to a legal challenge by the City of Downey, other 2001 MS4 Permittees, the Construction Industry Coalition on Water Quality ("CICWQ"), and the Building Industry Legal Defense Foundation. The challenged portions of this program are therefore not being proposed for inclusion during the next permit cycle. Inspection obligations in exceedance of federal regulations constitute a State mandate and should be funded by the Board in accordance with the precepts set forth in Article XIII, section 6 of the California Constitution, which mandate that the Board consider the economic impacts of Permit requirements which exceed federal regulations. The City of Downey reserves its objections to the broad scope of construction site inspections required by the 2001 NPDES Permit, which go beyond the requirements of federal regulations.

3.6 PUBLIC AGENCY ACTIVITIES

The Utilities Division of the City of Downey Department of Public Works maintains the City Sewer Collection System. In response to the MS4 Permit, the prior Spill Prevention Manual was significantly revised and distributed to the implementing Staff in June 2003 and subsequently to the Board. As noted in our annual reports, City Staff are constantly at work maintaining this sewer system and infrequently responding to spills, usually originating with private laterals or abandoned facilities. With the adoption of recent Sanitary Sewer Overflows Waste Discharge Requirements by the State Board, this program element is duplicative and should be discontinued from future MS4 Permits. The 2001 Permittees, in cooperation with the County Sanitation Districts of Los Angeles, completed the Treatment Feasibility Study. This study investigated the possible diversion of dry weather discharges or the use of alternative treatment control BMPs to treat flows that may impact public health and safety and/or the environment. No diversion opportunities were identified within jurisdiction of the City of Downey.

The City of Downey initiated four GCASP construction projects during the 2001 MS4 permit cycle and participated extensively in the design of a fifth for the Metropolitan Transit Authority (MTA) Division 4 Non Revenue Vehicle Maintenance Facility. Adequate SWPPPs with appropriate construction BMPs were prepared for each project. Two of these projects were for the Firestone and Lakewood Boulevard reconstruction projects, which because of traffic loading are deemed unsuitable for direct infiltration; however, as with all City of Downey streets, the gutters on these Boulevards are vacuum swept weekly to control pollutants in conformance with the Los Angeles River Metals TMDL recommendations. A grant was submitted to the Board for construction of an inverted bioswale median within Lakewood Boulevard, but was not highly prioritized by Board staff, leading the City back to utilize the original state highway cross sections. The MTA facility complied with SUSMP by utilizing two large rock filled infiltration trenches to reduce the discharge of metals to the impaired Rio Hondo Reach 1 receiving water as characterized in a two page information sheet previously forwarded

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to the Board for consideration. The Rio Hondo Event Center and Golf Course exceeds SUSMP requirements by redirecting parking lot pollutants to landscaped swales, an infiltration system and the golf course water hazards, eliminating a significant parking lot pollutant source from the impaired Rio Hondo Reach 1 receiving water. The Downey (NASA) Park project is still under design, but current plans call for the conversion of a 10 acre parking lot into a municipal park that includes an innovative underground infiltration basin with 8 acre-feet of retention and detention capacity.

Storm Water Pollution Prevention Plans were prepared for both the City of Downey Utility and Maintenance Service Yards. BMPs were implemented to reduce pollutants to the MEP; however both facilities are nearing the end of their useful life and costly new structures (e.g. a fuel station canopy) have been deferred for incorporation at the proposed combined yard that is planned for construction and completion with the next three years. Portions of each existing facility are served by clarifier structures, where vehicle rinsing is allowed, while most of the solid waste and construction materials handling occur in an unpaved area where suspended solid mobilization is controlled.

As indicated in the City of Downey Annual MS4 Permit Reports, pesticides are stored in a locked portion of the Maintenance Service Yard and applied under the supervision of a State Certified Pest Applicator. Banned or unregistered pesticides were long ago purged from this locker. Pesticides and fertilizers are not applied when rain is anticipated and mulches are stored outdoors in an unpaved area that encourages infiltration. Wavelength specific light inhibitors, rather than aquatic herbicides, are used to control aquatic vegetation in ornamental city ponds and vector control of large temporary pools is managed by the Greater Los Angeles County Vector Control District.

The Operation and Management of City of Downey Storm Drain is undertaken by the Department of Public Works with maintenance by the Utilities Division. Although none of the City owned catch basins have been designated as collecting significant amounts of trash, the acknowledged city owned catch basins are cleaned twice annually. During this permit cycle, an Eagle Scout with the Boy Scouts of America and the City of Downey undertook a significant review of the drainage information in the Geographical Information System (GIS) and repainting of catch basin stencils. Many previously unrecognized catch basins and drainage systems belonging to the City, County, and Caltrans were located, while the ownership of others remains unresolved. More GIS corrections are planned at which point the city drainage map and maintenance schedules will be formally updated and available for review. City owned "channels" (often just cement lined easements at street level) are cleaned at least annually or more often if needed due to illegal dumping. All City transit stops have trash receptacles that are emptied daily. During special events, such as the Holiday (Christmas) Parade, Street Fair, and Kid's Day catch basin blocks are placed in advance and trash control initiated in conjunction with crowd dispersal; after which the blocks are removed.

During this permit cycle, the City of Downey vacuum swept all of its streets and parking lots on a weekly basis. Most streets are posted for parking enforcement on the scheduled weekday, but a few residents have opted out of this public service and are responsible for their own litter control. There also remain a small number of private

14-1105

streets on which the residents are responsible for litter and dust control. Sawcutting of public streets requires an encroachment permit and a Public Works Inspector ensures that unfamiliar contractors are educated in relation to local construction practices. The Stormwater Coordinator provided MS4 Permit related training to the majority of the Public Works Utility and Maintenance Services employees during two training sessions. Code Enforcement and Building and Safety officials received similarly focused training.

There are no municipal facilities which warrant management under the GIASP program. City of Downey employees and contractors are advised that emergency repair and clean up activities should be undertaken in an environmentally friendly manner that incorporates applicable BMPs. Although the City of Downey participated and identified drains for potential inclusion in the Treatment Feasability Study, none were of high priority or recommended for immediate implementation.

3.7 ILLICIT CONNECTIONS/ILLICIT DISCHARGES ELIMINATION

Since 2002 the City of Downey has supplied the Los Angeles County Department of Public Works with a GIS representation of the location of any observed illicit connections and illicit discharges. By the fall of 2006, City of Downey staff will have investigated over 300 reported Illicit discharges and while many events became public education opportunities, an increasing number of violation notices and a limited number of enforcement actions have resulted. The City Code Enforcement Division also maintains separate Police Department files of additional minor discharge events.. In addition, 5 illicit or undocumented connections have been terminated or permitted with the County. While we have received a few tips through the Los Angeles County Public Hotline (1-888-CLEAN-LA) the vast majority of calls are from residents to the City of Downey Department of Pubic Works, Code Enforcement or Fire Department. These three city departments cooperate in handling minor events semi-autonomously, but are mutually dependent for specific professional experience and skill sets. Furthermore, when County drainage facilities are involved, the city reports the incident to the Los Angeles County Flood Control District via their 24 hour internal hotline.

The City of Downey Utilities Department has completed the MS4 permit required field screening of all city-owned channels and is continuing to screen city storm drains as they are identified during the GIS correction effort; however it is notable that all illicit connections identified to this point, were either cryptic (e.g. unpermitted curb cores) or unpermitted extensions/connections, of private drains.

While the Los Angeles County Department of Public Works has prepared the MS4 Permit required formal analysis of the regional Illicit Discharge and Connection data accumulated from the Permittees that submitted data, the City of Downey specific data shown in Figure 3 suggests a near random pattern that is slightly weighted towards City Hall. The most common incidents are typically associated with residential remodel and repair work, including the washing down of materials and supplies or surfaces; however swimming pool discharges or construction activities and commercial auto detailing are also often observed. Illicit connections have included:

14-1106

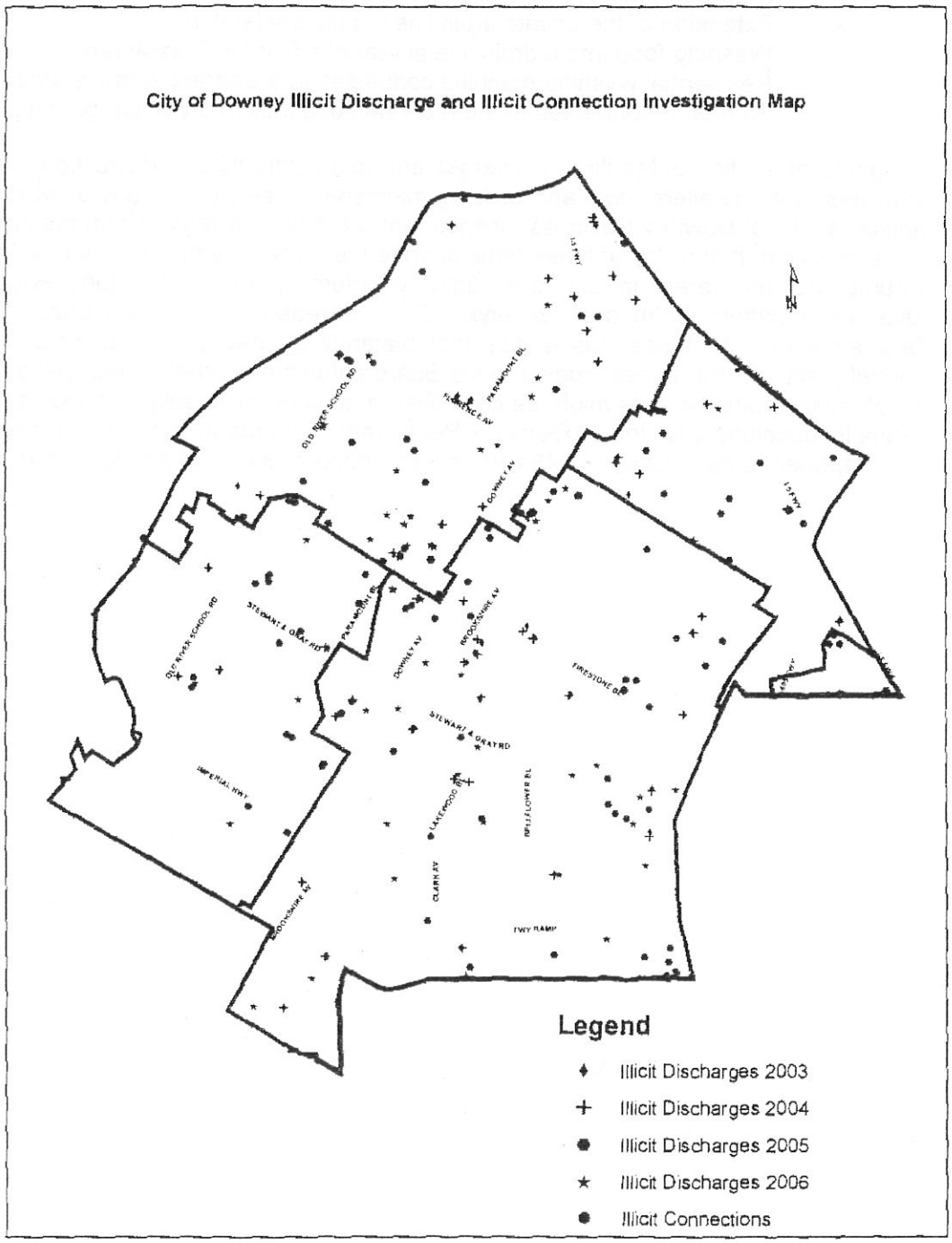

Figure 3. City of Downey Illicit Discharge and Illicit Connection Investigation Map.

14-1107

- A un-permitted residential landscaping curb core
- Extension of the private drain line in auto dealership
- Washing food into a drain line at rear of a fast food restaurant
- Residential washing machine connected to a Caltrans surface drain;
- Bathroom connected to the roof drain of a multi story office building.

A significant fraction of the illicit discharges are from contractors, construction materials suppliers, auto detailers, pool and building maintenance services, many of which have neither a City of Downey Business License, nor are headquartered within the city. It is our supposition that many of these firms operate the same way throughout Los Angeles County, but are rarely in any one, actively enforcing, jurisdiction long enough to establish a pattern or modus operendi. For this reason, nearly two dozen City of Downey letters, to those businesses that blatantly ignored proper pollution source control practices, have been copied to the Board enforcement staff in anticipation that a list of these establishments might be developed and more universally addressed. As an example, developers for the McDonald's Restaurant Corporation and Jay's Gunite, were each reported to be violation of MS4 Permit requirements twice, at different projects.

14-1168

4.0 PRIORITIES FOR PROGRAM IMPROVEMENT

Municipal stormwater and urban runoff management programs in the Los Angeles region were initiated with the June 18, 1990 adoption of Order No. 90-079. A revised Municipal NPDES Permit was issued in July 1996, and the current permit in December 2001 (Order No. 01-182.) The City of Downey in invigorated to have accomplished so much during the third Permit cycle, but remains frustrated by the unequal distribution of responsibilities, costs, and risk among Permittees, Regulators, and Stakeholder groups. Reflecting on the current state of affairs we conducted a review of our current management programs with an eye toward future efforts. As public agencies, all of the 2001 Permittees and Regulators have an obligation to responsibly manage public funds and protect the quality of life and environmental resources within our jurisdictions. The City of Downey has developed and implemented as outstanding program for managing stormwater and urban runoff impacts in a cost effective manner, that is commensurate with the Maximum Extent Practicable (MEP) standard and regional best interests.

As summarized, the City of Downey has an aggressive water quality program that:

- Supports both local and regional public education efforts;
- Has investigated over 300 illicit discharge reports;
- Interacts with other regional programs to improve regulation;
- Contributes to our understanding of water quality science;
- Continues to revise and correct the municipal drainage mapping system;
- Vacuum sweeps street gutters on a weekly basis;
- Cleans city owned channels and catch basins annually;
- Identifies transient regional waste dischargers for Board action;
- Provides professional education and training regarding program progress;
- Inspects critical pollutant sources within available resource constraints;
- Is recognized by the APWA and Board Staff for progressive actions;
- Encouraged installation of over 1.4 million cubic feet of retention storage;
- Is already infiltrating hundreds of acre feet of potential runoff per year;
- Values the conservation and enhancement reasonably achievable receiving water beneficial uses, that do not endanger the public welfare;

The remainder of this City of Downey Report of Waste Discharge (ROWD) provides an in-depth discussion of our specific priorities and proposed programs for implementation under a City of Downey 2006 NPDES MS4 Permit. A significant part of this effort will be working with adjacent stakeholders and other MS4 operators to address indicator bacteria regrowth and other stormwater and runoff constituents within the underground drainage those agencies operate and maintain. Any 2001 NPDES Permit program not identified below as being a part of the 2006 Permit, has been excluded from the 2006 Permit terms for either legal, practical, or cost effectiveness reasons. It further bears repeating that many of the 2001 Permit terms remain subject to legal challenge, and that, as such, the City of Downey has not included various portions of the 2001 NPDES Permit which it contends may be contrary to State and/or federal law.

14-1109

4.1 PROGRAM COMPONENTS

The following recommended improvements for the next NPDES MS4 Permit cycle include streamlining specific requirements, eliminating other requirements, providing the City of Downey with a safe harbor provision, maintaining steady implementation of programs that have not been challenged, or that have proven to work well for our City, and emphasizing results-based modifications to other programs to better utilize limited resources. Components in each of the programs have been identified as requiring some modification to improve the overall intent of the Permit, which is to develop, achieve, and implement a timely, comprehensive, cost-effective stormwater pollution control program to reduce the discharge of pollutants in stormwater from the MS4 to the MEP Standard and be consistent with the reasonableness standards under State Law.

4.2 PRIORITY 1 – RECOMMENDED ALTERNATIVE LANGUAGE FOR RECEIVING WATER LIMITATIONS

The Receiving Water Limitations language in Order No. 01-182 is a section of the 2001 Permit that is subject to the pending legal challenge. The City of Downey recommends that the Permit contain Receiving Water Limitations language which is consistent with applicable law and with which the City can comply. Order No. 96-054, the 1996 NPDES Permit, included language which stated "Timely and complete implementation by a Permittee of the storm water management programs prescribed in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations." It further provided that where an exceedance of a water quality objective had occurred, the Permittees were to submit stormwater programs that "will increase the likelihood of preventing future exceedances of water quality objectives." This language was omitted from Regional Board Order No. 01-182. It is imperative that the City of Downey have the support of the Regional Board when making a good faith effort to comply with costly Permit requirements, and not be required to implement BMPs that go beyond the MEP or reasonableness standards under federal and state law.

The City of Downey, like other municipal Permittees, should not be required to strictly comply with water quality standards or objectives, especially those that have obvious or ubiquitous natural sources and are assimilable in the environment. Rather, compliance with such standards should be limited to compliance through the use of reasonable and cost-effective MEP-compliant BMPs. Constraining the City of Downey, or other Permittees, to an immediate, or never-ending, state of non-compliance, while requiring strict compliance with water quality standards or objectives that are neither reasonably achievable, nor practicable, is arbitrary and capricious, as well as contrary to law. Exposing the City of Downey, and other Permittees, to immediate third party initiated lawsuits is unproductive, discourages the potential for collaborative working relationships with non-governmental organizations, and doesn't achieve the laudable and primary goal of improving receiving water quality.

The following are proposed Findings of Fact and suggested Receiving Water Limitations language and definitions that should form the basis for the 2006 City of Downey NPDES MS4 permit:

14-1110

Findings of Fact:

1. Urban Runoff includes discharges from residential, industrial, commercial, and construction areas throughout the adjacent watersheds. In addition to accepting Urban Runoff from the City of Downey MS4, adjacent rivers receive flows from agricultural, open space, state and federal lands and facilities, schools, community colleges, state universities, and several other land use agencies not under the control or legal jurisdiction of the City of Downey or any other municipal Permittee.

2. Utilities, special districts, wastewater management agencies, and other point and non-point sources, which are otherwise permitted by or under the jurisdiction of the State or Regional Board, also contribute discharges that may enter the City of Downey MS4 and adjacent water bodies. The Regional Board recognizes that the City of Downey cannot be held legally responsible for any discharges or pollutants, either in stormwater or nonstormwater, running off of any such state regulated properties or facilities. Similarly, certain other activities that generate pollutants present in Urban Runoff are beyond the control or authority of the City of Downey to regulate or prohibit. Examples include internal combustion engine emissions, atmospheric deposition, brake pad and tire wear, pesticide residues, agricultural runoff, onsite wastewater treatment systems, and background conditions (e.g. wildlife, microbial replication, brush fires, and other naturally occurring sources of elements derived from local soils and geology).

3. The Regional Board finds that the unique aspects of the regulation of Urban Runoff discharges through MS4s, includes, but is not limited to, the intermittent and unpredictable nature of discharges, difficulties in monitoring, and limited physical control over the discharge conveyance systems. These attributes will require adequate time and resources to determine what persons or entities are responsible for reducing the discharge of pollutants in Urban Runoff discharged from the MS4.

Receiving Water Limitations:

1. The City of Downey shall continue to implement BMPs that reduce the discharge of pollutants from the City MS4 where such Urban Runoff discharges cause or contributes to an exceedance of water quality standards and objectives.

2. The City of Downey shall comply with Paragraph 1 through the use of reasonable, cost-effective, and MEP-compliant BMPs. The BMPs shall be designed taking into consideration those water quality standards or objectives that are reasonably required to ensure the reasonable protection of properly designated beneficial uses. Only water quality standards or objectives which can reasonably be achieved need to be complied with by the City of Downey, and only after the Board has considered: (a) the past, present and probable future beneficial uses of the receiving water; (b) the environmental characteristics of the hydrographic unit at issue, including the quality of water available thereto; (c) the water quality conditions that could reasonable be achieved through the coordinated control of all factors which affect water quality in the area; (d) economic considerations; (e) the need for developing housing in the region; and (f) the need to develop and use recycled water. In determining whether any

particular water quality standard or objective must be complied with by the City of Downey, in addition to the above, the Regional Board shall further consider all demands being made, or to be made, on the subject waters, and the total values involved, beneficial and detrimental, economic and social, tangible and intangible. Compliance with applicable water quality standards or objectives is to occur through an iterative BMP process consistent with the provisions of this paragraph.

3. If an exceedance of a water quality standard or objective is believed to be due to discharges to the MS4 that are outside the City of Downey's jurisdiction or control, the City shall advise the Executive Officer of such in writing.

4. If the City of Downey has acted reasonably and in good faith in complying with the procedure set forth above, the City does not need to repeat the procedure for recurring exceedances of the same water quality standards or objectives. The Executive Officer may determine and provides written notice to the City that additional BMPs, consistent with Paragraph 2 above, should be implemented to comply with the water quality standards or objectives including the basis for the determination.

5. Reasonable and good faith compliance with the procedures set forth in this section shall satisfy the requirements of this Order and shall constitute compliance with applicable water quality standards or objectives.

Definitions:

1. *"Maximum Extent Practicable" or "MEP" is the standard established by Congress in Clean Water Act section 402(p)(3)(B)(iii) that municipal dischargers of stormwater MS4s must meet. MEP generally emphasizes pollution prevention and source control and includes consideration of technical feasibility, practicability, cost effectiveness, benefits derived, regulatory compliance and public acceptance. Where cumulative costs exceed cumulative benefits, a program or BMP is not considered practicable.*

2. *"Urban Runoff" is that water discharged to the MS4 for which the City of Downey is partially responsible when further discharged from the MS4 to receiving waters. Urban Runoff includes discharges from residential, industrial, commercial, and construction areas (that are not governed by a State issued NPDES Permit) within the Permit area, but the term "Urban Runoff" expressly excludes stormwater and nonstormwater discharges from agricultural, State permitted industrial activities or construction sites, open space, state and federal properties and facilities, school district properties, colleges and universities, waste water management agencies, other NPDES-permitted discharges, and other point and non-point source discharges that are not subject to regulation by the City of Downey.*

14-1112

4.3 PRIORITY 2 – FUNCTION OF WATERSHED MANAGEMENT COMMITTEES

Order No. 01-182 requires Watershed Management Committees (WMCs) to carry out specific responsibilities as a group. These responsibilities included:

a. Facilitating cooperation and exchange of information among Permittees;

b. Establish goals and objectives and associated deadlines for the WMA, as the program implementation progresses;

c. Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;

d. Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;

e. Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;

f. Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and

g. Meet four times per year and, as necessary.

The City's resources are limited. Requiring the City to perform additional tasks under the WMCs is extremely difficult because it takes valuable resources away from working on other Permit requirements that have a more significant impact on water quality.

While it is important for key personnel within a WMA to meet quarterly to facilitate cooperation in implementing stormwater programs and to exchange experiences and valuable information, the City recommends having the flexibility to independently determine how to implement its Permit programs, whether that be individually or as part of a WMA. The City recommends combing the WMC and impaired water body jurisdictional groups meetings, since the representatives will handle both obligations. This recommendation would reduce the need for unnecessary parallel meetings.

4.4 PRIORITY 3 – INDUSTRIAL AND COMMERCIAL FACILITIES CONTROL PROGRAM IMPROVEMENTS

Under Order No. 01-182, the 2001, the City of Downey was required to track, inspect, and ensure compliance at industrial and commercial facilities that the Regional Board has asserted are critical sources of pollutants in stormwater. Those provisions of Order No. 01-182 are presently being challenged by many of the 2001 Permittees, including the City of Downey, in the previously referenced legal challenge.

14-1113

The City proposes that the so-called "Critical Sources" referenced in the 2001 Permit, such as commercial facilities (restaurants, automotive service facilities, retail gasoline outlets and automotive dealerships), and Phase I Facilities (both Tier 1 and 2), not be inspected under the new Permit, unless the City first determines that the facility is an industrial facility that is contributing a substantial pollutant load to the MS4.

There is no authority under state or federal law requiring the City of Downey to inspect commercial facilities, such as restaurants, automobile dealerships or gasoline service stations. For industrial facilities, the federal regulations leave it to the Permittee to determine which facilities to inspect, and when, and provide for the inspection of those industrial facilities which a Permittee determines are contributing a substantial pollutant load to the MS4. Accordingly, the City requests that the existing Industrial and Commercial Facility Control Program requirements under Order No. 01-182 be replaced with a provision that gives the City the discretion to inspect industrial facilities it determines are contributing a substantial pollutant load to the MS4.

Also, the 2001 Permittees found it unnecessary and a waste of resources to repeatedly inspect facilities that are found to be in compliance with the General Industrial Activities Stormwater Permit (GIASP). A more effective inspection strategy would target industrial facilities that are not in compliance where the Board, or City of Downey, determines the industrial facility has contributed a substantial pollutant load to the MS4.

Moreover, for those industrial facilities the City chooses to inspect or that the Board determines are not in compliance, the City recommends that the Annual GIASP inspection fees collected by the State Water Resources Control Board be distributed to the City for conducting any such inspections. This would encourage the City to make such inspections and avoid forcing industry to pay twice for a single inspection, or being subject to redundant inspections. In addition, to the legal objections to the inspection program in Order No. 01-182, financial constraints make it difficult for the City of Downey to carry out the required level of inspections and providing local agencies with monetary resources will facilitate more City inspections.

4.5 PRIORITY 4 – PEAK FLOW CONTROL AND STANDARD URBAN STORMWATER MITIGATION PLAN (SUSMP)

The City of Downey proposes that the Development Planning Program provisions as contained in Order No. 01-182 be deleted and not carried forward into the new Permit. State and Regional Boards are without authority to impose these provisions, and as such, the program provisions are inconsistent with state and/or federal law and should not be carried forward in the next Permit cycle. Moreover, these provisions under Order No. 01-182 are being challenged by many of the 2001 Permittees.

Continuing to require compliance with the SUSMP provisions, which reference a particular design criteria or other particular manner of compliance, is contrary to the prohibition of California Water Code section 13360. Require compliance with SUSMP provisions that compel municipalities to impose certain mitigation measures from undefined numerous "development" and "redevelopment" projects discharges,

irrespective of what mitigation measures may or may not be properly required under CEQA and the review process set forth therein, is arbitrary action that is contrary to law, and the Regional and State Boards lack the authority to impose any such requirements.

The Peak Flow Control provisions included in the 2001 Municipal NPDES Permit are in excess of the Regional and State Boards' authority, and therefore contrary to law, as neither the Clean Water Act, nor the Porter-Cologne Act, authorizes the State to regulate the "quantity" of stormwater or urban runoff.

The State and Regional Boards must consider the impacts that the Development Planning Program provisions will have on the development of low income or affordable housing as required under Water Code sections 13241(e) and 13263.

4.6 PRIORITY 5 – SPECIFIC BMP REQUIREMENTS

Under Order No. 01-182, the City of Downey was required to place and maintain trash receptacles at all transit stops within their jurisdiction. Prescriptive requirements such as this limit the ability of the City to analyze and determine the cost effectiveness and appropriateness of BMPs to address pollutants of concern in discharges from their MS4. They are further contrary to law. (See, e.g., Water Code § 13360.)

It is recommended that the City be given the flexibility to select suitable BMPs and their respective locations, to address pollutants of concern. The City also recommends that the explicit requirement to place and maintain trash receptacles at all transit stops be removed from the Permit, as it is presently the subject of the legal challenge to Order No. 01-182. Moreover, under the California Constitution, any such mandates may only be imposed upon the City if appropriate funds have been provided to fund the mandate.

4.7 PRIORITY 6 – DEVELOPMENT CONSTRUCTION PROGRAM AND STORM WATER POLLUTION PREVENTION PLANS (SWPPP) REDUNDANCY

The General Construction Activities Stormwater Permit (GCASP), Order No. 99-08-DWQ, requires all dischargers, where construction activities disturb one or more acres, to develop and implement a Storm Water Pollution Prevention Plan (SWPPP), eliminate or reduce non-stormwater discharges to storm drain systems and other waters of the nation, and perform inspections of all BMPs. Requiring a Local SWPPP to substitute for a State SWPPP is redundant, and is the subject of the legal challenge to Order No. 01-182. The City of Downey recommends eliminating any references to Local SWPPP. The City also recommends that the Development Construction Program requirements as set forth under Order No. 01-182, be modified so that the City not be required to impose "minimum" unreasonable requirements on construction sites, such as unreasonable restrictions on the discharge of sediment or construction related material (including sand, gravel and other natural material) that may erode from a construction site. This concern is also the subject of the pending legal challenge.

14-1115

4.8 PRIORITY 7 – ILLICIT CONNECTION and ILLICIT DISCHARGE ELIMINATION PROGRAM IMPROVEMENTS

The City of Downey has completed field screening of City owned open channels, priority underground pipes and expected to have completed field screening of underground pipes with a diameter of 36 inches by December 12, 2006. The City of Downey has worked to eliminate illicit connections and illicit discharges to the storm drain system, resulting in 300 report investigations and control actions. No illicit connections to the underground drain system have been detected and most connections were found on private property that could be subject to access limitations. Based partially on data submitted by the City of Downey, the evaluation of patterns and trends in illicit connections and illicit discharges prepared by Los Angeles County concluded that an average of 62.2% of all illicit connections and 81.5% of all illicit discharges are from:

- High Density Single Family Residential (typical urban areas)
- Retail and Commercial
- Light Industrial
- Multiple Family Residential
- Transportation

The City of Downey IC and ID program suggests a two component pattern combining random discharge reports by area residents and businesses with a normal distribution centered along routes taken by agency staff. It is recommended that since City resources are limited, the field screening of underground pipes be abandoned in favor of conducting more thorough illicit discharge investigations and continued GIS mapping efforts to delineate drainage system ownership and maintenance responsibilities.

The City of Downey recommends deleting the term "illicit disposal" from the definitions section of the Permit, since it is not used in the Permit and serves no useful purpose. Other definitions need to be more explicitly defined, or informally clarified, to establish consistent implementation and reporting among Permittees and the intent of the Board. The definition for "illicit discharge" should be revised to read, "any uncontrolled discharge that enters, or may reasonably enter, the MS4 and is prohibited under local, state, ..." This revision identifies an illicit discharge as an uncontained, non-stormwater discharge, that may enter the constructed storm drain system, while allowing a spill or wash water, that enters the gutter or roadway, to be contained and collected, provided it should not reach the receiving water.

4.9 PRIORITY 8 – PERMIT FORMAT

The City of Downey found that in many instances the format of the 2001 Permit and Annual Report were difficult to understand, redundant and convoluted. The City encourages the Regional Board to informally provide examples, tables and matrices to assist the City with Permit requirements, expectations, and submittal deadlines.

14-1116

4.10 PRIORITY 9 – PERMIT IMPLEMENTATION COSTS

The City of Downey has experienced a 63% increase in program implementation costs over the past 3 years and consistently had to budget and divert money, earmarked for other municipal programs, to meet the obligations of the 2001 NPDES MS4 Permit. The City does not foresee new revenue streams to bridge the gap between future Permit compliance and other municipal programs. The Board should acknowledge the regional lack of implementation resources, prioritize the largest and most significant sources of pollution, and thereby utilize local agency support prudently, rather than preemptively and exhaustingly. The City of Downey has cited the redundant industrial and commercial facility inspections as diverting other municipal service support. The effort to insert numeric indicator bacterial objectives into the expiring 2001 permit reaffirms our previous concerns that permit implementation costs may grow exponentially.

4.11 PRIORITY 10 – DISCHARGE EXEMPTION REFERENCE

The City of Downey proposes to continue with the same non-stormwater discharges prohibition program (2001 Permit, Part 1), except that the exemption for potable supply systems should no longer reference non-existent American Water Works Association (AWWA) guidelines for dechlorination and suspended solids reduction practices, since they are unenforceable.

4.12 PRIORITY 11 – LEGAL AUTHORITY

The task of amending and adopting an enforceable City of Downey specific stormwater and urban runoff ordinance that addressed the requirements of the 2001 Permit took a significant amount of time and effort to complete. If a similarly complex legal authority is required by the Board, the City should be provided at least 12 months from Permit adoption to complete the necessary changes and possess adequate legal authority.

4.13 PRIORITY 12 – ANNUAL REPORT ENHANCEMENTS

The City of Downey recommends streamlining the Annual Report to only demonstrate significant permit compliance and the effectiveness of BMPs used, in accordance with the MEP and reasonableness standards under federal and state law, to reduce the discharge of runoff pollutants from the MS4. Redundant requirements, such as an assessment of SQMP requirements in reducing runoff pollution, are an unnecessary waste of municipal resources. The City of Downey recommends eliminating the following Annual Report section or questions:

- Section IV.B.2 — **Inspection Program** Provide the reporting data as suggested in the following tables. and Section IV.B.3 — **BMPs Implementation** Provide the reporting data as suggested in the following table. (It is unclear what the table was meant to include, the GIASP, Critical Source Inspections, or both. Provide more example rows to complete or explain. Table should have been in portrait format.)

14-1117

- Section IV.C.7 — How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?
- Section IV.C.8 — What is the percentage of total development projects that were conditioned to meet SUSMP requirements?
- Section IV.D.5 — How many building/grading permits were issued to sites requiring Local SWPPPs last year?
- Section IV.D.6 — How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Stormwater Permit last year?
- Section IV.D.7 — How many building/grading permits were issued to construction sites less than one acre in size last year?

The following Annual Report tables should be modified to eliminate confusion and improve the quality of data submitted:

Section IV.F.10 — Delete and replace with the following illicit connections table:

Number of Suspected Illicit Connections Reported	Number of Suspected Illicit Connections Investigated	Number of Illicit Connections Terminated	Number of Suspected Illicit Connections found not to be Illicit	Number of Suspected Illicit Connections that resulted in Enforcement Action

Section IV.F.13 — Delete and replace with the following illicit discharges table:

Number of Suspected Illicit Discharges Reported	Number of Suspected Illicit Discharges Investigated	Number of Illicit Discharges Terminated	Number of Suspected Illicit Discharges found not to be Illicit	Number of Suspected Illicit Discharges that resulted in Enforcement Action

4.14 PRIORITY 13 – PUBLIC INFORMATION AND PARTICIPATION ENHANCEMENT

The City of Downey concurs with the County of Los Angeles in recommending that the minimum 35 million mass media impressions per year requirement be deleted from the next MS4 permit. Furthermore, based on the 1-2% attendance rate, the City also recommends deleting the restaurant and gas station Workshop management education, which was both costly and wholly ineffective. The City favors the cost-effective local approach used in our continuing Keep Downey Beautiful Campaign, the achievements of which were previously summarized and reported in section 3.2.

14-1118

4.15 IMPLEMENTATION APPROACHES

The City of Downey has diligently initiated comprehensive watershed programs and provided education to other agencies about Board requirements. As Chair of the Executive Advisory Committee (EAC), current Chair of the San Gabriel River Watershed Management Committee (SGR WMC), active member of CREST and the San Gabriel River Monitoring Workgroup committee member, we have educated many stakeholders about Basin Plan, TMDL, MS4 Permit, Waste Discharge Requirements and their implementation in the City of Downey. Others have suggested that Permittees could meet the 2001 MS4 permit requirements and correct 303(d) list impairments by installing inexpensive catch basin inserts and trash diverting screens, covering trash cans, or sweeping parking spaces. Not surprisingly these marginally effective BMPs account for nearly 33,000 of the nearly 35,000 BMPs reported in the municipal annual reports. Many of the Integrated Water Management and Jurisdictional TMDL Implementation Plans are retreating to smaller and less effective 0.5' to 0.25" design storms. These are the collective implementation standards for most of the existing city watershed programs.

In contrast, the city of Downey has implemented a development planning and construction program that has resulted in the permitting and continuing installation of more that 550 infiltration systems based on the 0.75" SUSMP design storm. This amounts to about 1.4 million cubic feet of retention storage and at this time the potential to divert hundreds of acre feet of runoff per year. This volume is equal to more than 10 cubic feet of retention storage per City of Downey resident, more than any other Permittee and probably more retention storage than any other 2001 Permittee; perhaps more than the sum of all the other Permittees together. Adopting more prescriptive and inflexible permit requirements would be premature and could undermine this City of Downey program and our commitment to achieving regional water quality goals.

In recognition of the substantial achievements of the City of Downey, it residents, builders, and businesses, we request the issuance of a City of Downey NPDES MS4 Permit that reflects our flexible approach to runoff management and contribution toward achieving regional water quality goals. The ultimate goal of this MS4 Permit being to implement cost–effective program components that reduce the discharges of pollutants in stormwater and urban runoff from the Municipal Separate Storm Sewer System to the Maximum Extent Practicable standard and reasonableness requirements of federal and state law.

4.16 TOTAL MAXIMUM DAILY LOAD IMPLEMENTATION PLANS

Under the Federal CWA of 1972, States must develop lists of impaired waters and the pollutants causing them to be impaired, also known as a 303(d) List. With the goal of bringing each listed water body into compliance with water quality standards, the States must then establish pollutant specific TMDLs, that are consistent with State and federal law applicable to their adoption and implementation. One of the objectives of this NPDES MS4 Permit is to protect existing beneficial uses for receiving waters around the

14-1119

City of Downey through an iterative BMP approach that reduces the discharge of pollutants in stormwater to the MEP and reasonableness standards.

TMDL waste load allocations may be complied with through an Implementation Plan, that identifies appropriate BMPs and may be adopted as Waste Discharge Requirements ("WDRs") or a Memorandum of Understanding ("MOU") between the Board and affected dischargers. TMDLs, applying to municipal discharges, should be implemented through the subsequent adoption by the Boards of separate MOUs which delineate the reasonable and cost-effective MEP-compliant BMPs to be undertaken. Such MOUs should provide that good faith compliance and implementation of the BMPs set forth therein shall constitute compliance with the adopted TMDLs.

US EPA has stated that TMDLs can be implemented through a variety of mechanisms, including voluntary agreements. The City of Downey proposes that TMDL's be implemented through Memorandums of Understanding (MOUs) between the Board and the City. Implementing TMDLs through the NPDES Permits is contrary to EPA policy which support the implementation of CWA stormwater requirements through an iterative BMP based approach.

The City thus recommends an MOU between the State and Regional Boards and responsible agencies be adopted in lieu of including TMDLs in the NPDES Permit. The TMDLs applicable to the City would then be implemented through the adoption of separate MOUs setting forth reasonable and cost-effective BMPs. Such MOUs should provide that good faith compliance and implementation of the BMPs set forth in the developed Implementation Plan would constitute compliance with the adopted TMDLs. The use of MOUs is authorized by the Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options, adopted by State Board Resolution No. 2005-0050 (June 16, 2005). The effluent limitations in the Permit itself should be expressed as BMPs. See EPA Memorandum, Establishing Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs (November 22, 2002), p.4.

All BMPs proposed to be implemented to meet a TMDL's waste load allocation(s), should, moreover, be in accordance with the MEP and reasonableness requirements of federal and State law, and particularly the requirement that the City only be required to comply with those water quality standards/objectives which are "reasonably achievable," taking into account economic considerations, impacts on housing within the region, the past, present and probable future beneficial uses of the water, the environmental characteristics of the hydographic unit under consideration, including the quality of water available thereto, and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.

As set forth in a November 22, 2002 EPA Guidance Memorandum ("EPA Guidance Memo"), EPA determined that where a TMDL is developed for stormwater discharges: "because stormwater discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be

14-1120

feasible or appropriate to establish numeric limits for municipal and small construction stormwater discharges." EPA further found that:

> Under certain circumstances, BMPs are an appropriate form of effluent limits to control pollutants in storm water. See 40 C.F.R. § 122.44(k)(2) & (3). If it is determined that a BMP approach (including an iterative BMP approach) is appropriate to meet the storm water component of the TMDL, EPA recommends that the TMDL reflect this. (*Id.* at p. 5 of EPA's Guidance Memo.)

14-1121

5.0 WATER QUALITY MONITORING

The intent of the City of Downey ROWD is to contribute to the regional monitoring effort by focusing on a drainage area in which our community's impact might become evident, while coordinating with other stakeholders whose regional programs are currently too coarse to detect the incremental changes occurring in adjacent watershed areas. The proposed City of Downey monitoring program is in conformity with the draft Los Angeles County Monitoring Program, which reallocates resources toward studies and monitoring programs that allow for a better measure of SQMP effectiveness through a reduction in pollutant loadings from urban and storm runoff.

The City has been an integral participant in the San Gabriel River Watershed Monitoring Workgroup effort, now managed by the Los Angeles and San Gabriel Rivers Watershed Council, since it was first initiated on March 2, 2004. Similarly, the City of Downey has participated in making technical decisions and reviewing the Cleaner Rivers through Effective Stakeholder-led TMDLs (CREST) process, including recent in-kind professional staff (sampling) services. The City of Downey is reluctant to betray the significant technical and monetary investment, by a variety of stakeholders, through recommendation and development of a competing monitoring program. Instead we propose to implement a monitoring effort at the upper and lower extent of Reach 1 of the Rio Hondo and cooperate with other Los Angeles or San Gabriel River monitoring efforts, provided the level of support does not undermine our local effort and is commensurate with contributions from other municipal stakeholder agencies and our contribution to the total contributory watershed area.

As contemplated, the City of Downey Monitoring effort will focus on Reach 1 of the Rio Hondo River, which begins at Interstate 5 near the northernmost corner of the City and ends at the confluence with the Los Angeles River at Imperial Highway, just west of Downey. Just over 27% (3.40 square miles) of Downey drains to the Rio Hondo along with portions of South Gate, Bell Gardens, Commerce and Montebello. In the draft 2006 303(d) listing documents, this Reach has been listed as "do not de-list" for ammonia and pH, which is primarily being addressed through treatment plant operational modifications by the County Sanitation Districts of Los Angeles County. The adopted 2002 303(d) list this reach for copper, high coliform count, lead, pH, trash and zinc. Trash is difficult to quantify effectively in low flows and pH seems to be highly correlated with algae growth and supersaturated oxygen concentrations. Since dry-weather monitoring of trash and pH is too subjective and qualitative to facilitate effective sampling, they are not currently including in our monitoring proposal.

The proposed City of Downey monitoring effort would focus on Rio Hondo Reach 1 and begin during the first quarter following City of Downey MS4 Permit acceptance, when a Monitoring and Sampling Quality Assurance Project Plan would be developed in consultation with other local agencies and Board Staff. During the quarter after acceptance of the Monitoring QAPP, samples would be taken at the upper and lower ends of this reach at locations agreed upon in consultation with Board Staff. In this area dry weather flows are generally diffuse and braided across the channel bottom, making

14-1122

collection of representative samples difficult. Grab sampling are likely to require flow concentration between a narrow gap which should also facilitate more accurate flow measurement. Parameters to be tracked include flow rate, hardness, metals (broad screen ICP/MS or AES method such as 200.7), indicator bacteria, and semi-volatiles (GC/MS method such as 625).

A brief annual monitoring report would prepared and presented to the Board for consideration, along with suggestions for future monitoring or source control efforts. This report would estimate pollutant loadings within Reach 1 based on flow and concentrations as possible based on the analytical results available.

14-1123

CITY OF SIGNAL HILL

2175 C[illegible]y Avenue • Signal Hill, California 9[illegible] 5-3799

June 12, 2006

Via Messenger

Mr. Jonathan Bishop
Executive Director, LARWQCB
Suite 200
320 West 4th Street
Los Angeles, CA 90013-2342

Re: City of Signal Hill Report of Waste Discharge – Renewal Application for Municipal NPDES Permit

Dear Mr. Bishop:

Please find enclosed the City of Signal Hill's Report of Waste Discharge (ROWD), Stormwater Quality Management Program and application for the renewal of its 2001 Municipal National Pollutant Discharge Elimination Systems ("NPDES") permit. As requested, we have also enclosed a copy a "red lined" copy of where our permit differs from the ROWD being submitted by Los Angeles County. The Signal Hill ROWD also includes a separate and complete monitoring program as well.

Our ROWD provides a report on the 2001 NPDES Permit for Signal Hill, and further includes information on the County of Los Angeles' and other cities' progress, as the 2001 Permit is a joint NPDES Permit with the County and other Los Angeles County cities. In preparing the ROWD, Signal Hill relied on the County's ROWD as basis for its data and information on the programs of the County and other cities covered under the 2001 Permit.

The City looks forward to working with the Regional and State Boards on the issuance of the renewed NPDES Permit, and is hopeful that City's decision to seek a separate permit will be well received by the Boards, since it is an effort by the City to better manage its storm water programs and better control the discharge of pollutants from our municipal separate storm sewer system.

As you are aware, many of the smaller cities have been searching for cost-effective programs to submit this ROWD cycle. Many cities have expressed the desire to implement watershed and sub-watershed planning efforts. Cities have also expressed the concern that the Regional Board will require unreasonable or unduly costly programs for cities filing separate ROWDs.

It is our hope that future ROWDs will be based on watersheds and subwatersheds, instead of the current "one-size" fits all approach. This will assist cities in better tailoring their programs to address specific water quality needs in their communities. Subwatershed permits will assist Signal Hill in coordinating our program with the City of Long Beach's program. As you are aware, the City of Long Beach has historically obtained a separate ROWD. The Signal Hill's ROWD contains some specific programs that we believe will better address the water quality needs of our community. We are hopeful that the Regional Board will consider appropriate rationale for replacement programs.

Please contact me if you have any questions or need any additional information regarding this submittal. Thank you for your assistance and cooperation in this matter.

Sincerely,

Kenneth C. Farfsing
City Manager

cc: Mayor & Council
Mr. David Aleshire, City Attorney
Mr. Rich Montevideo, Special Counsel
Mr. Charlie Honeycutt, Public Works Director
Mr. John Hunter, Storm Water Consultant
Mr. Don Wolfe, Public Works Director, LACDPW
Mr. Gerald Miller, City Manager, City of Long Beach

Attachments: Signal Hill ROWD
Red-Lined Version

REPORT OF WASTE DISCHARGE

Renewal Application for the City of Signal Hill
National Pollutant Discharge Elimination System
Municipal Stormwater Permit

June 12, 2006

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14-1126

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1.0 INTRODUCTION

1.1 PURPOSE

In accordance with the requirements found in Part 6, Section S of the existing 2001 Los Angeles County National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit (NPDES No. CAS004001), Order No. 01-182, this Report of Waste Discharge (ROWD) constitutes the City of Signal Hill's (hereafter "City") Municipal Stormwater NPDES Permit application for the renewal of Waste Discharge Requirements (WDRs) adopted in Order No. 01-182 by the Regional Water Quality Control Board, Los Angeles Region (Regional Board) on December 13, 2001. This ROWD is thus being submitted as both a Report of Discharge under Order No. 01-182 (an NPDES Permit that included as Permittees thereunder the County of Los Angeles, the Los Angeles County Flood Control District [the Principal Permittee] and all incorporated Cities within the County, except the City of Long Beach), as well as an application for the City's renewal of this 2001 NPDES Permit. This ROWD includes a report on the activities and results of the programs implemented under Order No. 01-182 for all Permittees thereunder, consistent with the County's ROWD, along with proposed programs and permit terms for the City's renewed NPDES Stormwater Permit.

The City of Signal Hill is proud to have one of the best NPDES permit programs in the County. Our program has consistently gone beyond the minimum requirements in the 2001 NPDES Permit. The estimated costs to implement Order No. 01-182, as set forth in the City's annual reports, was $3,452,800. The City invested over $534,895 in NPDES permit programs in 2004-05 alone. This amounts to $126.27 per household, substantially above the Countywide average of $18 per household reported by the Regional Board in 2005.

Several noteworthy projects include Signal Hill's management of the Hamilton Bowl Trash Reduction Project and the Willow Street/Cherry Avenue Corridor Clean Up Program. The Hamilton Bowl Trash Reduction Project is a Best Management Practices pilot program that is designing, constructing, operating and testing trash-catching devices in a regional urban runoff retention facility. The project also includes the City of Long Beach, the County of Los Angeles and the State Water Board as funding partners.

In addition, the Willow Street/Cherry Avenue Corridor Clean-Up Program collects trash and debris along two of the City's busiest commercial corridors. The program involves the Long Beach Conservation Corp under contract to the City, the City's Public Works Crews and the City's bus shelter contractor. It includes the cleaning of the bus shelters three times per week and weekly general clean-up of trash and debris.

Also, the City's Redevelopment Agency funded the Las Brisas Drainage Basin. The drainage basin collects runoff from the 6-acre project site, consisting of 80 units of low-income housing, a city mini-park and neighborhood community center. The non-profit housing developer could not afford to construct the drainage basin and keep the

housing affordable for very-low income residents, so the Signal Hill Redevelopment Agency included the drainage basin costs in its financial assistance to the project.

Signal Hill has also been active in organizing many of the small cities in Los Angeles County, by providing scientific, technical and legal experts in the area of storm water and urban runoff. Known as the Coalition for Practical Regulation, this ad hoc group of cities, presently totaling 43-cities, is dedicated to finding cost-effective solutions to the problems of storm water and urban runoff, based on sound science and engineering. The City has also taken the lead to organize various scientific studies and funding for the Metals TMDL for the Los Angeles River.

These are just a few examples of the efforts undertaken by the City to improve water quality, not only in Signal Hill, but in other parts of the County as well.

The City believes that this ROWD should place greater emphasis on the watersheds and subwatersheds in the Region. Although there are large regional issues, such as the problems of airborne metals reaching receiving waters, there are unique issues confronting the watershed and subwatersheds. This ROWD moves from the traditional approach of 84-cities applying with Los Angeles County as the Principal Permittee, to the City taking on greater responsibility for water quality in its community. This ROWD emphasizes Best Management Practices ("BMPs"), in lieu of strict numeric limits. This emphasis is based on the expectations of the United States Environmental Protection Agency ("EPA"), as follows: **"EPA expects that most WQBELs for NPDES-regulated municipal storm water discharges will be in the form of BMP's and that numeric limits will only be used in rare instances."** (US. EPA Memorandum of November 22, 2002, from Robert Wayland, Director of Wetlands, Oceans and Watershed & James Hanlon, Office of Wastewater Management, EPA Headquarters, to all Water Division Managers – Regions 1-10)

The BMP approach recognizes that cities have limited financial, technical and scientific resources to apply in any five-year NPDES permit cycle to pollution reduction programs. It also recognizes that BMPs are in their infancy in terms of pollution reduction. For example, Caltrans' "peer reviewed" studies indicate that the most recent generation of structural BMPs, such as sand-filters, do not reduce metal pollutants found in surface waters below the California Toxic Rule levels. Clearly additional investment in studies, design, construction and testing will be required as a part of an iterative BMP process.

It is also important to note that following the issuance of Order No. 01-182, numerous Permittees under the 2001 Permit filed legal challenges to many of the terms and provisions of Order No. 01-182, as well as to the procedure and review and approval process followed by the Regional Board when adopting the 2001 Permit. These legal challenges remain pending before the Court of Appeal of the State of California, Second Appellate District, Appellate Court Case No. B184034.[1]

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[1] The following Permittees are appellants and continue to challenge many of the provisions in Order No. 01-182: The Cities of Arcadia, Artesia, Bellflower, Beverly Hills, Carson, Cerritos, Claremont, Commerce, Covina, Diamond Bar, Downey, Gardena,

Further, in light of the significance of implementing a new set of WDRs and an NPDES Permit, and the potential impacts on the environment from the same, the City requests that before any new Permit is issued based on this ROWD, that the State and Regional Board's first take all action as required to comply with the California Environmental Quality Act ("CEQA"), recognizing that any exemption provided under California Water Code section 13389 is a limited exemption from Chapter 3 of CEQA only. Moreover, there is no exemption from CEQA where the State and Regional Boards impose permit requirements which go beyond the federal law requirements set forth under the Clean Water Act. Accordingly, compliance with the requirements of CEQA, before a new municipal permit for the City is issued, is essential so that all potentially significant adverse impacts to the environment from this project, are fully evaluated and properly mitigated, and so that all feasible alternatives to particular permit terms that may result in potentially significant adverse impacts, have been evaluated.

The City also remains concerned with the imposition of unfunded mandates under Order No. 01-182, and thus requests that any mandated programs under the new permit only be imposed on the City where the requirements of the California Constitution prohibiting the imposition of unfunded mandates upon the City, have been complied with. The City is presently a party to a lawsuit challenging a decision of the Commission on State Mandates ("Commission") refusing to consider various test claims for reimbursement of costs to comply with certain storm water programs under the 2001 NPDES Permit. The lawsuit was filed by the City, the County and other Los Angeles County cities, in Los Angeles County Superior Court, with the Superior Court granting judgment in the City's favor, and setting aside the Commission's decision refusing to consider the test claims, and directing that the Commission consider such claims. The Commission appealed the decision and the case is pending before the California Court of Appeal, Second Appellate District. The renewed permit should not contain mandated programs that are imposed in violation of the State Constitution's prohibition on imposing unfunded mandates on municipalities.

In addition, because the Regional Board is not a State agency with State-wide jurisdiction, the Regional Board is not an agency that by itself has the authority to issue an NPDES permit under the Clean Water Act. Accordingly, the City requests that any new NPDES permit to be issued to the City, be issued only after it has been reviewed and ultimately approved by the State Water Resources Control Board ("State Board").

The City is submitting this ROWD with the understanding that it is not waiving any rights, objections or challenges it has brought or may bring in connection with the issuance of Order No. 01-182, or any other related objections and challenges that may have been brought by the City to other water quality orders, directives or regulations, and with the understanding that the City is not waiving or relinquishing any rights it has

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Hawaiian Gardens, Industry, Irwindale, La Mirada, Lawndale, Monrovia, Norwalk, Paramount, Pico Rivera, Rancho Palos Verdes, Rosemead, Santa Clarita, Santa Fe Springs, Signal Hill, South Pasadena, Torrance, Vernon, Walnut, West Covina, Westlake Village, Whittier, and the County of Los Angeles and the Los Angeles County Flood Control District.

or may have in connection with any new permit to be issued to replace Order No. 01-182.

In addition to the report and recommendations contained herein, Permittees reserve their right to object to those terms of the NPDES Permit or modifications to those terms of the Permit which are not addressed in this ROWD. This ROWD, and the contents herein, do not constitute a waiver of the Permittees' rights to challenge objectionable terms contained in previous, current, or future Permits, and no contrary inference should be drawn.

1.2 REGULATORY BACKGROUND

The 1972 Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) Permit program to regulate the discharge of pollutants from point sources to waters of the United States. In response to the 1987 Amendments to the Federal Clean Water Act (CWA), the United States Environmental Protection Agency (EPA) developed Phase I of the NPDES Stormwater Program in 1990, which established a framework for regulating urban stormwater runoff. The Phase I program addressed sources of stormwater runoff that had the greatest potential to negatively impact water quality. Under Phase I, EPA required NPDES Permit coverage for stormwater discharges from:

- Medium and large municipal separate storm sewer systems (MS4) with populations of 100,000 or more; and
- Companies that fall within eleven categories of industrial activity, including construction activities to be governed by the Phase 1 Permit.

Operators of MS4s regulated under the Phase I NPDES Stormwater Program were required to obtain Permit coverage for stormwater discharges under their control. The most significant portion of application was the development of a proposed stormwater management program that would meet the standard of reducing the discharge of stormwater pollutants from the MS4 to the maximum extent practicable (MEP).

1.3 OBJECTIVES

The objective of the City in submitting this ROWD is to successfully renew an NPDES Municipal Stormwater Permit that includes requirements to achieve the goal of "reducing pollutants to the MEP" while taking into account:

- Feasibility;
- Financial resources available;
- Cost of implementation;
- Overall benefit to water quality;
- Effectiveness of existing Stormwater Quality Management Program (SQMP);
- Suggested improvements to existing SQMP;

- Suggested approaches to improve receiving water quality;
- Use of best available technologies; and
- Integration of impaired water body specific programs.

1.4 PROGRAM DESCRIPTION

On December 13, 2001, the Regional Board adopted Order No. 01-182 serving as the NPDES Permit for municipal stormwater and urban runoff discharges within the County of Los Angeles. The requirements of Order No. 01-182 apply to 84 Cities and the unincorporated areas of Los Angeles County under County jurisdiction, with the exception of Avalon, Long Beach, and the portion of Los Angeles County in the Antelope Valley, which includes the Cities of Lancaster and Palmdale. Under the 2001 Permit, the Los Angeles County Flood Control District is designated the Principal Permittee, and the County of Los Angeles along with 84 incorporated Cities are designated Permittees. In Order No. 01-182, the Principal Permittee coordinates and facilitates activities necessary to comply with the requirements of the Permit, but is not responsible for ensuring compliance of any of the Permittees. It should be noted that many parts of Order No. 01-182 have been challenged in a lawsuit filed in Los Angeles County Superior Court by a number of the Permittees thereunder. This legal challenge remains pending on appeal, in the Court of Appeal of the State of California, Second Appellate District, Case No. B184034.

Through the 2001 Permit, the Regional Board implemented a Watershed Management Approach to address water quality protection in the region. The 2001 Permit divides Los Angeles County into the following six Watershed Management Areas (WMAs):

- Ballona Creek and Urban Santa Monica Bay WMA
- Dominguez Channel/Los Angeles Harbor WMA
- Los Angeles River WMA
- Malibu Creek and Rural Santa Monica Bay WMA
- San Gabriel River WMA
- Santa Clara River WMA

A list of Permittees under the 2001 Permit, according to Watershed Management Area, is provided in Table 1.

Table 1 — Table of Permittees under City's 2001 Permit

Santa Monica Bay	Los Angeles River	San Gabriel River
Malibu Creek and Other Rural	Alhambra	Artesia
Agoura Hills	Arcadia	Azusa
*Calabasas	Bell	Baldwin Park
Los Angeles County Flood Control	Bell Gardens	Bellflower
Los Angeles County	Burbank	Bradbury
Malibu	Commerce	Cerritos
Westlake Village	Compton	Claremont
	Cudahy	Covina
Ballona Creek and Other Urban	El Monte	Diamond Bar

Santa Monica Bay	Los Angeles River	San Gabriel River
Beverly Hills	*Glendale	Downey
Culver City	Hidden Hills	Duarte
El Segundo	Huntington Park	Glendora
Hermosa Beach	La Canada Flintridge	Hawaiian Gardens
Los Angeles (City of)	*Los Angeles (City of)*	Industry
Los Angeles County Flood Control	*Los Angeles County Flood Control*	Irwindale
Los Angeles (County of)	*Los Angeles (County of)*	La Habra Heights
Manhattan Beach	Lynwood	La Mirada
Palos Verdes Estates	Maywood	La Puente
Rancho Palos Verdes	Monrovia	La Verne
Redondo Beach	Montebello	Lakewood
Rolling Hills	Monterey Park	*Los Angeles County Flood Control*
Rolling Hills Estates	Paramount	*Los Angeles (County of)*
*Santa Monica	Pasadena	Norwalk
West Hollywood	Rosemead	Pomona
	San Fernando	Pico Rivera
	San Gabriel	San Dimas
	San Marino	Santa Fe Springs
Dominguez Channel	Sierra Madre	Walnut
Carson	Signal Hill	West Covina
Gardena	South El Monte	Whittier
Hawthorne	South Gate	
Inglewood	South Pasadena	**Santa Clara River**
Lawndale	Temple City	*Santa Clarita
Lomita	Vernon	*Los Angeles County Flood Control*
Los Angeles (City of)		*Los Angeles (County of)*
Los Angeles County Flood Control		
Los Angeles (County of)		
*Torrance		

*Agencies indicated in italicized font are present in more than one Watershed Management Area. * Indicates City with the largest watershed population other than County of Los Angeles and the City of Los Angeles*

2.0 APPLICANT INFORMATION

This ROWD is being submitted on behalf of the City of Signal Hill whose address and contact information are as follows:

Mr. Charlie Honeycutt

Director of Public Works

City of Signal Hill

2175 Cherry Avenue

Signal Hill, CA 90755

3.0 PROGRAM ACCOMPLISHMENTS

The 2001 Los Angeles County NPDES Municipal Stormwater Permit set implementation requirements for Discharge Prohibitions, Receiving Water Limitations, Storm Water

Quality Management Program Implementation, Special Provisions, Definitions, and Standard Provisions. Some requirements have been in place for several Permit cycles; some have evolved as a result of Permittee implementation and experiences; and still others were imposed on the Permittees by the Regional Board. All prohibitions and limitations have been observed and followed to the maximum extent practicable to ensure Permit compliance. However, many Permit terms remain subject to challenge through the pending legal challenge to Order No. 01-182.

The 2001 Permittees implemented programs that met and often exceeded the basic provisions of the existing 2001 NPDES Permit, but recognize that continued progress requires program approaches that are strategic, measurable, beneficial, cost-effective and adaptive.

3.1 STORMWATER QUALITY MANAGEMENT PROGRAM

As a general requirement, the 2001 Permittees implemented the SQMP developed for the 2001 NPDES Permit, and its components, to reduce the discharge of pollutants in stormwater from the MS4 to the MEP. Where necessary, such Permittees implemented additional controls to reduce the discharge of pollutants from the MS4. The Permittees made a good faith effort to require and implement the most effective combination of MEP-compliant best management practices (BMPs) for stormwater/urban runoff pollution control.

The Principal Permittee in the 2001 NPDES Permit (the Los Angeles County Flood Control District) coordinated and facilitated activities to comply with the requirements of the NPDES Permit. The Los Angeles County Department of Public Works (LACDPW) coordinated Permit activities among Permittees and the Principal Permittee acted as a liaison between the Permittees and the Regional Board.

The Principal Permittee in the 2001 Permit implemented the Countywide Monitoring Program and evaluated, assessed, and synthesized the results of the monitoring program. Annual Monitoring Reports were submitted by August 15th of each year and the 1994-2005 Integrated Receiving Water Impacts Report was submitted on August 15, 2005. In addition, said Principal Permittee coordinated the collection, processing, and submittal of annual reports to the Regional Board. The other Permittees prepared an annual budget summary of expenditures applied to their stormwater management program.

The 2001 Permittees obtained and possessed the necessary legal authority to prohibit nonstormwater discharges to the storm drain system. Ordinances were adopted to prohibit the discharge of runoff to the MS4 from: wash water from the cleaning of gas stations, auto repair garages, or other types of automotive services facilities; mobile auto washing, steam cleaning, mobile carpet cleaning, and other such mobile commercial and industrial operations; areas where repair of machinery and equipment which are visibly leaking oil, fluid or antifreeze, is undertaken; storage areas of materials containing grease, oil, or other hazardous substances, and uncovered receptacles containing hazardous materials; chlorinated/brominated swimming pool water and filter

backwash; the washing of toxic materials from paved or unpaved areas; washing impervious surfaces in industrial/commercial areas; and concrete or cement laden wash water from concrete trucks, pumps, tools, and equipment.

3.2 PUBLIC INFORMATION AND PARTICIPATION

The Principal Permittee under the 2001 Permit developed and implemented a Public Information and Participation Program (PIPP) that met the following objectives:

- Measurably increase the knowledge of the target audience regarding the MS4, the impacts of stormwater pollution and urban runoff on receiving waters, and the potential solutions to mitigate the problems caused by stormwater and urban runoff;
- Measurably change the waste disposal and runoff pollution generating behavior of target audiences by encouraging implementation of appropriate solutions; and
- Involve and engage socio-economic groups and ethnic communities in Los Angeles County to participate in mitigating the impacts of stormwater and urban runoff pollution.

The public education campaign was designed to meet the objectives of the 2001 NPDES Permit. For the renewed Permit, the City will work with the County Flood Control District, and will rely on the Public Information and Participation Program developed and to be implemented by the Flood Control District. Modifications to the 2001 Permit Program are proposed by the County Flood Control District based on research results and current social marketing theory to achieve the desired behavioral changes. The 2001 Permittees complied with the requirements of the PIPP under the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by the 2001 Permittees.

3.3 INDUSTRIAL/COMMERCIAL FACILITIES CONTROL

In accordance with the 2001 NPDES Permit, the Permittees thereunder required the implementation of pollutant reduction and control measures at industrial and commercial facilities, with the intent of attempting to further reduce pollutants in stormwater runoff from the MS4 to the MEP standard. The pollutant reduction and control measures used include source control BMPs, and operational and maintenance procedures. The objective of the Industrial/Commercial Facilities Control Program was to track, inspect, and ensure compliance at industrial and commercial facilities that are labeled "critical sources" of pollutants under the 2001 Permit. The Industrial/Commercial Facilities Control Program, however, is one of the programs in the 2001 Permit which remains subject to legal challenge, and is a program which the City is not proposing to continue to maintain in the renewed permit.

Any inspection obligations in exceedance of federal regulations constitute a State mandate and should be funded by the Regional Board in accordance with the precepts

set forth in Article XIII, section 6 of the California Constitution. The Regional Board shall consider the economic impacts of mandating Permit requirements that exceed federal regulations. The federal regulations only require Permittees to have a program to monitor and control pollutants in stormwater discharges from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986, and industrial facilities that the municipalities determine are contributing a substantial pollutant loading to the MS4. The City objects to any further requirement being included in the renewed Permit.

Under the 2001 Permit, Permittees developed and maintained databases for facilities within their own jurisdictions identified as critical sources of stormwater pollution in the 2001 Permit. The "critical sources" tracked under the 2001 Permit are summarized below:

- Restaurants;
- Automotive service facilities;
- Retail gasoline outlets (RGO's) and automotive dealerships;
- U.S. EPA Phase I Facilities (Tier 1 and 2);
- Other Federally-mandated Facilities [as specified in 40 CFR 122.26(d)(2)(iv)(C)];
- Municipal landfills;
- Hazardous waste treatment, disposal, and recovery facilities;
- Facilities subject to SARA Title III (also known as EPCRA).

The 2001 Permittees collected information and updated on a regular basis an inventory of critical sources. Permittees collected the following information for each industrial and commercial facility:

- Name of facility and name of owner/operator;
- Address;
- Coverage under the GIASP or other individual or general NPDES permits;
- A narrative description including SIC codes that best reflects the industrial activities and principal products at each facility.

The County reported that the first round of inspections under the 2001 Permit, for the critical source facilities identified above, were completed by August 1, 2004, and that inspections are currently underway for the second round under the 2001 Permit, and

are expected to be completed by Fall 2006. The critical source facilities under the 2001 Permit received educational materials on storm water pollution prevention practices and were inspected to ensure that the facility:

- Does not pour oil and grease or oil and grease residue onto a parking lot, street or adjacent catch basin;
- Keeps trash bin areas clean and trash bin lids closed, and does not fill trash bins with washout water or any other liquid;
- Does not allow illicit discharges, such as discharge of washwater from floormats, floors, porches, parking lots, alleys, sidewalks and street areas (in the immediate vicinity of the establishment), filters or garbage/trash containers;
- Removes food waste, rubbish or other materials from parking lot areas in a sanitary manner that does not create a nuisance or discharge to the storm drain.
- Maintains the facility area so that it is clean and dry and without evidence of excessive staining;
- Implements housekeeping BMPs to prevent spills and leaks;
- Properly discharges wastewaters to a sanitary sewer and/or contains wastewaters for transfer to a legal point of disposal;
- Is aware of the prohibition on discharge of non-stormwater to the storm drain;
- Properly manages raw and waste materials including proper disposal of hazardous waste;
- Protects outdoor work and storage areas to prevent contact of pollutants with rainfall and runoff;
- Labels, inspects, and routinely cleans storm drain inlets that are located on the facility's property;
- Trains employees to implement stormwater pollution prevention practices.
- Routinely sweeps fuel-dispensing areas for removal of litter and debris, and keeps rags and absorbents ready for use in case of leaks and spills;
- Is aware that washdown of facility area to the storm drain is prohibited;
- Is aware of design flaws (such as poor grading or inadequate roof covers and berms), and that appropriate BMPs are implemented;

- Inspects and cleans storm drain inlets and catch basins within each facility's boundaries no later than October 1st of each year;
- For service stations, post signs close to fuel dispensers, which warn vehicle owners/operators against "topping off" of vehicle fuel tanks, and the use of automatic shut-off dispenser nozzles;
- Routinely checks outdoor waste receptacle and air/water supply areas, cleans leaks and drips, and ensures that only watertight waste receptacles are used and that lids are closed; and
- Trains employees to properly manage hazardous materials and wastes as well as to implement other stormwater pollution prevention practices.
- Has, if needed, a current Waste Discharge Identification (WDID) number for facilities discharging stormwater associated with industrial activity, and that a Storm Water Pollution Prevention Plan is available on-site, and is effectively implementing BMPs in compliance with Los Angeles County Code, Regional Board Resolution 98-08, and the SQMP.

While Permittees were not required to inspect facilities under the 2001 NPDES Permit that had been inspected by the Regional Board within 24 months, the Principal Permittee found it difficult to schedule inspections in advance without timely and detailed information posted on the Regional Board's website on facilities they have or are scheduled to inspect. The information provided on the website was not specific enough to the Municipal Permittees, and specifically for the unincorporated areas of the County of Los Angeles. The Regional Boards spreadsheet of industrial facilities inspected (see link: http://www.waterboards.ca.gov/rwqcb4/html/programs/stormwater/sw industrial inspections.html) does not provide detailed enough jurisdictional information with respect to the unincorporated areas of Los Angeles County.

More specific and complete information is needed from the Regional Board during this next permit cycle to avoid redundant inspections of facilities which the City determines to inspect, and to avoid a waste of public resources. The 2001 Permittees ensured compliance of industrial/commercial facilities that are labeled "critical sources," under the 2001 NPDES Permit, by requiring BMP implementation. The County reports that various inspections resulted in additional BMPs being required of industrial/commercial facilities. Most of the BMPs required were to address issues involving operations that were exposed to stormwater, washing operations and trash/litter management.

The 2001 Permittees participated in various task forces, including the Los Angeles County District Attorney Strike Force, the City of Los Angeles Strike Force and the Federal Los Angeles Environmental Group Strike Force, and worked closely with the Regional Board and other Permittees to resolve stormwater related violations and other issues.

Under the 2001 Permit, the Los Angeles County Department of Public Works Environmental Programs Division was the lead agency to implement pollutant reduction and control measures through inspections of industrial and commercial facilities within the unincorporated areas of Los Angeles County. The County reports that 3,743 facilities in the unincorporated areas were inspected in the first round and that approximately 15% of all sites resulted in BMPs being required to address stormwater related pollution. Less than 1% of all facilities were referred to the Regional Board for violations.

As part of other mandates imposed on the 2001 Permittees, inspections of critical source facilities with underground storage tanks (in the unincorporated areas and 74 Permittee Cities) and/or with industrial waste permits (in the unincorporated areas and in 38 Permittee Cities) were conducted on a regular basis, to require compliance with stormwater regulations and requirements of the industrial/commercial facilities control program during each inspection.

The Industrial/Commercial Facilities Control Program was designed to meet the objectives of the 2001 NPDES Permit. The 2001 Permittee worked hard to comply with the requirements of the Industrial/Commercial Facilities Control Program under the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by the 2001 Permitees.

3.4 DEVELOPMENT PLANNING

Under the 2001 Permit, the Permittees implemented a Development Planning Program that included compliance with the Standard Urban Stormwater Mitigation Plan (SUSMP) described in the 2001 Permit. However, the SUSMP Program in the 2001 Permit remains subject to legal challenge, and the City is not proposing the continued application of the SUSMP Program for the next permit cycle.

In general, as required by the 2001 Permit, Permittees developed and made the SUSMP guidelines available to developers, even though the SUSMP provisions were being challenged. Applicable projects have been conditioned to meet the SUSMP requirements prior to a new Permit being issued.

The County developed a technical manual for siting and design of BMPs for the development community. The various types of structural BMPs the 2001 Permittees required developers to incorporate into their projects, included: catch basin inserts; hydrodynamic devices; vortex separators; biofilters; on-site clarifiers; vegetative swales; perforated pipes in rock filled trenches; and detention basins.

The Development Planning Program was designed to meet the objectives of the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by the 2001 Permittees to comply with the 2001 Permit SUSMP Program.

3.5 DEVELOPMENT CONSTRUCTION

Any inspection obligations in exceedance of federal regulations constitute a State mandate and should be funded by the Regional Board in accordance with the precepts set forth in Article XIII, section 6 of the California Constitution. The Regional Board shall consider the economic impacts of mandating Permit requirements that exceed federal regulations. The federal regulations do not require Permittees to inspect the broad scope of construction sites required by the 2001 NPDES Permit. The City continues to reserve its objections to any inspection program that goes beyond that required by the federal regulations.

Pursuant to the 2001 NPDES Permit, the 2001 Permittees implemented a Development Construction Program to control runoff from construction activity at all construction sites within their jurisdictions. Construction projects were adequately reviewed for compliance with the NPDES Permit, which included the development of Storm Water Pollution Prevention Plans (SWPPP) and compliance with the SUSMP requirements of the 2001 NPDES Permit. As necessary, enforcement actions were taken against construction sites in violation of Permit requirements. It is important to recognize that certain aspects of the construction program remain subject to a legal challenge by a number of the 2001 Permittees, and by the Construction Industry Coalition on Water Quality ("CICWQ") and the Building Industry Legal Defense Foundation. These challenged portions of this program are therefore not being proposed for the next permit cycle.

To better implement the Development Construction Program for the 2001 Permit, the 2001 Principal Permittee placed materials clarifying the requirements of the Development Construction Program on its website and developed a brochure on Water Quality Regulations which is provided to the public with building permits issued by the County's Building and Safety Division.

The Development Construction Program was designed to meet the objectives of the 2001 NPDES Permit. Permittees worked hard to comply with the requirements of the Development Construction Program under the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by the 2001 Permitees.

3.6 PUBLIC AGENCY ACTIVITIES

The Public Agency Activities Program under the 2001 Permit has been fully implemented by the Permittees. An inspection program for public facilities is in place to ensure field yards are implementing recommended BMPs. The most noted success of the Public Agency Activities Program is greater awareness among the County and Cities' staff members of stormwater issues. The 2001 Permittees, in cooperation with the County Sanitation Districts of Los Angeles, completed the Treatment Feasibility Study. This study investigated the possible diversion of dry weather discharges or the use of alternative treatment control BMPs to treat flows that may impact public health and safety and/or the environment. Other program successes include increased cleanout of problem catch basins and street sweeping, proper coverage of trash

receptacles and storage bins for potential pollutants, proper implementation of BMPs on public construction sites, installation of pervious pavement in parking lots and drainage swales to increase filtration, and equipped facilities with clarifiers for vehicle washing.

Notable improvements under the 2001 Permit as a result of the Public Agency Activities Program were:

- Increased staff awareness;
- Decreased potential for pollutant runoff from Public Facilities; and
- Upgraded fuel systems at maintenance yards with features that meet and exceed the requirements of the Permit. Some features include: utilizing aboveground storage tanks, secondary containment berms, canopies which extend over the concrete fuel pad, and fuel pads graded to prevent sheet flow.

The Public Agency Activities Program was designed to meet the objectives of the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by the 2001 Permittees.

3.7 ILLICIT CONNECTIONS/ILLICIT DISCHARGES ELIMINATION

Under the 2001 Permit, the Permittees have increased public awareness of the impacts of illicit connections and illicit discharges. The Public Hotline (1-888-CLEAN-LA) continues to effectively manage the receiving, tracking, and reporting of public complaints. For some of the 2001 Permittees, Closed Circuit TV monitoring was employed to screen for illicit connections, and for others, field screenings have been conducted.

Noteworthy improvements to the Illicit Connections/Illicit Discharges Program include:

- Improved inter-agency coordination;
- Prompt response to reported illicit discharges;
- Increased public and City staff awareness; and
- Increased public reporting

The Illicit Connections/Illicit Discharges Elimination Program was designed to meet the objectives of the 2001 NPDES Permit. The 2001 Permittees worked hard to comply with the requirements of the Illicit Connections/Illicit Discharges Elimination Program under the 2001 NPDES Permit. Please see Appendix A for some specific examples provided by the 2001 Permittees.

4.0 PRIORITIES FOR PROGRAM IMPROVEMENT

Municipal stormwater and urban runoff management programs in the Los Angeles region were initiated with the June 18, 1990 adoption of Order No. 90-079. A revised Municipal NPDES Permit was issued in July 1996, and another in December 2001

(Order No. 01-182.) The 2001 Permittees currently find themselves near the end of this third Permit cycle and have conducted in-depth reviews of their current management programs with an eye toward continued improvement. As public agencies, the 2001 Permittees have an obligation to responsibly manage public funds as well as to protect the quality of the environmental resources within their jurisdictions. In addition, Permittees' citizens live and work in the Los Angeles region, and Permittees recognize that managing the impacts of stormwater and urban runoff in a cost effective manner is in the best interest of all their residents.

The 2001 Permittees implemented programs that meet and often exceed the basic provisions of the existing Permit, but understand that continued progress requires program approaches that are strategic, beneficial, measurable, cost-effective, adaptive, and fiscally responsible.

The remainder of this document provides a more in-depth discussion of specific priorities and the proposed Permit programs for the renewed NPDES Permit. Any 2001 NPDES Permit program not identified in the ROWD as being a part of the renewed permit has been excluded from the renewed permit terms, and has not be carried over into the proposed permit's terms, for either legal, practical or cost reasons. Again, it should be noted that many of the 2001 Permit terms remain subject to legal challenge, and that, as such, the City has not included various portions of the 2001 NPDES Permit which it has contended are contrary to State and/or federal law, and/or are otherwise arbitrary and capricious.

4.1 PROGRAM COMPONENTS

Recommended improvements for the next Permit cycle would be to streamline specific requirements, eliminate other requirements, provide the City with a safe harbor provision, maintain steady implementation of programs that have not been challenged and that have been proven to work well, and make results-based modifications to other programs to better utilize limited resources. Components in each of the programs have been identified as requiring some modification to improve the overall intent of the Permit, which is to develop, achieve, and implement a timely, comprehensive, cost-effective stormwater pollution control program to reduce the discharge of pollutants in stormwater from the MS4 to the MEP standard and consistent with the reasonableness standards under State Law.

4.2 PRIORITY 1 – RECOMMENDED LANGUAGE FOR RECEIVING WATER LIMITATIONS INCLUDING FINDINGS OF FACT, SAFE HARBOR PROVISION, AND DEFINITIONS

The Receiving Water Limitations language in Order No. 01-182 is another section of the 2001 Permit that is the subject of the pending legal challenge. The City recommends that the Permit contain Receiving Water Limitations language which is consistent with applicable law and with which the City can comply. Order No. 96-054, the 1996 NPDES Permit, included language which stated "Timely and complete implementation by a Permittee of the storm water management programs prescribed in this Order shall

satisfy the requirements of this section and constitute compliance with receiving water limitations." It further provided that where an exceedance of a water quality objective had occurred, that the Permittees were to submit stormwater programs that "will increase the likelihood of preventing future exceedances of water quality objectives." This language was subsequently omitted by the Regional Board in Order No. 01-182. It is imperative that the City have the support of the Regional Board when making a good faith effort to comply with Permit requirements, and that the City not be required to implement BMPs that go beyond the MEP or reasonableness standards under federal and state law.

Permittees, as municipalities, should not be required to strictly comply with water quality standards/objectives. Rather, compliance with such standards should be limited to compliance through the use of reasonable and cost-effective MEP-compliant BMPs. Forcing the City to be in a never-ending state of non-compliance, and requiring it to strictly comply with water quality standards/objectives that are not reasonably achievable or practicable, is arbitrary and capricious, and contrary to law. Further, exposing the City to immediate third party lawsuits is unproductive, discourages collaborative working relationships with non-governmental organizations, and does not achieve the primary goal of improving water quality.

The following are proposed Findings of Fact, suggested Receiving Water Limitations language and Definitions for the renewed permit:

Findings of Fact:

1. Urban Runoff includes discharges from residential, industrial, commercial, and construction areas within the Permit Area. In addition to Urban Runoff, the MS4s regulated by this order receive flows from agricultural activities, open space, state and federal properties and facilities, schools, colleges and universities, and other land uses not under the control of the Permittee.

2. The Permittee lacks legal jurisdiction over discharges into their respective MS4s from agricultural activities, California and federal properties and facilities, school districts, colleges and universities, utilities and special districts, wastewater management agencies, and other point and non-point source discharges otherwise permitted by or under the jurisdiction of the Regional Board. The Regional Board recognizes that the Permittee should not be held legally responsible for any discharges or pollutants, either in storm water or non-storm water, running off of any such property or facility. Similarly, certain activities that generate pollutants present in Urban Runoff are beyond the control or the authority of the Permittee to regulate. Examples of these include but are not limited to the operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear, residues from application of pesticides, nutrient runoff from agricultural activities, and background conditions (e.g. wildlife, and leaching of naturally occurring minerals, metals, and other elements from local geology).

3. The Regional Board finds that the unique aspects of the regulation of Urban Runoff discharges through MS4s, including but not limited to the intermittent nature of

discharges, and difficulties in monitoring and limited physical control over the discharges, will require adequate time and resources to determine what persons or entities are responsible for reducing the discharge of pollutants in Urban Runoff discharged from the MS4.

Receiving Water Limitations:

1. The Permittee shall implement BMPs to attempt to reduce the discharge of pollutants in Urban Runoff discharged from the Permittees' MS4s, where such Urban Runoff causes or contributes to an exceedance of water quality standards and objectives.

2. The Permittee shall comply with Paragraph 1 above through the use of reasonable and cost-effective MEP-compliant BMPs. The BMPs shall be designed taking into consideration those water quality standards and objectives that are reasonably required to ensure the reasonable protection of properly designated beneficial uses. Only water quality standards/objectives which can reasonably be achieved need to be complied with by the Permittee, and only after the Regional Board has considered: (a) the past, present, and probably beneficial uses of the receiving water; (b) the environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto; (c) the water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area; (d) economic considerations; (e) the need for developing housing in the region; and (f) the need to develop and use recycled water. In determining whether any particular water quality standard or objective must be complied with by a Permittee, in addition to the above, the Regional Board shall further consider all demands being made and to be made on the subject waters, and the total values involved, beneficial and detrimental, economic and social, tangible and intangible. Compliance with applicable water quality standards and objectives is to occur through an iterative BMP process, consistent with the provisions of this paragraph.

3. If an exceedance of a water quality standard/objective is due to or believed to be due to discharges to the MS4 that are outside the Permittees jurisdiction or control, the Permittee shall advise the Executive Officer of such in writing and thereafter need not implement BMPs to address such an exceedance.

4. If the Permittee has acted reasonably and in good faith in complying with the procedure set forth above, and are implementing the revised SQMP, the Permittee does not have to repeat the same procedure for continuing or recurring exceedances of the same water quality standards/objectives, unless the Executive Officer determines that additional BMPs, consistent with Section 2 above, should be implemented to comply with applicable water quality standards/objectives, and provides written notice to the Permittee of this determination and the basis for the determination.

5. Reasonable and good faith compliance with the procedures set forth in this section shall satisfy the requirements of this Order and shall constitute compliance with applicable water quality standards/objectives.

Definitions:

1. "Maximum Extent Practicable" or "MEP" is the standard established by Congress in Clean Water Act section 402(p)(3)(B)(iii) that municipal dischargers of storm water MS4s must meet. For the purpose of this Order, MEP is generally, but not necessarily, less stringent than best available control technology, the standard which industrial dischargers of storm water must meet. MEP generally emphasizes pollution prevention and source control and includes consideration of technical feasibility, practicability, cost effectiveness, benefits derived, regulatory compliance and public acceptance. Where cumulative cost exceeds cumulative benefits, a program or BMP is not considered practicable.

2. "Urban Runoff" is that water discharged to the MS4 for which the Permittees are responsible when further discharged from the MS4 to receiving waters. Urban Runoff includes discharges from residential, industrial, commercial, and construction areas (that are not governed by a State issued NPDES Permit) within the Permit area, but the term "Urban Runoff" expressly excludes storm water and non-storm water discharges from agricultural activities, State-permitted industrial activities or construction sites, open space, State and federal properties and facilities, school district properties, colleges and universities, waste water management agencies, other NPDES-permitted discharges, and other point and non-point source discharges that are not subject to regulation by the Permittee.

4.3 PRIORITY 2 – FUNCTION OF WATERSHED MANAGEMENT COMMITTEES

Order No. 01-182 requires Watershed Management Committees (WMCs) to carry out specific responsibilities as a group. These responsibilities included:

a. Facilitate cooperation and exchange of information among Permittees;
b. Establish goals and objectives and associated deadlines for the WMA, as the program implementation progresses;
c. Prioritize pollution control efforts based on beneficial use impairment(s), watershed characteristics and analysis of results from studies and the monitoring program;
d. Develop and/or update and monitor the adequate implementation, on an annual basis, of the tasks identified for the WMA;
e. Assess the effectiveness of, prepare revisions for, and recommend appropriate changes to the SQMP and its components;
f. Continue to prioritize the Industrial/Commercial critical sources for investigation, outreach and follow-up; and
g. Meet four times per year and, as necessary.

The City's resources are limited. Requiring the City to perform additional tasks under the WMCs is extremely difficult because it takes valuable resources away from working on other Permit requirements that have a more significant impact on water quality.

The City believes it is important for key personnel within a WMA to meet on a quarterly basis to facilitate cooperation when implementing stormwater programs and to exchange experiences and information that may be of value. However, the City recommends having the flexibility to independently determine how to implement its Permit programs in the manner that best suits it, whether that be individually or as a WMA. The City recommends that the WMC meeting structure be combined with the impaired water body jurisdictional groups to form one joint meeting since many of the same Permittee representatives are handling both obligations. This recommendation would reduce the need for parallel meetings that are unnecessary. WMAs are redundant since Permittees will be forced into watershed-based relationships as a result of impaired water bodies.

4.4 PRIORITY 3 – INDUSTRIAL AND COMMERCIAL FACILITIES CONTROL PROGRAM IMPROVEMENTS

Pursuant to the 2001 NPDES Permit, Permittees were required to track, inspect, and ensure compliance at industrial and commercial facilities that the Regional Board has asserted are critical sources of pollutants in stormwater. These provisions in Order No. 01-182 are presently being challenged by many of the 2001 Permittees in the pending legal challenge.

The City proposes that the so-called "Critical Sources" referenced in the 2001 Permit, such as commercial facilities (restaurants, automotive service facilities, retail gasoline outlets and automotive dealerships), and Phase I Facilities (both Tier 1 and 2), not be inspected under the renewed permit, unless the City first determines that the facility is an industrial facility that is contributing a substantial pollutant load to the MS4.

There is no authority under State or federal law for requiring the City to inspect commercial facilities, such as restaurants, gasoline service stations, or automobile dealerships or any other commercial facilities. For industrial facilities, the federal regulations leave it to the Permittee to determine which facilities to inspect, and when, and provide for the inspection of those industrial facilities which the Permittee determines are contributing a substantial pollutant load to the MS4. Accordingly, the City requests that the existing Industrial and Commercial Facility Control Program requirements under Order No. 01-182 be deleted from the Permit, and replaced with language which provides the City the discretion to inspect those industrial facilities it determines are contributing a substantial pollutant load to the MS4.

Also, the 2001 Permittees found it unnecessary and a waste of resources to repeatedly inspect facilities that are found to be in compliance with the General Industrial Activities Stormwater Permit (GIASP). A much more effective inspection strategy would be to repeatedly target industrial facilities that are not in compliance and where the Permittee determines the industrial facility has contributed a substantial pollutant load to the MS4.

Moreover, for those industrial facilities the City determines to inspect, the City recommends that the Annual GIASP inspection fees collected by the State Water Resources Control Board be distributed to the City for conducting such industrial facility inspections. This would encourage and assist the City and other Permittees in making such inspections, and would avoid private industry from either paying two inspection fees for a single inspection, or being subject to redundant inspections. In addition to the legal objections to the inspection program in Order No. 01-182, financial constraints make it difficult for the City to carry out the level of inspections required under Order No. 01-182. Providing local agencies with sufficient monetary resources will facilitate more inspections by the City.

4.5 PRIORITY 4 – PEAK FLOW CONTROL AND STANDARD URBAN STORMWATER MITIGATION PLAN (SUSMP)

The City proposes that the Development Planning Program provisions as contained in Order No. 01-182 be deleted and not carried forward into the next permit. Again, these provisions under Order No. 01-182 are being challenged by many of the 2001 Permittees, as the State and Regional Boards are without authority to impose these provisions, and as such program provisions are inconsistent with state and/or federal law.

Continuing to require compliance with the SUSMP provisions, is to require compliance with a particular design criteria or other particular manner of compliance, which is contrary to the prohibition under California Water Code section 13360. In addition, continuing to require compliance with the SUSMP provisions, and to compel municipalities to impose certain mitigation measures to mitigate undefined impacts from runoff from numerous "development" and "redevelopment" projects, irrespective of what mitigation measures may or may not be properly required under CEQA and the review process set forth therein, is arbitrary action that is contrary to law, and the Regional and State Boards lack the authority to impose any such requirements.

In addition, the Peak Flow Control provisions included in the 2001 Municipal NPDES Permit are in excess of the Regional and State Boards' authority, and are contrary to law, as neither the Clean Water Act, nor the Porter-Cologne Act, authorizes the State to regulate the "quantity" of storm water or urban runoff.

Finally, the State and Regional Boards should consider the impacts that the Development Planning Program provisions will have on the development of low income/affordable housing as required under Water Code sections 13241(e) and 13263.

4.6 PRIORITY 5 – SPECIFIC BMP REQUIREMENTS

Under Order No. 01-182, all Permittees were required to place and maintain trash receptacles at all transit stops within their jurisdiction. Prescriptive requirements such as this limit the ability of Permittees to analyze and determine the cost effectiveness and appropriateness of BMPs to address pollutants of concern in discharges from their MS4. They are further contrary to law. (See, e.g., Water Code § 13360.)

It is recommended that the City be given the flexibility to select suitable BMPs and their respective locations, to address pollutants of concern. The City also recommends that the explicit requirement to place and maintain trash receptacles at all transit stops be removed from the Permit, as it is presently the subject of the legal challenge to Order No. 01-182. Moreover, any such mandates to be imposed upon the City may only be imposed, under the California Constitution, if appropriate funds have been provided to the Permittees to fund the mandate.

4.7 PRIORITY 6 – STORM WATER POLLUTION PREVENTION PLANS (SWPPP) REDUNDANCY

The General Construction Activities Stormwater Permit (GCASP), Order No. 99-08-DWQ, requires all dischargers, where construction activities disturb one or more acres, to develop and implement a Storm Water Pollution Prevention Plan (SWPPP), eliminate or reduce non-stormwater discharges to storm drain systems and other waters of the nation, and perform inspections of all BMPs. Requiring a Local SWPPP to substitute for a State SWPPP is redundant, and is the subject of the legal challenge to Order No. 01-182. The requirement for a Local SWPPP should be deleted and is not being proposed to be carried forward in the next permit cycle.

The City also proposes that the Development Construction Program requirements as set forth under Order No. 01-182, be modified in the renewed permit so that the City not be required to impose "minimum" unreasonable requirements on construction sites, such as unreasonable restrictions on the discharge of sediment or construction related material (including sand, gravel and other natural material) that may runoff from a construction site. This concern is also the subject of the pending legal challenge.

4.8 PRIORITY 7 – ILLICIT CONNECTION/ILLICIT DISCHARGE ELIMINATION PROGRAM IMPROVEMENTS

The 2001 Permittees are required to eliminate all illicit connections and illicit discharges to the storm drain system, and to document, track, and report all occurrences. The Permit requires the field screening of open channels, underground pipes, and underground pipes with a diameter of 36 inches or greater by specific dates. Based on an annual evaluation of patterns and trends of illicit connections and illicit discharges, it can be concluded that the following land use types contributed an average of 62.2% of all illicit connections and 81.5% of all illicit discharges discovered:

- High Density Single Family Residential
- Retail and Commercial
- Light Industrial
- Multiple Family Residential

- Transportation

The City recommends that in coordination with the County, field screening be concentrated in the five land use types above to maximize resources and target the areas where most illicit connections and illicit discharges are currently found. It is recommended that field screening in other land use types be optional since the City's resources are limited.

The City recommends that the term "illicit disposal" be removed from the definitions section of the Permit since it serves no purpose and is not used in the Permit. Other definitions need to be more explicitly defined to establish consistent implementation and reporting by Permittees. The definition for "illicit discharge" should be revised to read, "means any discharge to a constructed storm drain system, excluding streets and gutters, that is prohibited under local, state, ..." This revised definition will clearly identify an illicit discharge as a non-stormwater discharge that has entered a constructed storm drain system. The 2001 Permittees do not consider a spill or discharge that is only in the gutter or roadway as being an illicit discharge since these types of incidents are typically handled immediately and never reach the receiving waters. Similarly, the definition for "illicit connection" should be revised to read, "any unpermitted connection which may allow an illicit discharge to enter a constructed storm drain system, excluding streets and gutters,..."

4.9 PRIORITY 8 – PERMIT FORMAT

The City finds the format of the 2001 Permit difficult to follow. The City recommends that the Regional Board also include tables and matrices to assist the City with Permit requirements, expectations, and submittal deadlines.

4.10 PRIORITY 9 – PERMIT IMPLEMENTATION COSTS

Many Permittees in the 2001 Permit had to budget and divert earmarked money from other municipal requirements to meet the obligations of the 2001 NPDES Permit. The City is concerned about the year-to-year increase in program implementation costs to meet what are believed to be unreasonable programs that are not cost/effective, and do not foresee new revenue streams to help bridge the gap between Permit compliance and other municipal programs. The Regional Board should not overlook the lack of adequate resources to implement the requirements of the Permit. Consideration should be given to developing and implementing program requirements that target the largest and most frequent sources of stormwater pollution, and that utilize the City's resources prudently so as not to exhaust them beyond reasonable means. Some 2001 Permittees have cited examples such as excessive industrial and commercial facility inspections, as required by the 2001 Permit, as having detracted resources from their illicit connection and illicit discharge field-screening program.

4.11 PRIORITY 10 – DISCHARGE EXEMPTION REFERENCE

The City proposes to continue with the same program set forth under the 2001 Permit for prohibiting non-stormwater discharges (Part 1 of the 2001 Permit), except that the discharge exemption for potable drinking water supply and distribution system reference to American Water Works Association (AWWA) guidelines for dechlorination and suspended solids reduction practices, should be deleted. The City has determined that these AWWA guidelines do not exist. Therefore, it is recommended that the AWWA reference be removed from the new permit.

4.12 PRIORITY 11 – LEGAL AUTHORITY

The task of amending or adopting a Permittee-specific stormwater and urban runoff ordinance to enforce all requirements of the Permit takes a significant amount of time to complete. It is recommended that the Boards provide the City a minimum of 12 months from the date of Permit adoption to complete all necessary changes to possess adequate legal authority to comply with the new Permit.

4.13 PRIORITY 12 – ANNUAL REPORT ENHANCEMENTS

The City recommends streamlining the Municipal Stormwater Permit Annual Report to only require the reporting of significant records that demonstrate BMP effectiveness and compliance with the implementation of SQMP components to reduce the discharges of pollutants in stormwater from the MS4, in accordance with the MEP and reasonableness standards under federal and state law. Redundant requirements such as the preparation of an assessment of the effectiveness of SQMP requirements to reduce stormwater pollution which evaluates watershed-wide assessments conducted by each WMC is unnecessary and a waste of resources.

The County reported that many 2001 Permittees had difficulties in submitting Annual Reports by the October 15th deadline. Problems exist with the short timeframe that Permittees are given between the end of the fiscal year (typically June 30) and meeting the deadline for submitting Annual Reports to the Principal Permittee so that data can be compiled and summarized by the 2001 Principal Permittee for submittal by October 15th. The City recommends changing the Annual Report deadline from October 15th to November 15th of each year.

The 2001 Permittees considered some information required for the Annual Report to be irrelevant to achieving the goals of the Permit. For this reason and because of proposed deletions and changes to the 2001 Permit, it is recommended that the following Annual Report questions be eliminated:

- Section IV.C.7 — How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?
- Section IV.C.8 — What is the percentage of total development projects that were conditioned to meet SUSMP requirements?

- Section IV.D.5 — How many building/grading permits were issued to sites requiring Local SWPPPs last year?

- Section IV.D.6 — How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Stormwater Permit last year?

- Section IV.D.7 — How many building/grading permits were issued to construction sites less than one acre in size last year?

The following Annual Report tables should be modified to eliminate confusion and improve the quality of data submitted:

- Section IV.F.10 — Delete and replace with the following illicit connections table:

Number of Suspected Illicit Connections Reported	Number of Suspected Illicit Connections Investigated	Number of Illicit Connections Terminated	Number of Suspected Illicit Connections found not to be Illicit	Number of Suspected Illicit Connections that resulted in Enforcement Action

- Section IV.F.13 — Delete and replace with the following illicit discharges table:

Number of Suspected Illicit Discharges Reported	Number of Suspected Illicit Discharges Investigated	Number of Illicit Discharges Terminated	Number of Suspected Illicit Discharges found not to be Illicit	Number of Suspected Illicit Discharges that resulted in Enforcement Action

4.14 PRIORITY 13 – PUBLIC INFORMATION AND PARTICIPATION ENHANCEMENT

The County has recommended the requirement of a minimum of 35 million impressions per year on the general public concerning stormwater quality via print, local TV access, local radio, or other appropriate media be deleted from the next permit cycle . The County believes a better process to quantify the effectiveness of a public information and participation program is to use a presumptive measurement approach. According to the County, this presumptive measurement approach will quantify a percent reduction or improvement in water quality as a result of implementing an integrated and cost-

effective public information and participation program. The City will participate with the County and will be relying on the County and its efforts in the renewed permit as compliance with the Public Information Program.

The County's program is a cost-effective program that reaches millions of households in the region. The City will also continue its own public education program of flyers, press releases and advertisements. In addition, the City will run 30-second video spots on the City's cable television station.

4.15 IMPLEMENTATION APPROACHES

The 2001 Permittees worked diligently to develop comprehensive watershed programs. Working across watershed boundaries with the other 2001 Permittees will require that the Permittees continue to collectively develop relationships, as well as standardized procedures to facilitate increased collaboration. This will increase the effectiveness of watershed programs being implemented. Permitees and the Regional Board must also increase their understanding of the scientific basis of water quality and pollution source control. Allowing for increased flexibility in the next permit is crucial to future successes. Adopting prescriptive and inflexible permit requirements would be premature and seriously undermine processes and commitments that have already been put into place. The Regional Board should not adopt new requirements until sufficient data has been collected so as to ensure success to a reasonable level of probability. The scientific data underlying all Regional Board decisions should be subject to peer review consistent with State and federal law.

Implementation approaches will be evaluated and amended to reflect Permit requirements and achieve the goal of implementing program components to reduce the discharges of pollutants in stormwater runoff from the MS4 to the MEP and reasonableness standards.

The City desires to make improvements to the surface water quality in the region. However, due to our small size (2.2 square miles) and small population (11,089), the City believes that the most cost-effective approach to permit compliance for the renewed permit will be to carry out Best Management Practice programs in our subwatersheds. The City is currently managing the Hamilton Bowl Trash Reduction Project, which includes the City of Long Beach, the County of Los Angeles and the State Water Board as funding partners. A Best Management Practices Effectiveness Report is required at the end of the trash reduction project.

This project was originally intended to construct, operate and test a series of trash catching devices in the Hamilton Bowl, a major runoff retention facility serving both Signal Hill and Long Beach. Signal Hill intends to expand the Hamilton Bowl project during the next permit cycle to complete a feasibility study of dry-weather diversion, injection well, sand filters or other Best Management Practice approaches. This feasibility study will assist the City in determining the most cost-effective approach to

dealing with dry-weather runoff from the subwatershed, and to establish a scope of work program and apply for grant funding.

4.16 TOTAL MAXIMUM DAILY LOAD (TMDL) IMPLEMENTATION PLANS

The CWA of 1972 require States to develop a list of impaired waters and the pollutants causing them to be impaired, also known as the 303(d) List. States must then establish a pollutant specific Total Maximum Daily Load (TMDL) for each listed water body for the particular pollutant causing the impairment. TMDLs are guides to be used in bringing impaired water bodies into compliance with water quality standards necessary to sustain their designated beneficial uses, and must be consistent with the State and federal law requirements applicable to the adoption and implementation of TMDLs. One of the objectives of this NPDES Permit is to protect the beneficial uses of receiving waters in Los Angeles County by reducing the discharge of pollutants in stormwater from the MS4 to the MEP and reasonableness standards through an iterative BMP approach.

Waste load allocations established by a valid TMDL are to complied with through an implementation plan, which implementation plan is to be implemented through appropriate BMPs. The BMPs are adopted either as amendments to an NPDES Permit, or through other means, such as the adoption of waste discharge requirements ("WDRs"), or as proposed below, through a Memorandum of Understanding ("MOU") between the Boards and the affected dischargers. TMDLs to be applied to municipal discharges should, therefore, be implemented through the subsequent adoption by the Boards of either separate MOUs or WDRs which delineate the reasonable and cost-effective MEP-compliant BMPs to be undertaken.

US EPA has stated that TMDLs can be implemented through a variety of mechanisms, even voluntary agreements. The City proposes that TMDL's be implemented through Memorandums of Understanding (MOUs) between the State and Regional Boards and the City. The City believes that implementing TMDLs through the NPDES Permits is not the correct or desirable approach. Requiring strict compliance with numeric limits in a TMDL by incorporation of the waste load allocations into the NPDES Permits would subject the City to potential daily fines of $31,500 and on-going third-party litigation. The City is already struggling to fund water quality programs and is anticipating additional expenses as more and more TMDLs are adopted.

A more equitable method of enforcement is an agreement between the Regional Board and the City to implement Supplemental Environmental Programs (SEPs). The MOU's could specify that SEPs are the preferred alternative for non-compliance, since they would consist of programs designed to enhance the beneficial uses in the general vicinity of any violation, instead of fines to be paid to other accounts, such as the State Cleanup and Abatement Account. The MOU's could specify that the City would be

required to complete special studies, pollution prevention, pollution reduction, environmental restoration, environmental auditing and increased public education.

The City thus recommends an MOU between the State and Regional Boards and responsible agencies be adopted in lieu of including TMDLs in the NPDES Permit. The TMDLs applicable to the City would then be implemented through the adoption of separate MOUs setting forth reasonable and cost-effective BMPs. Such MOUs should provide that good faith compliance and implementation of the BMPs set forth in the developed Implementation Plan would constitute compliance with the adopted TMDLs. The use of MOUs is authorized by the Water Quality Control Policy for Addressing Impaired Waters: Regulatory Structure and Options, adopted by State Board Resolution No. 2005-0050 (June 16, 2005). The effluent limitations in the Permit itself should be expressed as BMPs. See EPA Memorandum, Establishing Total Maximum Daily Load (TMDL) Waste Load Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs (November 22, 2002), p.4.

All BMPs proposed to be implemented to meet a TMDL's waste load allocation(s), should, moreover, be in accordance with the MEP and reasonableness requirements of federal and State law, and particularly the requirement that the City only be required to comply with those water quality standards/objectives which are "reasonably achievable," taking into account economic considerations, impacts on housing within the region, the past, present and probable future beneficial uses of the water, the environmental characteristics of the hydographic unit under consideration, including the quality of water available thereto, and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.

As set forth in a November 22, 2002 EPA Guidance Memorandum ("EPA Guidance Memo"), EPA determined that where a TMDL is developed for stormwater discharges: "because stormwater discharges are due to storm events that are highly variable in frequency and duration and are not easily characterized, only in rare cases will it be feasible or appropriate to establish numeric limits for municipal and small construction stormwater discharges." EPA further found that:

> Under certain circumstances, BMPs are an appropriate form of effluent limits to control pollutants in storm water. See 40 C.F.R. § 122.44(k)(2) & (3). If it is determined that a BMP approach (including an iterative BMP approach) is appropriate to meet the storm water component of the TMDL, EPA recommends that the TMDL reflect this. (*Id.* at p. 5 of EPA's Guidance Memo.)

5.0 WATER QUALITY MONITORING

The 2001 Permit provides that the results of the monitoring program should be used to "refine the SQMP for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County." The Monitoring Program set forth in Order No. 01-182 was not developed based on a cost/benefit analysis, where the benefits of the program were examined in comparison

to its cost. As such, the Monitoring Program in the 2001 Permit is the subject of the pending legal challenge.

With respect to the renewed permit for the next permit cycle, as the City believes that the State and Regional Boards are required to conduct a cost/benefit analysis, as provided for under Water Code sections 13267(b), 13225(c), and 13165, before any monitoring and reporting program can be imposed upon the City, any monitoring and reporting program to be carried out in the next permit cycle should only be imposed upon the City after the State and Regional Boards have first conducted the requisite cost/benefit analyses, and thereafter, to the extent any such cost/benefit analyses shows the burdens of the monitoring or reporting program do not bear a reasonable relationship to the need for the program and the benefits to be attained therefrom, such program should not then be imposed upon the City. Nor should the City then be required to fund any such monitoring or reporting program.

Techniques to quantify the relationship between SQMP implementation and water quality are still in their infancy, and will mature through an iterative process over many Permit cycles. Under the County's Monitoring Program, resources are proposed to be shifted toward those studies and monitoring programs that allow for a better measure of SQMP effectiveness and that lead to a reduction in pollutant loadings from urban and storm water runoff.

The City of Signal Hill Monitoring Program is based upon the County's proposed sampling plan for Mass Emission Stations, as set forth in the County's proposed ROWD,. The City's Monitoring Program will consist of the following:

Executive Summary

- Samples will be collected from 3 storm events at four locations during each rainy season.
    - 2 samples will be collected at each station 4 hours apart. (recommended)
- Two samples will be collected at the same locations during the dry season.
- Samples will be collected manually.
- Water samples will be tested for 303(d) listed pollutants, past sampling "hits" and select GIASP parameters.
- Sampling points are prior to commingling with Long Beach or CalTrans runoff.

Sampling Frequency

Wet-Weather Monitoring Events

Three (3) wet-weather monitoring events will be conducted during each rain season. Monitoring will be conducted during the first rain event and two other events no closer than 30 day intervals. Two samples will be collected at each monitoring station. Samples will be collected at four (4) locations described in the section below entitled

Sampling Stations. The first samples at each sampling station will be collected within four (4) hours of the beginning of the rain event. The second series of samples will be collected approximately four (4) hours after the collection of the first samples. Due to natural variations in rainfall, all samples may not be able to be collected as scheduled and it is acknowledged that sample collection schedules may need to be modified during such times.

Dry-Weather Monitoring Events

Two (2) dry-weather monitoring events will be conducted during the dry-weather season. One sample will be collected at each of the four (4) monitoring stations. The samples will be collected during the dry-weather period of April 16th through October 31st. Samples shall be collected at intervals of no less than 60 days apart. Additionally, samples shall not be collected within three (3) days after any rainfall.

Sampling Parameters

Sample collections will be conducted in accordance with the U.S EPA sampling protocols. The City's sampling plan will test for the pollutants identified in the table below. Trip and sampling blanks will be used to verify proper handling procedures.

Pollutants

Tributary to Los Angeles River	Tributary to Los Cerritos Channel
Oil and Grease	Oil and Grease
Total Suspended Solids (recommended)	Total Suspended Solids (recommended)
Specific Conductance (recommended)	Specific Conductance (recommended)
pH	pH
Hardness	Hardness
Temperature (needed for metals tests)	Temperature (needed for metals tests)
Residual Chlorine	Residual Chlorine
Bacteria	Bacteria
Fecal Coliform	Fecal Coliform
Total Coliform	Total Coliform
Enterococcus	Enterococcus
Nutrients	Metals
Nitrate N	Copper
Nitrite N	Zinc
PAHs	Lead
Bis(2-ethylhexl) phthalate	
4-metholphenol	
Metals	

Copper Zinc Lead Cadmium Aluminum Diazinon			

Monitoring Stations

Los Angeles River Watershed

Outflow samples: There are six 6 major storm drain systems that convey runoff from the City of Signal Hill to the Los Angeles River. Two (2) of these systems convey runoff that is not blended with runoff originating in the City of Long Beach and ultimately drains into the Hamilton Bowl Detention Basin. Samples will be collected at the following locations:

1. The existing manhole at station 16+10 at Gundry Avenue at the Pacific Electric Railroad Right-of-way.
2. The existing manhole at station 1+81 near the intersection of Alamitos Avenue and Walnut Avenue.

Inflow samples: Due to the topographical nature of Signal Hill, there are no applicable lines within the Los Angeles River Watershed in Signal Hill with inflow from outside areas.

Los Cerritos Channel Watershed

Outflow samples: There are four (4) major storm drain systems that covey runoff from the City of Signal Hill, which ultimately flow into the Los Cerritos Channel. Each of these lines convey commingled runoff from the Cities of Long Beach and Signal Hill. Two storm drain lines can be sampled at locations where runoff originating in the City of Long Beach will have a reduced impact on the sample results. Samples will be collected from the following locations:

1. The existing manhole at station 3+82 in Cherry, just south of Spring Street.
2. A new manhole at the city boundary on California just south of Wardlow Road.

Inflow samples: Similarly to the areas draining to the Los Angeles River, the City of Signal Hill is essentially the "top of the hill" and there are no significant areas of inflow from outside jurisdictions. There is a substantial amount of commingled runoff in several storm drains within the Los Cerritos Channel watershed through numerous catch basins. Segregation of flows will be virtually impossible.

APPENDIX A – 2001 PERMITTEES' PROGRAM ACCOMPLISHMENTS

The 2001 Permittees worked hard to comply with the 2001 NPDES Permit requirements and in certain instances had gone above and beyond the Permit requirements. The following are some examples of accomplishments provided by the 2001 Permittees:

Public Information and Participation Program

- The Principal Permittee raised public awareness of stormwater pollution through the following efforts: Countywide media campaigns for the Stormwater Urban/Runoff and Used Motor Oil Recycling programs; the broadcast of pollution prevention public service announcements (PSAs) through the "4 Our Planet" media partnership with KNBC television station; and a partnership with the Heal the Bay and innovative K-12 environmental education programs. More than 153 million impressions were achieved.

- The Principal Permittee partnered with the Cities of the Malibu Creek Watershed to purchase "4 Our Planet" PSAs on KNBC television station targeting specific pollutants within the watershed.

- Principal Permittee ethnic outreach efforts included English, Spanish and Chinese campaigns to promote used motor oil and filter recycling and stormwater pollution prevention to a Black, Latino, and Chinese populations.

- Two community pilot projects, Florence Firestone and Union Pacific, were implemented to provide an opportunity for the general public, local business and community leaders to participate in a beautification event and facilitate the beginning of a long-term goal of keeping their communities clean by educating others about pollution prevention with the collateral materials and the knowledge they acquired from County Stormwater messages.

- Quarterly public outreach strategy meetings were organized and hosted annually by the Principal Permittee. Updates, information and materials were provided to the Permittees to improve and enhance their outreach efforts and keep them informed about the Countywide media campaign.

- Over 10 BMP workshops were held for corporate managers of restaurant chains and retail gas station chains to facilitate the proper handling and disposal of materials to divert them from entering the storm drain system. Approximately 145 restaurant managers and corporate staff attended the training workshops.

- The Principal Permittee continues to conduct environmental education programs developed to meet the educational needs of students enrolled in grades K-12 and will enhance curriculum assessment and tracking efforts through its partnership with the California Regional Environmental Education Consortium. More than 301,700 students in 436 schools received stormwater pollution prevention curriculum through these school outreach programs.

- The joint calendar project, coordinated across multiple watersheds, allowed participating permittees to distribute to residents a full color, one-page, poster-type calendar delivering the stormwater pollution prevention message through compelling photographic images.

- The Ballona WMC developed and distributed a joint mailer to promote stormwater pollution prevention throughout the watershed. A bifold pamphlet was developed providing a "To Do" list of activities that could cause pollution and suggested things that individuals can do to reduce or eliminate the adverse impacts of these activities. 133,550 copies of the brochure were printed and distributed by the participating agencies via direct mailing or as inserts into newsletters.

- The City of Los Angeles' Stormwater Program website had over 95,000 more hits in 2004-05 than the previous year. This 38% increase, along with responses to public surveys, indicate that the messages on preventing stormwater pollution, improving urban runoff water quality, and protecting our water resources are reaching an expanded audience.

- The City of Los Angeles' Stormwater Public Education Program, in partnership with the California Coastal Commission and Malibu Foundation, co-sponsored the 12th annual Ocean Day, Beach Clean at Dockweiler Beach on May 20, 2005.

- The City of Manhattan Beach has continued to promote awareness of stormwater pollution prevention through its "Ocean Safe City" message, which targets residents and businesses within the City. It is estimated that over half of the City's residents (20,000) participated in the Hometown Fair, Household Hazardous Waste Awareness Week, and Earth Day events. The City operated a booth at each event and gave out stormwater educational material to both adults and children.

- The City of Rancho Palos Verdes promoted stormwater pollution prevention at several City sponsored events throughout the year, as well as using the City newsletter and other media outlets to inform and educate its residents about the importance of stormwater pollution prevention. The City participated with other Ballona Creek WMA Cities to develop and produce a cooperative mailer, and then distributed it to all single-family households within the City.

- The City of Rolling Hills Estates and the City of Rolling Hills jointly staff a public education booth at the two-day annual Peninsula Street Fair. Teen volunteers conduct a hands-on demonstration using the County's Enviroscape model with particular emphasis on targeted pollutants (pet waste, horse manure, fertilizer and pesticides). After each demonstration the teens distribute public education brochures such as the equestrian and landscaping BMP brochures and related promotional items donated by the County. The City of Rolling Hills Estates also conducts the same outreach at its annual City Celebration.

- The Cities of Rolling Hills Estates and Rolling Hills distributed copies of USEPA/Weather Channel's video *After the Storm* and Algalita Marine Research

Foundation's video *Plastics in the Open Ocean* to middle and high school environmental science teachers in public and private schools. All six periods of AP Environmental Science students at Palos Verdes Peninsula High School were shown these videos.

- The City of Alhambra staffed a public education booth at its annual Chinese New Year Celebration, Water Awareness Week, Seniors Health Fair, and Earth Day events where pollution prevention posters are displayed and public education brochures and related promotional materials were distributed (emphasis on trash, pet waste, home owner maintenance such as landscaping and painting, and fertilizer and pesticide use). During some outreach events the City's Enviroscape Model was demonstrated with the assistance of children as the rainmakers.

- The City of Hermosa Beach invited restaurants owner/operators to a stormwater educational seminar to discuss the 2001 Municipal NPDES Permit and its implications pertaining to their day-to-day operations. The establishments were then inspected and rated. Those, which received the higher rates, were recognized by the Hermosa Beach City Council as the "Clean Ocean Establishment" and honored by receiving a certification and a sticker to display at their facility.

- The City of Hermosa Beach participated with other members of the Santa Monica Bay-Ballona Creek Watershed Management Committee to produce and mail 10,000 direct mail pieces to all Hermosa Beach residents. Another project through this joint effort was the development of the 2004 and 2005 calendars, which were produced and distributed to the public as a complimentary item.

- The City of Hermosa Beach has provided various PSAs to the local Cable Company in order to be aired as frequently as possible. These PSAs were obtained from different sources such as the Los Angeles County Department of Public Works and Earth 911. Where possible the PSAs were modified and tailored for the City's need. Examples were the "CAN-IT" and "Don't feed the Storm Drain" PSAs.

- The City of Signal Hill promoted local and countywide stormwater pollution prevention programs and events on the City's cable television channel and website and in the Press Telegram and Signal Tribune newspapers. The City of Signal Hill's cable channel also reaches City of Long Beach residents and businesses.

- City of Signal Hill published in the Press Telegram a public education piece entitled "Think Environment" to raise public awareness of the importance of preventing stormwater pollution and promote the City's and County's stormwater pollution prevention programs. This piece reached 109,000 newspaper subscribers in the Signal Hill/Long Beach area.

- City of Signal Hill developed pamphlets that are handed out to contractors and homeowners when issuing building/construction permits. These pamphlets explain

the BMPs that should be implemented and is specific to the activities of the construction project such as painting or masonry/concrete work.

- West Hollywood received a Partners in Education grant from the Santa Monica Bay Restoration Commission to provide Russian/English pollution prevention posters/flyers, waterbrooms, and follow-up visits to area restaurants.

- In 2002, the City of Santa Clarita became aware that there was diazinon contamination in a local creek. With cooperation and assistance from Los Angeles County, the City launched a very aggressive campaign to abate the contamination. An intensive investigation effort, a focused public outreach campaign and cooperation from local retailers and residents all lead to a 96% reduction of the initial diazinon levels. These efforts were implemented in compliance with the Regional Board's requirements and highlight the power of public outreach.

- The City of Santa Clarita continued its annual "River Rally," a river clean up and stewardship event. River Rally helps restore the Santa Clara River through picking up trash and debris and also helps educate local residents about the importance of protecting the environment. Over the past eleven years, River Rally has grown from 100 participants to over 1,400 last year. Participants range from the elderly to young children, with many youth organizations also lending their support. Everyone's enthusiastic efforts have made the event a great success the City is proud to sponsor. In fact, the City was honored by the Los Angeles Regional Board with the Water Quality Stewardship Award in 2004. Over the event's lifetime, volunteers have removed over 196,000 pounds of trash and debris that otherwise would have made its way downstream, affecting neighboring communities and the health of the river. River Rally's continuing popularity has helped City staff promote stormwater pollution prevention, litter prevention, air quality, household hazardous waste disposal, tree planting and other environmental issues.

- The four Cities on the Palos Verdes Peninsula—Palos Verdes Estates, Rancho Palos Verdes, Rolling Hills and Rolling Hills Estates—have partnered to run a ¼ page, full-color ad four times per year in the Palos Verdes Peninsula News on days of promotional circulation when distribution reaches every household on the Palos Verdes Peninsula. The advertisement design uses an award-winning ad concept and photograph that is tailored to target our watershed pollutants and behaviors of concern.

- Three Cities on the Palos Verdes Peninsula, Palos Verdes Estates, Rancho Palos Verdes, and Rolling Hills Estates, jointly hosted a restaurant BMP training workshop conducted by the County of Los Angeles. In addition to invitations mailed by the County, this event was promoted through the City of Rolling Hills Estates' work with the Peninsula Chamber of Commerce and shopping center property management companies, one of which provided the meeting space for the workshop.

- The City of Culver City actively participated in environmental events such as Children's Earth Day (Eco-station), Ballona Creek clean-up, Fiesta La Ballona, and Ballona Creek Marsh Fair.

- The City of Pasadena in coordination with the County of Los Angeles organized a Gardening Workshop. The workshop included stormwater related issues and handouts to assist the public in reducing pollutants to the MS4.

- The City of Redondo Beach participated in the Heal The Bay Coastal Clean up day by purchasing T-shirts and donating them to the volunteers of this program. The City also conducted educational activities at various organized events such as the event held at the Seaside lagoon by the Wyland foundation and the event at the SeaLab, which was widely attended by children. The City's Quarterly Newsletter publishes a regular stormwater related advertisement that provides the community with a phone number if they have questions. Also, the Adelphia Cable Company broadcasts various storm water related PSAs in the City.

- The Mayor and City Council of Redondo Beach formed a Water Quality Task Force in August 2005 made up of a diverse cross section of the community including teachers, students, boaters, non-profit organizations, various member of the general public, the local chamber of commerce, and harbor businesses. Within twelve months the Task Force is to provide the City Council with recommendations that will address water quality in the harbor and other waterfront areas of the City.

- The City of Torrance has promoted local and countywide storm water pollution prevention programs during California Coastal Clean-up Day at Torrance Beach and at the City Yard Open House and the Health and Rideshare Fairs.

- The City of Torrance in conjunction with Metropolitan Water District of Southern California sponsors Protector Del Agua water efficient landscape classes on an annual basis that teacher residents how to design and maintain landscapes that use less water and therefore generate less urban run off. In addition the two agencies developed a Water Wise native plant garden and demonstration water efficient landscape garden at the Madrona Marsh Nature Center and provide corresponding brochures that demonstrate how these gardens look and how they can reduce irrigation water and run off.

- The Principal Permittee partnered with the Cities of Malibu Creek Watershed in the creation of the "Living Lightly in Our Watershed Guide" which was distributed to every household watershed-wide. This Guide has continued to be updated and distributed at Public Libraries, City Halls and through the Las Virgenes Municipal Water District's new home buyer program.

- Newsletters containing a stormwater pollution prevention article and another on recycling and proper disposal of household hazardous waste were mailed to all 50,000 Burbank addresses including business.

- Stormwater education discussions and materials are passed out at all tours of the City of Burbank Recycling Center. This includes groups and visitors from near by elementary schools and community organizations. A mock demonstration of the watershed highlights all the water collection features in the City and stresses the importance of catch basins for stormwater runoff.

- The City of Vernon conducted a stormwater pollution prevention and compliance workshop geared for commercial and industrial businesses. Since there are over 160 facilities operating under the General Industrial Activities Stormwater Permit (GIASP) and over 800 facilities requiring an industrial/commercial inspection with the City of Vernon, the workshop has been instrumental in obtaining voluntary compliance for the Municipal Stormwater Permit and the GIASP. The City of Vernon also distributed bulk faxes to all businesses notifying them of important stormwater event information.

- The City of Los Angeles' Stormwater Public Education Program has received awards for many of its accomplishments, including:

  - 2005 American Public Works Association's (APWA) Diversity Exemplary Practices (Program/Organization Category) Award winner for its School Assembly/Ocean Day Program. (FY 04-05)

  - 2002 APWA Project of the Year Award for its outreach to home improvement centers and pet stores, and for the cost savings realized by the City through public-private partnerships. (FY 02-03)

- The City of Los Angeles' Used Oil Recycling Public Education Program has received awards for many of its accomplishments, including:

  - 2004 *Togetherness Award* from the California Integrated Waste Management Board (CIWMB) in recognition of a public/private partnership that exemplifies outstanding coordination and cooperation in the implementation of a used oil collection program. The El Sereno public outreach program saw a 42% increase in the amount of oil collected at local collection centers. (FY 03-04)

  - 2003 CAL EPA Program Innovation Award for the "Your Street" public education campaign. (FY 02-03)

- The City of Los Angeles, in partnership with the California Coastal Commission and Malibu Foundation, also co-sponsored several annual Ocean Day, Beach Clean Up events at Dockweiler Beach (FYs 03-04 and 04-05).

- In April 2005, the City of Los Angeles launched the "Los Angeles River – The Future is Now" public outreach campaign. (FY 04-05).

- The City of Hidden Hills provided and staffed a public outreach booth during the City's Annual Fiesta Day events held on October 1st and 2nd in 2005. The outreach booth provided residents with training and outreach materials and allowed

the City to educate many of its residents on storm water pollution prevention and best management practices used to minimize the amount of pollutants entering the City's storm drains.

- The City of South Gate has completed installing inserts in all city-owned catch basins and has contracted for regular inspections and cleaning.
- Pasadena has passed an ordinance to lower the threshold of the SUSMP application for the redevelopment projects from 5,000 square feet to 1,000 square feet and the same ordinance includes provisions to include all hillside projects regardless of their size for the SUSMP application and the numerical limits.
- The City of Inglewood partnered with the County of Los Angeles during the CanIt campaign resulting in a successful clean up day event. Staff regularly attends public events, such as Earth Day Celebrations or West Basin Municipal Water District's Water Harvest Festival, to distribute stormwater information brochures, present stormwater pollution demonstrations, and provide commemorative giveaways. The City contacted and worked with Heal the Bay to identify a Beach Clean Up location in the Dominguez watershed. Prior to this activity, only locations along the beach near the Dominguez Channel were clean up spots. Heal the Bay supplied the City with stormwater pollution workbooks for kids which staff distributed to the City's Recreation Department and the School District. The City is contracted with Adopt-A-Waterway. The City also arranges for stormwater messages, such as the USEPA video *After the Storm*, to air on the City's cable channel.

Industrial/Commercial Facilities Control

- The City of Signal Hill implemented pollutant reduction and control measures that resulted in the installation of an onsite stormwater detention system as part of a 12-acre Shopping Center development.
- West Hollywood assesses regulated businesses using an annual fee for NPDES inspections and is adding another fee for annual inspections of post -construction BMPs.
- The City of Torrance and Metropolitan Water District of Southern California sponsor the Commercial and Industrial Institutional Conservation Program that provides a rebate of $150 per Water Mister Boom which are used to clean hard surfaces and use only 20% of the water previously used for wash down of hard surfaces and most of the water used evaporates or can be pushed toward landscaped areas thereby virtually eliminating run off from surface cleaning.
- The City of Vernon has effectively integrated stormwater inspections with the inspections required under the Health and Environmental Control Department's jurisdiction such as the Hazardous Materials Inspection Program, the Garment Inspection Program, the Food Processing Inspection Program, and the Solid Waste Inspection Program. The City of Vernon also conducted a stormwater pollution

prevention and compliance seminar that promoted voluntary compliance of these facilities.

- The City of Los Angeles Inspection & Enforcement Program is a member of the City Attorney's multi-agency environmental task force, which has launched several investigative initiatives against chronic health & safety and environmental violators for possible enforcement action and/or criminal prosecution. The combined authorities of the California Environmental Protection Agency, California Air Resources Board, Regional Board, California Department of Toxic Substances Control, Los Angeles County Health Hazmat Division, and many other agencies have targeted auto dismantlers, metal plating businesses, dry cleaners and other industries through its Sun Valley, MacArthur Park, Wilmington, and Chrome Plating Initiatives. The inspections are a proactive response to community concerns involving quality-of-life issues. (FYs 03-04 thru FY 05-06).

Development Planning

- The City of Rolling Hills Estates has adopted a landscaping ordinance that requires new landscapes to be designed to conserve water using a water budget approach. These requirements apply to new landscaping for commercial, office and institutional developments and to developer-installed landscaping in residential subdivisions.

- The City of Manhattan Beach requires commercial trash enclosures to be fully enclosed and to be constructed with drainage to the sanitary sewer system. The purpose of these construction requirements is to prevent stormwater contact with the trash enclosures and to prevent water that does come in contact with the enclosures from entering the storm drains. The City reviews building plans for the trash enclosure requirements and has been proactive in reaching out to businesses to increase awareness of the requirements.

- The City of Rolling Hills' Zoning Ordinance contains strict development standards for development ratios on each property—the City is entirely residential with minimum lot sizes of one acre. Only 35% of the net lot area may be developed with impervious surfaces, including all structures, patios and other paved areas. Given that the minimum lot size in the City is one acre, this provision promotes infiltration of stormwater into the ground and not onto streets. The City's water efficient landscaping ordinance requires use of a water budget and utilization of native and/or drought resistant vegetation while preserving established native flora and natural features of the lots.

- The City of Rolling Hills encourages residents to install pervious surfaces when landscaping or installing/reconstructing driveways. Many residents have replaced their driveways with grass-crete and other porous material. Access to stables is encouraged to be gravel and not paved. The City's Zoning Ordinance precludes large impervious surfaces, i.e. driveways may not cover more than 20% of the area of the yard in which they are located; uncovered motor courts/parking pads may not

cover more than 10% of the yard in which they are located. Tennis courts and sports courts are encouraged to have pervious surfaces. Additionally, the County implements the hillside home requirement that roof runoff be diverted to vegetated areas for all new development within the City.

- The City of Signal Hill funded the construction of an infiltration basin as part of the development of the Las Brisas affordable housing project. The basin collects dry and wet weather runoff and then allows the runoff to percolate. The drainage basin collects runoff from the six acre project site, which consists of 80 units of low income housing and a City mini-park and neighborhood community center. The non-profit housing developer was unable to afford to construct the drainage basin and keep the housing affordable for very low income residents, and thus the Signal Hill Redevelopment Agency included the drainage basin cost in its financial assistance for the project.
- The City of Santa Clarita requires a "solid roof" for the trash enclosures on all development and redevelopment projects that have trash requirements.
- The City of Vernon has implemented specific post construction inspection, maintenance, and mitigation plan requirements for operators of all treatment control BMPs which are designed to retain water. Approval for the installation of a water retaining BMP is performance based and requires the implementation of a maintenance plan. The plan consists of weekly BMP inspections (during presence of water in BMP), accurate inspection and maintenance logs, and a plan of action in the event that a vector problem is discovered. These requirements are a result of vector control concerns where treatment control BMPs product manufacturers fail to provide an adequate vector exclusion device or attachment for their water retaining product. Compliance determination is achieved through the Vernon Industrial/Commercial Inspection Program.

Development Construction

- The City of Rolling Hills implements strict grading practices. Only 40% of the net lot area of a lot may be disturbed during construction. The City does not allow import or export of soil from construction projects so that all grading must be balanced on site.
- The City of Torrance developed local pamphlets that are handed out to contractors and homeowners when issuing building/construction permits. These explain the BMPs that should be implemented and is specific to activities of the construction project.

Public Agency Activities

- Runoff from wash racks at the Rolling Hills Estates municipal stables is diverted to the sanitary sewer via an approved pretreatment permit. Pretreatment of this runoff consists of screening to remove horsehair and gross solids.

- The City of Rolling Hills Estates has a proactive litter abatement program for keeping public rights-of-way, streets, medians, parks, and trails free of litter and debris. It also has a successful Adopt-a-Trails Cleanup and Maintenance program. The City has accelerated street sweeping with all public streets swept twice per month. The City has placed recycling bins for beverage containers in a number of City parks and commercial areas.

- The City of Hermosa Beach operates an aggressive Public Agency Program, which includes street sweeping and catch basin cleaning activities. In addition, the City has outfitted 60% of its own and 100% of the County owned (downtown area) catch basins with inserts to help reduce the amount of debris entering the storm drain system. An annual contract with a private contractor is funded to ensure proper cleaning and maintenance of the installed devices.

- The City of Signal Hill established an E-Waste Collection Program to collect and recycle electronic waste that was dumped in the public right-of-way. The City also established a Curbside collection program for used motor oil. Do-it-yourselfers are provided a free used motor oil/filter container that can be left at the curbside and collected by the City for recycling. Approximately 150 gallons of used motor oil is recycled annually through this program.

- The City of Signal Hill established the Willow Street/Cherry Avenue Corridor Clean Up Program. This program collects trash and debris along the City's two busiest commercial corridors on a weekly basis.

- The City of Signal Hill has expanded its Bus Shelter Cleaning Program from one cleaning per week to three cleanings per week.

- The City of Signal Hill installed pet waste collection stations at City Parks and along its trail systems. The pet waste collection stations have proven to be successful as they are highly used.

- The City of Signal Hill serves as the lead agency in a partnership with the City of Long Beach and the County of Los Angeles on the Hamilton Bowl Trash Reduction Project. This project will construct and evaluate the effectiveness of various trash removal devices in removing trash from stormwater runoff.

- West Hollywood has installed debris excluders with grant funds from the California Coastal Conservancy, Los Angeles County, and the City's general fund.

- West Hollywood's porous pavement parking lot at Spaulding Avenue was awarded the American Public Works Association's Project of the Year Award and the Outstanding Government Project Award from the American Society of Civil Engineers.

- West Hollywood provides daily hand pick up of litter and street sweeping services on major arterials.

- In an effort to prevent illegal disposal of household hazardous waste (HHW) and to provide residents a safe and responsible means of HHW disposal, the City of Santa Clarita has implemented a very successful door-to-door HHW collection program. During the term of the 2001-2006 NPDES Permit, Santa Clarita has collected over 356,857 pounds of hazardous waste with over 3,880 households participating.
- The Santa Clara River Steering Committee was recognized for its work in the restoration of the local watershed and was honored with the 2003 Water Quality Award for Water Body Restoration.
- The Rolling Hills City Hall area is landscaped with native and drought resistant plants and maintained with minimal irrigation and application of fertilizers and pesticides.
- The City of Carson constructed approximately 4,000 feet of landscaped median islands. As an erosion control measure, the City also constructed rolled AC curbs on all properties adjacent to the street where erosion has been a problem.
- The City of Culver City was awarded a grant totaling $1.252 million for structural stormwater BMPs. The grant project, which consists of the following multi-functional BMPs, will be completed by June 2008:
    - 2 bioretention cells or rain gardens in City parks that will provide infiltration, pollution remediation for multiple pollutants, and aesthetic recreational medium for the public.
    - 672 innovative, 2-tiered catch basin inserts that will provide full-capture for gross pollutants, including trash.
    - 500 low-flow, high-pressurized water broom for critical or potentially high polluting businesses to reduce/eliminate nuisance flows and prevent dry weather pollution from commercial areas. Bilingual door-to-door education will be provided to business employees to ensure sustained and consistent use of water brooms.
    - 50 tamper-free recycling bins and trash receptacles in high trash-generating areas, such as schools and convenience stores.
- The City of Pasadena temporarily blocks catch basins during events, such as the Rose Parade, where there is an elevated risk of excessive trash entering the storm drain system.
- The City of Santa Clarita, through its negotiations with its residential solid waste hauler, successfully negotiated the free collection of E-Waste through its bulky item collections program. Now residents can have up to four free bulky item collections per year of up to three items per collection.

- The City of Burbank continues to perform street sweeping of all City streets once a week. This level of street cleaning helps to remove potential contaminants from reaching the catch basins.

- All City of Burbank employees involved with stormwater management and pollution prevention are provided with a wallet size card containing contact information to address stormwater concerns from the public as well as a list of allowable discharges.

- City of Los Angeles voters overwhelmingly supported Proposition O, the Clean Water, Ocean, River, Beach, Bay Storm Water Cleanup Measure – General Obligation Bonds, on November 2, 2004. Proposition O passed with nearly 76% of City residents voting "yes" on the proposition.

- Data from the City of Los Angeles Status and Trends Monitoring Program, which was established to characterize indicator bacteria levels and heavy metal pollutants in the Los Angeles River, Ballona Creek, and Dominguez Channel watersheds, has been used for a variety of purposes, including TMDL development by regulatory agencies, determining baseline pollutant levels referenced in Sanitary Sewer Overflow sampling protocol, and for prioritizing watershed management strategies.

- The City of Los Angeles installed four floating wetland islands in Echo Park Lake to reduce nutrient loads and other pollutants associated with urban run-off. Two additional wetland islands were installed in MacArthur Park Lake and Debs Park Pond, respectively. (FYs 04-05 and 05-06).

Illicit Connections/Illicit Discharges Elimination

- The City of Rolling Hills Estates revised its solid waste ordinance to enhance its code enforcement authority over improper disposal of manure among the equestrian community. The ordinance requires that manure be kept in an enclosed storage container and removed at least once per week, or that manure used for composting be kept in an enclosed composting container. The City facilitates this requirement by offering enclosed manure storage containers and curbside manure removal service with offsite composting through its residential solid waste franchise agreement.

- Manure collection and off-site composting services for owners of horses is available through the City of Rolling Hills' franchise waste hauler.

- The City of Pasadena has established a separate Hotline for reporting illicit discharges. The number is 626-744-STRM.

- The City of Vernon has effectively integrated illicit discharge and illicit connection detection and elimination procedures with the inspections required under the Health and Environmental Control Department's jurisdiction (i.e. Hazardous Materials Inspection Program, the Garment Inspection Program, the Food Processing Inspection Program, and the Solid Waste Inspection Program). All facilities

inspected, regardless if the facility is covered under the Vernon Commercial/Industrial Inspection Program, are evaluated to ensure there are no illicit discharges from the facility.

Best Management Practice and Capital Improvement Projects

- Wetlands were constructed by the City of Los Angeles in AF Hawkins Park in South Los Angeles that will treat onsite stormwater runoff and will serve as a water feature that enhances the park's aesthetic values. (FY 04-05).

- The City of Los Angeles and the Los Angeles County Flood Control District are developing the Tuxford Green project as a joint project that will decrease flooding and improve stormwater quality at the intersection of Tuxford Street and San Fernando Road. Underground cisterns will be built to remove trash, debris, oil and grease, and suspended pollutants. A demonstration landscaping feature will also be constructed above the cisterns, to be irrigated in part by the retained water. (FY 0405)/

- Construction began in July 2004 on improvements, including non-traditional stormwater management techniques, at the City's Sun Valley Park and Recreation Center. The City of Los Angeles, the Los Angeles County Flood Control District, area residents, businesses, and environmental groups developed this pilot project that will alleviate local flooding, enhance recreational opportunities, and demonstrate the effectiveness of non-traditional stormwater management techniques. (FY 03-04).

- As part of the City of Los Angeles' Low Flow Diversion (LFD) Program, seven LFDs were constructed to prevent/eliminate beach closures in Santa Monica Bay during the summer months. The City received the 2004 National Environmental Achievement Award for Public Service from the American Municipal Sewerage Agencies (AMSA) upon completion of this project.

Los Angeles River Programs

- Established in March 2005, the City of Los Angeles has led the Los Angeles River Plastics Initiative Industry Task Force to develop recommendations on reducing plastic bag litter in the river. Task force members include a cross-section of representatives from industries that manufacture or distribute plastic bags and polystyrene products, retailers, waste and recycling interests, environmental and Los Angeles River watershed advocacy groups, and City staff. (FY 04-05).

- In May 2004, the City of Los Angeles hosted a day-long conference at the USC Davidson Center for the scientific community regarding the science and biology of the Los Angeles River. The conference included presentations on the current water quality and habitat monitoring efforts taking place along the Los Angeles River, and concluded with a six-member panel discussing the critical issues facing the Los Angeles River. (FY 03-04).

Interagency Coordination and Planning

- The City of Los Angeles has embarked on developing an Integrated Resources Plan (IRP) that addresses the facility needs of the City's wastewater, recycled water, and urban runoff/stormwater management programs through the year 2020. The County and municipalities neighboring the City are active participants in the IRP process. It is anticipated that this effort will benefit individual stormwater programs and overall interagency coordination. (FY 03-04).

- The City of Los Angeles is working with the Los Angeles Unified School District (LAUSD) and Tree People to incorporate stormwater BMPs in the design guidelines for schools. This cooperative effort is part of LAUSD's school construction and renovation program. The City's three goals are for the schools to: 1) retain all stormwater on-site; 2) reuse or recharge all stormwater on-site; and 3) incorporate off-site water, whenever feasible. (FY 04-05).

Report of Waste Discharge

National Pollutant Discharge Elimination System
Municipal Separate Storm Sewer System

Renewal Application for the Cities of
Azusa, Claremont, Glendora, Irwindale, and Whittier

As Current Permittees Under
National Pollutant Discharge Elimination System
Municipal Stormwater Permit
Order No. 01-182
NPDES Permit No. CAS004001

June 12, 2006

14-1173

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U.S. REGION

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14-1174

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Section 1 Introduction

1.1 Purpose

In accordance with the requirements found in Part 6, Section S of the existing 2001 Los Angeles County National Pollutant Discharge Elimination System (NPDES) Municipal Stormwater Permit (NPDES No. CAS004001), **Order No. 01-182,** this Report of Waste Discharge (ROWD) constitutes renewal of Waste Discharge Requirements (WDRs) adopted in Order No. 01-182 by the Regional Water Quality Control Board, Los Angeles Region (Regional Board) on December 13, 2001.

This ROWD is thus being submitted as both a Report of Discharge under Order No. 01-182 (an NPDES Permit that included as Permittees under the County of Los Angeles, the Los Angeles County Flood Control District [the Principal Permittee] and all incorporated Cities within the County, except the City of Long Beach), as well as a separate application for the Cities listed herein under Table 1 -- which shall be collectively referred to as the **Upper San Gabriel River Watershed Coalition** -- for the renewal of this 2001 NPDES Permit.

This ROWD includes a report on the activities and results of the programs implemented under Order No. 01-182 for all Permittees thereunder, along with proposed programs and permit terms for the City's renewed NPDES Stormwater Permit.

It is important to note that following the issuance of Order No. 01-182, numerous Permittees under the 2001 Permit filed legal challenges to many of the terms and provisions of Order No. 01-182, as well as to the procedure and review and approval process followed by the Regional Board when adopting the 2001 Permit. These legal challenges remain pending before the Court of Appeal of the State of California, Second Appellate District, Appellate Court Case No. B184034.[1]

[1]The following Permittees are appellants and continue to challenge many of the provisions in Order No. 01-182: The Cities of Arcadia, Artesia, Bellflower, Beverly Hills, Carson, Cerritos, Claremont, Commerce, Covina, Diamond Bar, Downey, Gardena, Hawaiian Gardens, Industry, Irwindale, La Mirada, Lawndale, Monrovia, Norwalk, Paramount, Pico Rivera, Rancho Palos Verdes, Rosemead, Santa Clarita, Santa Fe Springs, Signal Hill, South Pasadena, Torrance,

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Further, in light of the significance of implementing a new set of WDRs and a new MS4 NPDES Permit on the environment, the Applicants herein[1] request that before any new Permit is issued based on this ROWD, that the State and Regional Board's first take all action as required to comply with the California Environmental Quality Act ("CEQA"), recognizing that any exemption provided under California Water Code section 13389 is a limited exemption from Chapter 3 of CEQA only. Moreover, there is no exemption from CEQA where the State and Regional Boards impose permit requirements which go beyond the federal law requirements set forth under the Clean Water Act. Accordingly, compliance with the requirements of CEQA, before a new municipal permit for the Applicants is issued, is essential so that all potentially significant adverse impacts to the environment from this project, are fully evaluated and properly mitigated, and so that all feasible alternatives to particular permit terms that may result in potentially significant adverse impacts, have been evaluated.

In addition, the Permittees remain concerned with the imposition of unfunded mandates under Order No. 01-182, and thus request that any mandated programs under the new permit only be imposed on the Applicants where the requirements of the California Constitution prohibiting the imposition of unfunded mandates upon the Applicants have been complied with.

Also, because the Regional Board is not a State agency with State-wide jurisdiction, the Regional Board is not an agency that by itself has the authority to issue an NPDES permit under the Clean Water Act. Accordingly, the Permittees named herein (which shall also be referred to as "Applicants"[2]) request that any new NPDES permit to be issued to the Applicants, be issued only after it has been reviewed and ultimately approved by the State Water Resources Control Board ("State Board"). The Applicants shall be submitting this ROWD with the understanding that it is not waiving any rights, objections or challenges it has brought or may bring in connection with the issuance of Order No. 01-182, or any other related

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Vernon, Walnut, West Covina, Westlake Village, Whittier, and the County of Los Angeles and the Los Angeles County Flood Control District.

[2]Azusa, Claremont, Glendora, Irwindale, and Whittier

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objections and challenges that may have been brought by the Applicants to other water quality orders, directives or regulations, and with the understanding that the Applicants are not waiving or relinquishing any rights it has or may have in connection with any new permit to be issued to replace Order No. 01-182.

1.2 Regulatory Background

The 1972 Clean Water Act established the National Pollutant Discharge Elimination System (NPDES) Permit program to regulate the discharge of pollutants from point sources to waters of the United States. However, pollution from land and urban runoff was largely unabated for over a decade. In response to the 1987 Amendments to the Federal Clean Water Act (CWA), the United States Environmental Protection Agency (EPA) developed Phase I of the NPDES Stormwater Program in 1990, which established a framework for regulating urban stormwater runoff. The Phase I program addressed sources of stormwater runoff that had the greatest potential to negatively impact water quality. Under Phase I, EPA required NPDES Permit coverage for stormwater discharges from:

- medium and large municipal separate storm sewer systems (MS4) with populations of 100,000 or more
- facilities that fall within eleven categories of industrial activity, including construction activity that disturbs five or more acres of land

Operators of MS4s regulated under the Phase I NPDES Stormwater Program were required to obtain Permit coverage for stormwater discharges under their control. The most significant portion of application was the development of a proposed stormwater management program that would meet the standard of "reducing the discharge of pollutants from the MS4 to the maximum extent practicable (MEP)." Stormwater management programs for medium and large MS4s include measures to:

- Identify major outfalls and pollutant loadings

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- Detect and eliminate non-stormwater discharges to the system
- Reduce pollutants in runoff from industrial, commercial, and residential areas
- Reduce pollutants from construction sites within their jurisdiction

1.3 Objectives

The objective for the Applicants in submitting this ROWD is to successfully renew a Los Angeles County NPDES Municipal Stormwater Permit (also referred to herein as the Los Angeles County MS4 Permit), which includes requirements to achieve the goal of "reducing pollutants to the MEP" while taking into account:

- Feasibility
- Financial resources available
- Cost of implementation
- Overall benefit to water quality
- Effectiveness of existing Stormwater Quality Management Program (SQMP)
- Suggested improvements to existing SQMP
- Suggested approaches to improve receiving water quality
- Use of best available technologies; and
- Integration of impaired water body specific programs

1.4 Program Description

On December 13, 2001, the Regional Board adopted Order No. 01-182 serving as the NPDES Permit for municipal stormwater and urban runoff discharges within the County of Los Angeles. The

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requirements of Order No. 01-182 apply to 84 Cities and the unincorporated areas of Los Angeles County under County jurisdiction, with the exception of Avalon, Long Beach, and the portion of Los Angeles County in the Antelope Valley, which includes the Cities of Lancaster and Palmdale. Under the Permit, the Los Angeles County Flood Control District is designated the Principal Permittee, and the County of Los Angeles along with 84 incorporated Cities are designated Permittees. In Order No. 01-182, the Principal Permittee coordinates and facilitates activities necessary to comply with the requirements of the Permit, but is not responsible for ensuring compliance of any of the Permittees. It should also be noted that many parts of Order No. 01-182 have been challenged in a lawsuit filed in Los Angeles County Superior Court by a number of the Permittees thereunder. This legal challenge remains pending on appeal, in the Court of Appeal of the State of California, Second Appellate District, Case No. B184034.

Through the current Los Angeles County MS4 Permit, the Regional Board implemented a *Watershed Management Approach* to address water quality protection in the region. The *Watershed Management Approach* intended to provide a comprehensive and integrated strategy towards water resource protection, enhancement, and restoration while balancing economic and environmental impacts within a hydrologically defined drainage basin or watershed. The current Los Angeles County MS4 Permit divides Los Angeles County into the following six Watershed Management Areas (WMAs):

- Ballona Creek and Urban Santa Monica Bay WMA
- Dominguez Channel/Los Angeles Harbor WMA
- Los Angeles River WMA
- Malibu Creek and Rural Santa Monica Bay WMA
- San Gabriel River WMA
- Santa Clara River WMA

A list of Permittees is provided under the 2001 Permit and in the Los Angeles County Unified ROWD.

Under this ROWD, the Cities listed under Table 1, under Section 2 are Applicants and shall be referred to as such herein. Each of these cities share the common characteristic of discharging wholly or

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partially into reaches 2 and 3 of the San Gabriel River Watershed (which shall also be referred to herein as the Upper San Gabriel River Watershed).[3]

1.5 A Watershed Management Approach

The Applicants have chosen to participate in a watershed group permit because the *Watershed Management Approach* under the current Los Angeles County MS4 Permit has not been successful in providing a "comprehensive and integrated strategy towards water resource protection, enhancement, and restoration."

Watershed Management Committees (WMC) have not been able to address watershed-specific pollution management. While WMC meetings are convened regularly – month to month in the case of the San Gabriel WMC -- they are not organized to focus on watershed-specific pollutant issues. Instead, they tend to be preoccupied with "issues of the day," ranging from generic compliance issues to agenda items discussed by the Executive Advisory Committee (EAC), which serves largely as a "communication forum" on NPDES matters and is attended by many Los Angeles County MS4 Permittees.

The inability of the San Gabriel River WMC to focus on watershed-specific pollutant issues may have to do with the following:

1. The County of Los Angeles, which is the Principal Permittee under the current Los Angeles County MS4 permit, is not organized or adequately staffed to address pollutants of concern on a watershed basis, despite the fact that it has created a watershed management division. This is probably the result of its understandable preoccupation with total maximum daily loads (TMDLs), including trash and bacteria; and that it is simply overburdened with having to manage 6 watersheds, consisting of 88 municipalities, including the City and County of Los Angeles, while also managing its own storm water management program.

[3]Reach 2 of the San Gabriel River lies between Ramona Boulevard and Firestone Boulevard, while Reach 3 lies between Ramona Boulevard and Morris Dam).

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2. Watershed groups, since the MS4 NPDES permit for Los Angeles County was first issued in 1990, have been based on geographic location rather than on hydrological distinctions. There is, for example, significant differentiation between the upper and lower portions of the San Gabriel River and Los Angeles River. In fact, the Upper San Gabriel River and Upper Los Angeles River municipalities appear to have more in common hydrologically with one another -- because they are located above the Whittier Narrows and Rio Hondo spreading grounds -- than with municipalities in the lower portions of Los Angeles and San Gabriel Rivers. Therefore, it is difficult to focus on watershed pollutants of concern for the San Gabriel River because they are actually two watersheds or sub-watersheds, if you will.

3. As is the case with large organizations, it is difficult for the County of Los Angeles, which is designated as Principal Permittee under the current Los Angeles County MS4 Permit, to adjust quickly from its county-wide storm water management program to a truly watershed/sub-watershed based program.

As a result of these foregoing reasons, there has been no effort to develop a "comprehensive and integrated strategy towards water resource protection, enhancement, and restoration."

It would seem that the first step in this direction would be to identify pollutants of concern, using the Federal Clean Water Act section 303(d) list ("303d list") which ranks pollutants in terms of low, medium, and high priorities. The next step would be to identify the sources of each pollutant in terms of use and activities. Finally, each permittee's storm water quality management program (SQMP) would then be amended to focus best management practices (BMPs) to the following extent:

1. Develop a comprehensive public education outreach program that would focus on each pollutant of concern directed at general audiences, contractors/developers residences, certain industrial/commercial facilities, and at certain activities (e.g., equestrian facilities to address bacteria).

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2. Require BMPs for construction projects to focus on pollutants of concern, including minimum BMPs for projects less than 1 acre and projects 1 acre or more and storm water pollution prevention plans (SWPPPs) associated with General Construction Activity Storm Water Permits (GCASWPs).

3. Require industrial facilities covered under a General Industrial Activity Storm Water Permit (GIASWP) that generate pollutants of concern implement to appropriate BMPs to mitigate them.

4. Require commercial facilities that generate pollutants of concern to implement BMPs (source and treatment controls).

5. Require post-construction BMPs to address activities that are expected to generate a pollutant of concern.

6. Apply for grants to procure source and treatment controls (e.g., USEPA water infrastructure, Integrated Regional Watershed Management Program, and consolidated grant program grants).

7. Partner with other agencies in the region charged with protecting water quality to address pollutants of concern.

1.6 Rationale for a Watershed-Based MS4 Permit

All of the Applicants are assigned under the Los Angeles County MS4 Permit to the San Gabriel River Watershed. Most of them, with the exception of the Cities of Whittier and Irwindale, drain exclusively into Whittier Narrows spreading grounds. Approximately 30% of the City of Whittier drains into spreading grounds, while the 70% of it drains into the lower San Gabriel River, below the spreading grounds. The City of Irwindale drains mostly into Upper San Gabriel River, but also drain in the Upper Los Angeles River as well – 28% and 20% respectively.

The rationale for applying for a separate, watershed-based permit is as follows:

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1. To allow smaller Cities to develop and implement more efficient stormwater programs that focus on sub-regional and city-specific pollution reduction measures, based on specific pollution issues (as opposed to generalized county-wide programs).

2. To investigate the use of the spreading grounds and other percolation basins in the watershed for use as infiltration controls to address post-construction BMP requirements and total maximum daily loads (TMDL).

3. By being separate from large municipalities, smaller Cities can work more effectively towards pin-pointing specific sources of pollution within their jurisdictions. They can also address them through behavior-specific public education outreach and structural and non-structural BMPs.

4. By aggregating into a group of small Cities, public funding of runoff pollution projects would be easier and more cooperative. This is especially true of TMDLs and other pollutants of concern identified on the Basin Plan 303(d) list. Under the current MS4 permit, permittees must compete with the Principal Permittee and the City of Los Angeles for funding, which generally has more clout than an individual or even a group of smaller permittees. A group of Cities associated with a particular watershed/sub-watershed can lobby their respective local, state, and federal elected representatives for funding for such things as conducting TMDL-related monitoring and structural controls to meet TMDLs.

5. Smaller Cities, in general, generate less pollution than larger municipalities. This is largely due to the fact that political and administrative authorities tend to be more responsive to citizens because they are more accessible and politically sensitive than their counterparts in larger municipalities. As a result, streets are swept more often, catch basins are cleaned-out more frequently, complaints of illicit discharge (including dumping), illicit connections, and improper management of pet waste on public and private property are responded to more quickly. Beyond this, smaller Cities tend to be more concerned with

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open space (having more of it) and parks (having more of them) and with aesthetics, including more vegetation on public and private property, and prohibited or limited overnight parking. This amounts to less urbanization and lower runoff coefficients than larger municipalities. The citizens of small Cities also tend to be more committed to cleaner environments. This is because they have a stronger sense of community. Citizens know they can have a strong influence on policy and political decision makers to provide attractive, clean, and safe environments. Further, smaller Cities have fewer industrial and commercial facilities[4] and are more closely regulated for code compliance (which, among other things, requires cleaner and less polluting environments).

6. Although not all Cities located in the Upper San Gabriel River Watershed are a party to this application, the Applicants intend to encourage other Permittees that are located in this watershed to be a part of the unified Los Angeles County ROWD. The Applicants objective is to form a nucleus for the future development of a watershed-based MS4 Permit -- a concept which many affected parties, including members of the environmental community, would agree has been long overdue in being realized. Initially, the Applicants would do basic "advance" work in laying the foundation for a watershed based MS4 Permit. This would include identifying specific pollutants of concern (as determined by the 303(d) list. The Applicants would revise their SQMPs to include objectives aimed at targeting a TMDL or a high priority pollutant of concern that has the potential to become a TMDL, through a concentrated and coordinated effort. For example, public education outreach could be re-tuned to be truly pollutant-specific. Initially, brochures and articles could be developed for a variety of TMDL or priority pollutants including trash, bacteria (fecal matter in particular), and selected metals. These print media would specifically identify pollutant sources and BMPs (including behavioral changes) that mitigate them. Also, the

[4]This does not include industrial Cities. However, even industrial Cities, which tend to be small in area, are actually sensitive to being less pollution generating then industrialized areas of large municipalities. City Councils and Managers recognize that they must be cleaner because the public tends to view them as being inherently pollutant generating. For example, compare the City of Vernon, Commerce, or Industry with industrialized portions of the City of Los Angeles.

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Standard Urban Stormwater Mitigation Plan (SUSMP) could be re-focused to target a TMDL or high priority pollutant of concern, in terms of post-construction structural controls. As it is now, the SUSMP is really a non-specific pollution mitigation requirement. In addition, spreading grounds and percolation basins could be used to infiltrate TMDL or high priority pollutants. These and other regional solutions would be sensible and cost-effective.

7. To encourage participation in watershed matters involving other stakeholder agencies and organizations in the watershed, including, but not limited to: San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy; San Gabriel Basin Water Quality Authority; Main San Gabriel Basin Watermaster, and the Upper San Gabriel Municipal Water District.

8. The Applicants hope that the Permittees located in the Upper San Gabriel River watershed, but are associated with the Los Angeles County MS4 permit, will be allowed "cross-over." This could be formally achieved through a re-opener clause, or informally by simply allowing Permittees to participate, without changing MS4 permit affiliation.

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Section 2 Applicant Information

2.1 Municipal Applicants

The Permittees identified in Table 1 have elected to participate in this separate ROWD application. These Applicants have chosen to participate in group MS4 NPDES Permit that shall be known as the Upper San Gabriel River Watershed Coalition (hereinafter "USGR Watershed Coalition").

Table 1 — Table of Municipal Applicants
Upper San Gabriel River Watershed Coalition

City	Population	Area (square miles)	% in San Gabriel River Watershed	% in Los Angeles River Watershed
Azusa	44,712	9.0	100	0
Claremont	33,998	11.0	90	0
Glendora	49,415	19.5	100	0
Irwindale	1,446	9.0	80	20
Whittier	83,680	12.5	100	0

It should be noted that the Principal Permittee has indicated that neither the Watershed Management Division nor the Los Angeles County Flood Control District of the Los Angeles County Department of Public Works wishes to be an Applicant under this ROWD. Nevertheless, the Applicants will continue to encourage the County to participate in watershed activities because of its flood management role.

2.2 Applicant Contact Information

The table below contains the names of contact persons associated with this MS4 NPDES Permit application.

Applicant	Contact	Title	Address
Azusa	Michael Scott	City Engineer	213 E. Foothill Blvd. Azusa, CA 91702
Claremont	Craig Bradshaw	City Engineer	207 Harvard Avenue P.O. Box 880 Claremont, California
Glendora	Dave Davies	Deputy Director of Public Works	116 E. Foothill Blvd Glendora, CA 91741
Irwindale	Kwok Tam	Director of Public Works	5050 N. Irwindale Ave Irwindale, CA 91706

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Whittier	David Mochizuki	Director of Public Works	13230 Penn Street Whittier, CA 90602-1772

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Section 3 Program Accomplishments

3.1 Storm Water Quality Management Program

In accordance with the Los Angeles County MS4 Permit, the ROWD Applicants have implemented Storm Quality Water Management Programs based largely on the models developed by the Principal Permittee in 2002. The purpose of the Storm Quality Water Management Plan (SQMP) is to protect receiving waters, including: rivers, lakes and oceans from contamination in runoff.

This is to be achieved by doing two basic things: control pollutants in storm water runoff and (2) prohibit illicit discharges and connections through which they are conducted. These two general objectives are intended to reduce pollutants in storm water and non-storm water discharges to the MS4 to the maximum extent practicable (MEP) and underlie each of the SQMP program components, including: (1) program management; (2) development construction; (3) development planning; (4) illicit connection/discharge detection and elimination (ICID), (5) public information participation; (6) public (municipal) agency; and (7) industrial/commercial facilities control. The monitoring program is also an MS4 NPDES permit required specifically under federal storm water regulations, which shall be discussed in detail under Section 5.

Each of the Applicants have implemented fully each of these program components. As to what extent has the implementation of these programs under the current MS4 permit been effective in reducing storm water and non-storm water runoff pollution ("runoff pollution") is uncertain. However, it must be assumed that the implementation of the SQMP has resulted in reducing runoff pollution to some extent. A more difficult question is has the implementation of the SQMP improved water quality in the affected received waters? Unfortunately, the Applicants cannot answer this question because there is no specific monitoring data available to provide an answer.

It should be noted, that although the SQMPs have been fully implemented, they are in need of enhancement and revision to accommodate the watershed approach on which this application is

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based. To that end, a detailed discussion of how each program can be improved is provided under Section 4.0.

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Section 4.0 Priorities for Program Improvement

4.1 Program Components

Municipal stormwater and urban runoff management programs in the Los Angeles region were initiated with the June 18, 1990 adoption of Order No. 90-079. A revised Los Angeles County MS4 Permit was issued in July 1996, and another in December 2001 (Order No. 01-182). Permittees currently find themselves near the end of this third Permit cycle and have conducted in-depth reviews of their current management programs with an eye toward continued improvement. Program improvement and effectiveness is a priority for Permittees for many reasons. Permittees have an obligation to responsibly manage public funds as well as to protect the quality of the environmental resources within their jurisdictions. In addition, Permittees in the Los Angeles region recognize that effectively managing the impacts of stormwater and urban runoff in a cost effective manner is in the best interest of all County residents.

This section discusses issues and concepts identified by the Applicants as key factors in improving their management programs during the upcoming Permit cycle. These issues and recommendations have general applicability across multiple program elements. The Applicants, as Permittees under the current Los Angeles County MS4 Permit, have implemented programs that meet and often exceed the basic provisions of the existing Permit. Nevertheless, they appreciate, based on their experience of implementing the programs required under MS4 Permit in the Los Angeles Region, that there is a need for continued progress guided by a BMP-based "iterative approach." This is an approach that is based on the time honored principle of "trial and error."

As will be further discussed in the balance of the ROWD, the Applicants intend to incorporate these storm water quality management principles into their programs, and are committed to their improvement during the next Permit cycle. Based on their experience in developing and implementing programs, the Applicants have determined that aspects of existing programs can be significantly enhanced. The proposed enhancements to the existing programs will allow for improved implementation and cost-effective

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operations, thus allowing for the reallocation of funds and resources to other problem areas to achieve water quality protection, without, hopefully, having to sacrifice municipal programs and services.

Against this background, the balance of this section offers a more detailed discussion of enhancements for the continued improvement of Applicant programs; and the types of changes that they, as current Los Angeles County MS4 Permittees, have determined to be necessary under the next Permit. To a large extent, doing this will depend on how compliance is gauged and what process is chosen to oversee and evaluate Permit programs. In the view of the Applicants, specific improvements can be achieved through the framework of a modified Los Angeles County MS4 permit.

4.2 Priorities for Program Enhancement

In this section, enhancements to SQMP program components, along with suggested revisions to MS4 permit requirements, shall be discussed, including:

- MS4 NPDES Permit Definition Changes
- Receiving Water Limitation Language
- Program Management
- Development Construction
- Development Planning
- Illicit Connection and Discharge Detection and Elimination
- Discharge Prohibitions (non-storm water discharge exemptions)
- Public Agency ("Municipal Agency")
- Public Information Program Participation
- Industrial and Commercial Facilities Control
- Monitoring Program

4.3 Priority 1 - Definition Changes

▪ Eliminate the Definition of Illicit Disposal

The definition section of the current Los Angeles County MS4 Permit provides a definition of illicit disposal, which means "any disposal, either intentionally or unintentionally, of material(s) or waste(s) that

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can pollute storm water." The problem with this definition is that it is not referenced anywhere else in the Los Angeles County MS4 Permit. The reason is that this term appeared in the 1996 Los Angeles County MS4 Permit and, during Permit renewal discussions, it was decided not carry it over to the current Permit because it is not used anywhere in federal storm water regulations and seemed to be redundant, given the definition of illicit discharge, which is based on the definition provided in federal storm water regulations. In other words, its necessary deletion was overlooked and carried forward as a result.

- **Illicit Connection Revision**

The term illicit connection is defined under the current Los Angeles County MS4 permit as follows: "... any man-made conveyance that is connected to the storm drain system without a permit, excluding roof drains and other similar type connections. Examples include channels, pipelines, conduits, inlets, or outlets that are connected directly to the storm drain system."

The problem with this definition is that it infers that any connection to the storm drain that is covered under any permit constitutes a permissible connection (e.g., an encroachment permit). Further, this definition is contrary to the definition contained in USEPA's model ordinance, which is as follows:

> "An illicit connection is defined as either of the following: Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or, any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency."

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The applicants prefer this definition because: (1) many of them already have it written into their existing runoff control ordinances (most other jurisdictions in California use it as well); and (2) from an enforcement perspective, this definition makes it clear that any illicit discharge that passes through a connection is an illicit one, notwithstanding that it may be "permitted." The concern is that the owner or operator of an illicit connection could evade enforcement by claiming, for example, that the connection is covered under an encroachment permit. It should also be noted that the Applicants suspect that the reason few illicit connections are noted in their Annual Reports to the regional board is because of the current definition of an illicit connection.

- **Eliminate the Definition of Local SWPPP**

Local SWPPP is defined under the current Los Angeles County MS4 permit as the "Storm Water Pollution Prevention Plan by the local agency for a project that disturbs one or more acres (sic.) of land." This definition has been rendered inaccurate as the result of the revision contained in the current Los Angeles County MS4 permit that changed the requirement for General Construction Storm Water Activity Permit (CGASWP) in March of 2003 coverage from 5 acres (by grading, clearing, and/or excavating) to 1 acre. Further, the Permit also allows for a substitution of a State SWPPP, "if the local SWPPP is at least as inclusive in controls and BMPs as the State SWPPP."

Requiring a Local SWPPP to substitute for a State SWPPP is redundant and would make the Applicants responsible for assuring that the Local SWPPP is essentially equivalent to the State SWPPP – a responsibility that the Applicants are averse to accepting, given the complexity of the State SWPPP. The Applicants, therefore, recommend eliminating the requirement for a Local SWPPP and using the State SWPPP requirement under the General Construction Storm Water Activity Permit (GCASWP) instead; and therewith, eliminating the definition of L-SWPPP from the MS4 permit for which the Cities herein are applying.

- **Revising the Definition of Maximum Extent Practicable (MEP)**

Under the current Los Angeles County MS4 Permit, MEP is defined as follows:

> "Maximum Extent Practicable (MEP)" means the standard for implementation of storm water management programs to reduce pollutants in storm water. CWA § 402(p)(3)(B)(iii) requires that municipal permits "shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. See also State Board Order WQ 2000-11 at page 20.
>
> The Applicants, however, find this definition unreasonably stringent and prefer the following as a replacement definition:
>
> "Maximum Extent Practicable" or "MEP" is the standard established by Congress in Clean Water Act § 402(p)(3)(B)(iii) that municipal dischargers of stormwater MS4s must meet. For the purpose of this Order, MEP is generally, but not necessarily, less stringent than best available control technology, the standard which industrial dischargers of stormwater must meet. MEP generally emphasizes pollution prevention and source control and includes consideration of technical feasibility, practicability, cost effectiveness, benefit derived, regulatory compliance and public acceptance. Where cumulative cost exceeds cumulative benefit, a program or BMP is not considered practicable.

4.4 Priority 2 - Receiving Water Limitations

Receiving Water Limitations language in Order No. 01-182 is a section of the 2001 Permit that is the subject of the pending legal challenge. The Applicants recommend that the Permit contain Receiving Water Limitations language which is consistent with applicable law and with which the Applicants can comply. Aforementioned Order No. 96-054, (the 1996 Los Angeles County MS4 Permit) included language which stated "Timely and complete

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implementation by a Permittee of the storm water management programs prescribed in this Order shall satisfy the requirements of this section and constitute compliance with receiving water limitations." It further provided that where an exceedance of a water quality objective had occurred, that the Permittees were to submit stormwater programs that "will increase the likelihood of preventing future exceedances of water quality objectives."

This language was subsequently omitted by the Regional Board in Order No. 01-182. It is imperative that the Applicants have the support of the Regional Board when making a good faith effort to comply with Permit requirements, and that the Applicants not be required to implement BMPs that go beyond MEP or reasonableness standards under federal and state law.

Applicants must first be given an opportunity to work with the Regional Board to fine-tune programs that are not successful at meeting Receiving Water Limitations. Applicants, as municipal Permittees should not be required to strictly comply with water quality standards/objectives. Rather, compliance with such standards should be limited to compliance through the use of reasonable and cost-effective MEP-compliant BMPs, effectuated through an iterative process. Forcing Applicants to be in a never-ending state of non-compliance, and requiring them to strictly comply with water quality standards/objectives that are not reasonably achievable or practicable, is arbitrary and capricious, and contrary to law. Further, exposing the Applicants to immediate third party lawsuits is unproductive, discourages collaborative working relationships with non-governmental organizations, and does not achieve the primary goal of improving water quality.

The following are proposed Findings of Fact and suggested Receiving Water Limitations for the Applicants new MS4 permit:

- **Findings of Fact**

1. Urban Runoff includes discharges from residential, industrial, commercial, and construction areas within the Permit Area. In addition to Urban Runoff, the MS4s regulated by this order receive flows from agricultural activities, open space, state and federal

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properties and facilities, schools, colleges and universities, and other land uses not under the control of the Permittees.

2. The Permittees lack legal jurisdiction over discharges into their respective MS4s from agricultural activities, California and federal properties and facilities, school districts, colleges and universities, utilities and special districts, wastewater management agencies, and other point and non-point source discharges otherwise permitted by or under the jurisdiction of the Regional Board. The Regional Board recognizes that the Permittees cannot be held legally responsible for any discharges or pollutants, either in stormwater or non-stormwater, running off of any such property or facility. Similarly, certain activities that generate pollutants present in Urban Runoff are beyond the control or the authority of the Permittees to regulate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad wear, tire wear, residues from application of pesticides, nutrient runoff from agricultural activities, leaching from privately-operated onsite wastewater treatment systems (OWTSs), and background conditions (e.g. wildlife, and leaching of naturally occurring minerals, metals, and other elements from local geology).

3. The Regional Board finds that the unique aspects of the regulation of Urban Runoff discharges through MS4s, including but not limited to the intermittent nature of discharges, and difficulties in monitoring and limited physical control over the discharges, will require adequate time and resources to determine what persons or entities are responsible for reducing the discharge of pollutants in Urban Runoff discharged from the MS4.

- **Receiving Water Limitations Revision**

The receiving water limitations language in the current Los Angeles County MS4 Permit effectively holds Permittees responsible for any discharge from their MS4 that causes or contributes to a nuisance -- even if they have no control over the source of the discharge or the discharge itself. Repeated exceedances would require a revision to the Storm Water Quality Management Plan (SQMP) to include additional or intensified BMPs at the direction of the Regional Board.

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Therefore, the Applicants prefer the inclusion of the following substitute receiving water limitations language:

1. The Permittees shall implement BMPs to attempt to reduce the discharge of pollutants in Urban Runoff discharged from the Permittees' MS4s where such Urban Runoff causes or contributes to an exceedance of water quality standards and objectives.

2. The Permittees shall comply with Paragraph 1 through the use of reasonable and cost-effective MEP-compliant BMPs. Only those water quality standards/objectives which can reasonably be achieved, considering the economic impacts of compliance, the impacts on housing within the region, and the past, present and probable future beneficial uses of the receiving water, need be complied with under this Order. In determining whether any particular water quality standard/objective is appropriately applied to a Permittee, in addition to the above, the Regional Board shall also consider the environmental characteristics of the hydrographic unit in issue, including the quality of the water available to the hydrographic unit, and all demands being made and to be made on the waters, and the total values involved, beneficial and detrimental economic and social, tangible and intangible. Compliance with applicable water quality standards/objectives is to occur through an iterative BMP process and be consistent with the provisions of this paragraph.

3. If an exceedance of a water quality standard/objective is caused or is believed to be caused to discharges to the MS4 that are outside the Permittees jurisdiction or control, the Permittees shall advise the Executive Officer of such in writing.

4. If the Permittees have acted reasonably and in good faith in complying with the procedure set forth above, and are implementing the revised SQMP, the Permittees do not have to repeat the same procedure for continuing or recurring exceedances of the same water quality standards/objectives, unless the Executive Officer determines that additional BMPs, consistent with Section 2 above, should be implemented to comply with applicable water quality standards/objectives, and provides written notice to the Permittees of this determination and the basis

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for the determination. Reasonable and good faith compliance with the procedures set forth in this section shall satisfy the requirements of this Order and shall constitute compliance with applicable water quality standards/objectives.

4.5 Priority 3 – Watershed Management Committee

Under the current Los Angeles County MS4 Permit the County of Los Angeles Flood Control District is designated as the Principal Permittee while 87 other municipalities within the Los Angeles County Flood Control District are designated as Permittees. As stated in the Los Angeles County MS4 NPDES permit, "the Principal Permittee shall:

1. Coordinate and facilitate activities necessary to comply with the requirements of this Order, but is not responsible for ensuring compliance of any individual Permittee.

2. Coordinate permit activities among Permittees and act as liaison between
3. Permittees and the Regional Board on permitting issues.

4. Provide personnel and fiscal resources for the necessary updates of the SQMP and its components.

5. Provide technical and administrative support for committees that shall be organized to implement the SQMP and its components.

6. Convene the Watershed Management Committees (WMCs) constituted pursuant to Part F [of the current MS4 Permit] upon designation of representatives.

7. Implement the Countywide Monitoring Program required under this Order and evaluate, assess and synthesize the results of the monitoring program.

8. Provide personnel and fiscal resources for the collection, processing and submittal to the Regional Board of annual

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reports and summaries of other reports required under the SQMP.

9. Comply with the Responsibilities of the Permittees in Part 3. E [of the MS4 NPDES permit]."

Permittees under the Los Angeles County MS4 NPDES are required to:

1. Comply with the requirements of the SQMP and any modifications thereto.

2. Coordinate among its internal departments and agencies, as appropriate, to facilitate the implementation of the requirements of the SQMP applicable to such Permittee in an efficient and cost-effective manner.

3. Designate a technically knowledgeable representative to the appropriate WMC.

4. 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 SQMP.

5. Prepare an annual Budget Summary of expenditures applied to the storm water management program.

The Applicants shall be known collectively as the Upper San Gabriel River Watershed Coalition (USGRWC). Instead of designating a Principal Permittee the Applicants shall collectively perform the following tasks in a manner to be determined no later than six months after the adoption of the MS4 permit:

1. Coordinate and facilitate activities internally, among impacted City departments and divisions therein, necessary to comply with the MS4 NPDES Permit, excluding the responsibility for ensuring compliance on behalf of any individual Applicant.

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2. Coordinate permit compliance activities among the Applicants and liaise with the Regional Board on various issues, including but not limited to MS4 Permit requirements, establishing watershed goals and objectives, and discussing and implementing pollutants of concern, including pollutants that are subject to total maximum daily load (TMDL) status.

3. Discuss and recommend methods of updating the Storm Water Quality Management Plan ("SQMP") that was developed by the Principal Permitee under the current MS4 NPDES permit.

4. Discuss and recommend a watershed approach to address pollutants of concerns within reaches and tributaries therein through the implementation of appropriate Best Management Practices ("BMPs").

5. Convene regularly scheduled USGR Watershed Management Committee (WMC) meetings to discuss MS4 permit compliance and watershed issues.

4.6 Priority 4 – Industrial and Commercial Facilities Control Program

Pursuant to the current Los Angeles County MS4 Permit, the Permittees were required to track, inspect, and ensure compliance at industrial and commercial facilities that the Regional Board has asserted are critical sources of pollutants in stormwater. These provisions in Order No. 01-182 are presently being challenged by many of the 2001 Permittees in the pending legal challenge – including several of the Applicants.

The Applicants propose that the so-called "Critical Sources" referenced in the current Los Angeles County MS4 Permit, such as commercial facilities (restaurants, automotive service facilities, retail gasoline outlets and automotive dealerships), and Phase I Facilities (both Tier 1 and 2), not be inspected under the renewed permit, unless the Applicants first determine that the facility is an industrial facility that it is contributing a substantial pollutant load to the MS4.

There is no authority under State or federal law for requiring the Applicants to inspect commercial facilities, such as restaurants,

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gasoline service stations, or automobile dealerships or any other commercial facilities. For industrial facilities, the federal regulations leave it to the Permittee to determine which facilities to inspect, and when, and provide for the inspection of those industrial facilities which the Permittee determines are contributing a substantial pollutant load to the MS4. Accordingly, the Applicants request that the existing Industrial and Commercial Facility Control Program requirements under Order No. 01-182 be deleted from the Permit, and replaced with language which provides the Applicants the discretion to inspect those industrial facilities it determines are contributing a substantial pollutant load to the MS4.

Further, many Permittees – including the Applicants -- found it unnecessary and a waste of resources to repeatedly inspect facilities that are found to be in compliance with the General Industrial Activities Stormwater Permit (GIASP). A much more effective inspection strategy would be to repeatedly target industrial facilities that are not in compliance and where the Permittee determines the industrial facility has contributed a substantial pollutant load to the MS4.

Moreover, for those industrial facilities that the Applicants determine require inspection, the Applicants recommend that the Annual GIASWP inspection fees collected by the State Water Resources Control Board be distributed to the Applicants for conducting such industrial facility inspections. This would encourage and assist the Applicants and other Permittees in conducting such inspections, and would avoid private industry from either paying two inspection fees for a single inspection, or being subject to redundant inspections. In addition to the legal objections to the inspection program in Order No. 01-182, financial constraints make it difficult for the Applicants to carry out the level of inspections required under Order No. 01-182. Providing local agencies with sufficient monetary resources will facilitate more inspections by the Applicants.

Further, the current Los Angeles County MS4 Permit, under attachment "B," suggests that laundries are subject to the industrial/commercial inspection program as a commercial facility. It appears, however, that including laundries as commercial facilities that are subject to inspection requirements specified in the current

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Los Angeles County MS4 Permit is inappropriate and, appears to be a *"continuity error"* -- similar to the 1996 Los Angeles MS4 permit's inclusion of gas stations under the category of industrial facilities, which is incongruous because they are in fact commercial facilities. To put it another way, neither laundries nor dry cleaners are mentioned under the Industrial/Commercial Facilities Control Program as critical sources. Laundries are only referenced under appendix B.

Laundries are also not dry cleaners, as some Permittees, including the Principal Permittee have determined. Appendix B refers to laundries, under Tier 2 facilities, as SIC (standard industrial classification) 72. Actually, SIC 72 is defined as "personal services," not laundries. Actually SIC 72, "laundries," does not even exist. What does exist is SIC 721 "laundry, cleaning, and garment services." It has been suggested that SIC 72 refers to dry cleaning facilities as well. However, using the term "laundries" effectively excludes dry cleaners. They are not the same. The definition of laundry, according to Webster's New World Dictionary, "is a room with facilities for laundering." Also according to Webster, launder (derived from the Latin verb "lavar"), means "to wash or wash and iron" – not to dry clean, which of course involves a totally different process.

Additionally, laundries are not referenced under the Industrial and Commercial Facilities Control Program (section 4.C) of the current Los Angeles County MS4 permit as "critical sources." The purpose of industrial/commercial facilities control program is to inspect critical sources for BMPs or the need for BMPs that reduce pollutants in storm water runoff. Section 4.C, the permit specifies requirements for inspecting commercial facilities, including restaurants, automotive service facilities, and retail gasoline outlets and automotive dealerships. These requirements include the implementation/non-implementation of use-specific BMPs (e.g., "posts signs close to fuel dispensers, which warn vehicle owners/operators against "topping off" of vehicle fuel tanks and investigation of automatic shutoff fuel dispensing nozzles" as in the case of RGOs. Since laundries are not included as a critical source under this section, Permittees are challenged with determining what they should be inspected for.

14-1203

Beyond this, laundries are not referenced under the findings section of the MS4 permit as a critical source. In contrast, findings 8 through 11, address pollutants associated with certain industrial as well as certain commercial facilities (viz., automotive-related facilities, gas stations, and restaurants). Especially noteworthy is finding 8, which identifies "seven high priority industrial and commercial critical source types." Conspicuously absent among them are laundries and dry cleaning establishments. It is difficult to comprehend what activities associated with laundries would have an impact on storm water runoff. Typically, laundries are indoor operations. Therefore, there is no exposure of pollutant materials to storm water runoff. In terms of non-storm water discharges, wash water associated with laundries is not a tremendous pollution problem because it is discharged to the sanitary sewer system (a plumbing code requirement). It is difficult to imagine what pollutant materials would be stored outdoors at a laundry facility. The same could be said of dry cleaners as well.

Lastly, laundries are not referenced under the legal authority section of the MS4 permit. Section 3.G of the current Los Angeles County MS4 Permit, which addresses legal authority, does not suggest that Permittees should establish legal authority to control pollutants in storm water from laundries or dry cleaners. This poses a serious problem for enforcement in terms of accessing the premises for inspection. If a laundry refuses entry, it would be very difficult for a Permittee to convince a City Attorney -- let alone a magistrate -- that it has adequate legal authority to inspect such establishments for reasons other than illicit discharges or connections.

4.7 Priority 5 – Peak Flow Control and Standard Urban Storm Water Mitigation Plan (SUSMP)

The Applicants propose that the Development Planning Program provisions as contained in Order No. 01-182 be deleted and not carried forward into the next permit. Again, these provisions under Order No. 01-182 are being challenged by many of the Permittees, as the State and Regional Boards are without authority to impose these provisions, and as such program provisions are inconsistent with state and/or federal law.

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Continuing to require compliance with the SUSMP provisions is to require compliance with a particular design criteria or other particular manner of compliance, which is contrary to the prohibition under California Water Code section 13360. In addition, continuing to require compliance with the SUSMP provisions, and to compel municipalities to impose certain mitigation measures to mitigate undefined impacts from runoff from numerous "development" and "redevelopment" projects, irrespective of what mitigation measures may or may not be properly required under CEQA, and the review process set forth therein, is an arbitrary action contrary to law, and the Regional and State Boards lack the authority to impose any such requirements.

In addition, the Peak Flow Control provisions included in the current Los Angeles County MS4 Permit exceed the Regional and State Boards' authority, and are contrary to law, as neither the Clean Water Act, nor the Porter-Cologne Act authorizes the State to regulate the "quantity" of storm water or urban runoff.

The State and Regional Boards should also consider the impacts that the Development Planning Program provisions will have on the development of low income/affordable housing as required under Water Code section 13241(e) and 13263.

4.8 Priority 6 – Remove Unnecessary Language from Development Planning Requirements

The first paragraph under 4.D of the current Los Angeles County MS4 Permit reads as follows:

- Minimize impacts from storm water and urban runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CWC § 13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances ;

- Maximize the percentage of pervious surfaces to allow percolation of storm water into the ground;

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- Minimize the quantity of storm water directed to impervious surfaces and the MS4;
- Minimize pollution emanating from parking lots through the use of appropriate Treatment Control BMPs and good housekeeping practices;
- Properly design and maintain Treatment Control BMPs in a manner that does not promote the breeding of vectors; and
- Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site

Each of these requirements is unnecessary. They were carried over from the 1996 Los Angeles County MS4 Permit without taking into account that most of them were obviated by revisions made to the Development Planning Program under the current Los Angeles County MS4 Permit. These include:

- Minimize impacts from storm water and urban runoff on the biological integrity of Natural Drainage Systems and water bodies in accordance with requirements under CEQA (Cal. Pub. Resources Code § 21100), CWC § 13369, CWA § 319, CWA § 402(p), CWA § 404, CZARA § 6217(g), ESA § 7, and local government ordinances
- Maximize the percentage of pervious surfaces to allow percolation of storm water into the ground
- Minimize the quantity of storm water directed to impervious surfaces and the MS4
- Provide for appropriate permanent measures to reduce storm water pollutant loads in storm water from the development site

Requiring treatment control BMPs to prevent vector breeding was rendered superfluous by the maintenance agreement requirement under the current Development Planning Program. Further, this requirement does not take into account that some treatment controls will often contain some storm water or non-storm water that can

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attract vectors (that can breed in a cup of water) – notwithstanding maintenance.

4.9 Priority 7 – Specific BMP Requirements

Under Order No. 01-182, all Permittees were required to place and maintain trash receptacles at all transit stops within their jurisdiction.

Prescriptive requirements such as this limit the ability of Permittees to analyze and determine the cost effectiveness and appropriateness of BMPs to address pollutants of concern. The Applicants worst-case fear is that the Regional Board could impose upon them and other Permittees structural control requirements to address a pollutant of concern, expressed as a priority pollutants, such as trash and bacteria, without demonstrating that such pollutants impair the beneficial use(s) of a receiving water.

Instead, it is recommended that the Applicants be given the flexibility to select suitable BMPs to address pollutants of concern. The Applicants recommend that the explicit requirement to place and maintain trash receptacles at all transit stops be removed from the current Los Angeles County MS4 Permit and any successor MS4 Permit issued to the Applicants, as it is presently the subject of the legal challenge to Order No. 01-182. Moreover, any such mandates to be imposed upon the Applicants may only be imposed, under the California Constitution, if appropriate funds have been provided to the Permittees to fund the mandate.

4.10 Priority 8 – Development Construction Improvements

The General Construction Activities Stormwater Permit (GCASWP), Order No. 99-08-DWQ, requires all dischargers, where construction activities disturb one or more acres soil by grading, clearing, and/or excavating, to develop and implement a Storm Water Pollution Prevention Plan (SWPPP), eliminate or reduce non-stormwater discharges to storm drain systems and other waters of the United States, and perform inspections of all BMPs. The current Los Angeles County MS4 Permit allows, as mentioned under *Section 4.3 Priority 1 - Definition Changes,* a Local SWPPP to substitute for a State SWPPP. The Applicants, again, recommend eliminating this

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requirement, which is also the subject of the legal challenge to Order No. 01-182. It is a confusing requirement that makes the Permittees responsible for assuring that the L-SWPPP is essentially equivalent to the State SWPPP.

Further, the Applicants also propose that the Development Construction Program requirements as set forth under Order No. 01-182, be modified in the renewed permit so that the Applicants not be required to impose "minimum" unreasonable requirements on construction sites, such as unreasonable restrictions on the discharge of sediment or construction related material (including sand, gravel and other natural material) that may be discharged from a construction site. This concern is also the subject of the pending legal challenge.

Since the current Los Angeles County MS4 Permit requires Permittees to conduct at least one inspection of construction sites that are covered under a GCASWP, the Applicants believe that they should be reimbursed for this task. As is the case with the GIASWP, the regional board imposes a GCASWP fee on such construction projects. It is only fair and reasonable to ask for a share of that fee which, ostensibly, is to cover the cost of inspection.

The Applicants also recommend the de-watering of storm water to the MS4 from de-silting basins or ponds -- provided that such discharge has been detained long enough to cause sediment to settle-out prior to being released to the MS4.

4.11 Priority 9 – Illicit Connection/Discharge Detection and Elimination Improvements

Permittees are currently required to eliminate all illicit connections and illicit discharges to the storm drain system, and to document, track, and report all occurrences. The Permit requires the field screening of open channels, underground pipes less than 36" and underground pipes with a diameter of 36 inches or greater by specific dates. Based on an annual evaluation of patterns and trends of illicit connections and illicit discharges, it can be concluded that the following land use types contributed an average of 62.2% of all illicit connections and 81.5% of all illicit discharges discovered:

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- High Density Single Family Residential
- Retail and Commercial
- Light Industrial
- Multiple Family Residential
- Transportation

The Applicants recommend that field screening be concentrated in the five land use types above to maximize resources and target the areas where most illicit connections and illicit discharges are currently found. It is recommended that field screening in other land use types be optional since Applicants resources are limited.

As mentioned under *Section 4.3., Priority 1 - Definition Changes*, the Applicants also recommend that the term "illicit disposal" be removed from the definitions section of the Permit since it serves no purpose and is not used anywhere else in the Permit.

It should be noted that the Applicants do not share the view that the current definition of illicit discharge requires redefinition to mean "any discharge to a constructed storm drain ..." While the applicants understand the need for such revision, the definition of illicit discharge is fixed under federal regulations and, for this reason, cannot be altered. For example, what if there is an impermissible non-storm water discharge directly to a receiving water body by way of conveyance that is not a storm drain? Under the proposed re-definition of illicit discharge, this discharge would not be considered as one.

4.12 Priority 10 – Potable Water Discharge Exemption

The discharge exemption for potable drinking water supply and distribution system releases makes reference to American Water Works Association (AWWA) guidelines for dechlorination and suspended solids reduction practices. Permittees have determined that these AWWA guidelines do not exist. Therefore, it is recommended that the AWWA reference be removed from the Permit.

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4.13 Priority 11 – Additional Non-Storm Water Discharge Exemptions

The Applicants seek further exemptions for discharges that may be considered illicit under the current Los Angeles County MS4 permit, including:

- Exemption of wash water discharges associated with non-commercial car wash activities, except wash water that consists of de-ionized water used to remove dust from vehicles
- Exemption of wash water discharges associated fire with and other emergency vehicles that cannot be taken off-line without risk public health and safety.

The justification for requesting these discharge exemptions rests on the fact that: (1) with the exception of the City Whittier, the Applicants all drain fully into spreading grounds and other infiltration facilities; and (2) the amount of pollutants (surfactants, sediment, metal particulates, tire dust, etc.) from these sources are probably not in significant concentrations to pose an impairment to any beneficial use, including ground-water recharge.

However, for drainage areas that do not provide infiltration, it is recommended that impacted Applicants and other Permittees be allowed within their jurisdictions to permit the discharge of wash water to enter any component of the MS4, except the catch basin sump, provided that BMPs are implemented to prevent the discharge from entering the catch basin sump (e.g., blocking the inlet with sand bags or covering it with an impermeable material such as viscuine); and to remove the resulting ponded discharge using a wet vacuum or other similarly effective device or method.

4.14 Priority 12 – Legal Authority

The task of amending or adopting a Permittee-specific stormwater and urban runoff ordinance to enforce all requirements of the Permit

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takes a significant amount of time to complete. It is recommended that the Applicants be allowed a minimum of 12 months from the date of Permit adoption to complete all necessary changes to possess adequate legal authority to comply with the new Permit.

4.15 Priority 13 – Annual Report Enhancements

Applicants recommend streamlining the Municipal Stormwater Permit Annual Report to only require the reporting of significant records that demonstrate BMP effectiveness and compliance with the implementation of SQMP components to reduce the discharges of pollutants in stormwater to the MEP. Redundant requirements such as the preparation of an assessment of the effectiveness of SQMP requirements to reduce stormwater pollution which evaluates watershed-wide assessments conducted by each WMC is unnecessary and a waste of resources. A Principal Permittee assessment of the Permittee assessments is excessive and redundant and does not provide any new information that could not be concluded from reviewing watershed-wide assessments. It is recommended that only one assessment per watershed be required.

Many Permittees have had difficulties in submitting Annual Reports by the October 15th deadline. Problems exist with the short timeframe that Permittees are given between the end of the fiscal year (typically June 30) and the deadline for submitting Annual Reports to the Principal Permittee so that data can be compiled and summarized by the Principal Permittee for submittal by October 15th. This limited time period is not sufficient for Permittees to coordinate with internal divisions or departments to gather all the final information needed to compile their Individual Annual Report. In addition, adequate time is not given for financial numbers to be finalized. This preliminary information and data may affect the accuracy of Permittee reporting. Permittees recommend changing the Annual Report deadline from October 15th to November 15th of each year.

Permittees consider some information required for the Annual Report to be irrelevant to achieving the goals of the Permit. It is recommended that the following Annual Report questions be eliminated:

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- Section IV.C.7 – How many of each of the following projects did your agency review and condition to meet SUSMP requirements last year?

- Section IV.C.8 – What is the percentage of total development projects that were conditioned to meet SUSMP requirements?

- Section IV.D.5 – How many building/grading permits were issued to sites requiring Local SWPPPs last year?

- Section IV.D.6 – How many building/grading permits were issued to sites requiring coverage under the General Construction Activities Stormwater Permit last year?

- Section IV.D.7 – How many building/grading permits were issued to construction sites less than one acre in size last year?

The following Annual Report tables should be modified to eliminate confusion and improve the quality of data submitted:

Section IV.F.10 – Delete and replace with the following illicit connections table:

Illicit Connections Table

Number of Suspected Illicit Connections Reported	Number of Suspected Illicit Connections Investigated	Number of Illicit Connections Terminated	Number of Suspected Illicit Connections found not to be Illicit	Number of Suspected Illicit Connections that resulted in Enforcement Action

Section IV.F.13 – Delete and replace with the following illicit discharges table:

Illicit Discharges Table

Number of Suspected Illicit Discharges Reported	Number of Suspected Illicit Discharges Investigated	Number of Illicit Discharges Terminated	Number of Suspected Illicit Discharges found not to be Illicit	Number of Suspected Illicit Discharges that resulted in Enforcement Action

The Applicants also recommend that the reporting requirements for industrial and commercial inspections be revised to remove confusing

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and extraneous information. More specific recommendations shall be provided during MS4 Permit discussions with the Regional Board.

4.16 Priority 14 – Public Information and Participation Program Revision

The Applicants have been reliant mostly on the public information program developed by the Principal Permittee under the Los Angeles County MS4 permit. The Applicants are compelled to conclude that the Public Information and Participation Program (hereinafter "PIPP") has met its targets in reaching out to general and specific audiences on the importance of runoff pollution prevention.

However, in terms of watershed-specific outreach, the Applicants believe that the PIPP can be strengthened to (1) increase awareness of those pollutants that have either reached total maximum daily load status or high priority 303(d) list status, and how such pollutants impair water quality; and (2) work with the Principal Permittee in developing outreach materials to alter behaviors that give rise to watershed-specific pollution. The Applicants believe that an effective PIPP may, along with the implementation of institutional and structural BMPs, preempt elevating a priority pollutant to TMDL. In deed, PIPP should be the first step in any TMDL program.[5]

The Applicants intend to continue to implement the PIPP required under the current Los Angeles County MS4 permit. Additionally, permittees shall identify watershed pollutants of concern, including priority pollutants for inclusion into the PIPP. Because of financial limitations, the Applicants shall not be able to afford to pay for pollutant specific outreach audio and video advertisements. Instead, the permittees will continue to rely on the PIPP developed by the Principal Permittee, which is funded through the Los Angeles County Flood Control Assessment. The Applicants shall also utilize PIPP general, non-pollutant specific materials developed by the Principal Permittee.

[5]The current trash TMDL for the Los Angeles River and Baliona Creek does not sufficiently emphasize PIPP.

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Further, the Applicants shall develop brochures, leaflets, information cards, and other materials as necessary. As a means of reducing PIPP costs, the permittees shall utilize materials already developed by other MS4 programs, including but not limited to the County of Los Angeles, the City of Los Angeles, Orange County and other municipalities throughout the State. If necessary, the Applicants will also allocate resources to collectively develop materials aimed at identifying pollutants of concern on a watershed level and reducing their generation by targeting specific audiences/sources.

In more specific terms, the Applicants propose to implement the following PIPP program elements:

1. **Residential Program**

- The Applicants shall stencil or mark all of their catch basins with "no dumping" impressions and shall, on an annual basis, re-stencil or re-mark illegible impressions.
- The Applicants shall continue to post "no dumping" signage at public access points to creeks, channels or other conveyances that flow into receiving waters and ensure on an annual basis that such signage is still posted and is legible.

2. **Countywide Hotline**

- The Applicants shall continue to recognize the 888-CLEAN-LA hotline for reporting illicit connections, illicit discharges, and clogged catch basins.
- The Applicants may also, in the alternative, promote their own reporting hotline in lieu of or in addition to the County's hotline for the purposes of reporting illicit connections, illicit discharges, and/or clogged catch basins.
- The Applicants that choose to operate their hotlines shall notify the Los Angeles County Principal Permittee and provide names of those individuals who shall be designated as reporting line contacts.

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3. **Outreach and Education**

- The Applicants shall continue to implement the applicable PIPP tasks that were developed during the first 5 year PIPP developed by the Los Angeles County Principal Permittee, which are more particularly described under the current Los Angeles County MS4 Permit.

4. **Pollutant Specific Outreach**

- The Applicants shall develop outreach materials in keeping with pollutants of concern, including those specified on the 303(d), for the Upper San Gabriel River Watershed. The Applicants shall use available materials to address pollutants of concern. For materials that are not available for a pollutant, permittees shall endeavor to create them. Every effort shall be made to minimize costs, including "borrowing" materials already developed by other jurisdictions.

- The Applicants recommend -- in keeping with what the Permittees intend to propose in the Unified Los Angeles County ROWD -- that the next Permit remove the requirement to ensure a minimum of 35 million impressions per year on the general public about stormwater quality via print, local TV access, local radio, or other appropriate media. The Applicants believe that a better way to quantify the effectiveness of a public information and participation program is to use a presumptive measurement approach. This presumptive measurement approach will quantify a percent reduction or improvement in water quality as a result of implementing an integrated and cost-effective public information and participation program.

4.17 Priority 15 – Public Agency Program Revision

The Applicants recommend that the Public Agency Program under the current Los Angeles County MS4 Permit be revised to the following extent: (1) change the name of the program to Municipal Agency Program; and (2) eliminate the 2.F.1, *Sewage System Maintenance, Overflow, and Spill Prevention* requirement.

Referring to municipal operations as "public" is too general. Public can mean a state, federal or local agency. The term "municipal" is more specific and, as a matter of descriptive accuracy, is more preferable.

Section 2.F.1 should be eliminated from the next MS4 Permit because it has been effectively replaced by a more expansive sewer maintenance regulation that was adopted by the State Water Resources Control Board in May of 2006 (viz., *Statewide General Waste Discharge Requirements for Sewage Collection System Agencies*). This WDR, which is intended to reduce sewer system overflows, will require MS4 Permittees to implement tasks that exceed the Section 2.F.1 requirement. Notably, it will require a reporting program, an overflow emergency response program, a grease control program, an operations and maintenance program, a sewer system evaluation and capacity assurance plan, and a sewer system management plan that incorporates each of these elements.

4.18 Priority 16 – Permit Implementation Costs

The Applicants, as well as many other Permittees, have had to budget and divert earmarked money from other municipal requirements to meet the obligations under the current Los Angeles County MS4 Permit. The Applicants are concerned about the year-to-year increase in program implementation costs and do not foresee new revenue streams to help bridge the gap between MS4 Permit compliance and other municipal programs.

The Regional Board should not overlook the fact that the Applicants lack adequate resources to implement the requirements of the Permit, many of which are State unfunded mandates. Each Applicant operates under very a limited budget. While the cost of local government continues to rise, Cities continue to be constrained by taxing limitations make it difficult – if not almost impossible – to generate revenue necessary to keep with such costs. Proposition 218 effectively prohibits municipalities from adopting storm water fees without voter approval. Few municipalities have succeeded in adopting voter approved storm water fees since the current Los Angeles County MS4 Permit was adopted.

Therefore, the Regional Board should give consideration to developing and implementing program requirements that target the largest and most frequent sources of stormwater pollution, and that utilize Permittee resources prudently so as not to exhaust them beyond reasonable means.

Applicants, together with other Permittees, also recommend that Annual GIASWP and GCASWP inspection fees collected by the State Water Resources Control Board, be distributed to Permittees for conducting industrial facility and construction inspections.

As another means of helping pay for MS4 Permit costs, the Applicants, ask that the State Board rebate a portion of the annual MS4 NPDES Permit fees to them for this purpose. The Applicants are sensitive to the fact that the State charges each of them several thousands of dollars a year in NPDES permit fees (including a surcharge) without fully understanding the purpose or benefit of such fees. The Applicants are also sensitive to the fact that the current Los Angeles County MS4 permit requires Permittees to conduct inspections of industrial facilities and construction sites that are subject to General NPDES Storm Water Permits but without compensation. This issue will be raised again during MS4 Permit discussions with the regional board.

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Section 5.0 Water Quality Monitoring

5.1 Purpose

As stated in the current Los Angeles County MS4 Permit, the primary objectives of the Monitoring Program are:

- Assessing compliance with Permit requirements
- Measuring and improving the effectiveness of SQMP's
- Assessing the chemical and physical, and biological impacts of receiving waters resulting from urban runoff
- Characterization of storm water discharges Identifying sources of pollutants
- Identifying sources of pollutants
- Assessing the overall health and evaluating long-term trends in receiving water quality

Ultimately, the Monitoring Program is expected to produce data that should be used to adjust each Permittee's Storm Water Quality Management Plan (SQMP) to address pollution issues and, thereby, enhance and protect the beneficial uses of a receiving water.

5.2 Using the Principal Permittee's Monitoring Program

In the interest of economy, the Applicants propose to use the data generated from the Principal Permittee's current and future water quality monitoring program to achieve the aforementioned Monitoring Program objectives (incorporated by reference herein as **Appendix A**).

5.3 Watershed-Specific Monitoring and Data Acquisition

The Applicants intend to acquire as much data that has already been developed by other sources that are specific to the Upper San Gabriel River Watershed (reaches 2 and 3, Walnut Creek and the

San Jose Creek) – especially the quality of runoff that enters the spreading grounds and other infiltration facilities. Such sources include but are not limited to the following:

- Los Angeles County Flood Control District
- San Gabriel Basin Water Quality Authority
- Main San Gabriel Basin Watermaster
- Upper San Gabriel Municipal Water District
- San Gabriel and Lower Los Angeles Rivers Mountains Conservancy
- Cities of Whittier, Glendora and Azusa, which are producers and suppliers of potable water in the San Gabriel Valley
- California Regional Water Quality Control Board, Los Angeles Region
- State Water Resources Control Board
- United States Environmental Protection Agency, Region IX

Any pertinent data garnered from these sources shall be added to the data obtained from the Principal Permittee to evaluate the extent of water quality impairment to reaches 2 and 3 of the San Gabriel River and tributaries.

The Applicants are aware that a metals total maximum daily load (TMDL) for the San Gabriel River is about to be adopted by the regional board. The Applicants have formed the hypothesis that the quality of urban runoff generated within their municipal jurisdictions does not impair the beneficial uses of any water body within the Upper San Gabriel River Watershed (viz., municipal water supply, ground water recharge, recreation 1, and recreation 2 uses). To demonstrate this, the Applicants may be required to conduct additional monitoring of metals (viz., copper, lead, and zinc).

14-1219

Further, the Applicants shall, if funding permits, search for data or acquire it, if necessary, through separate sampling and analyses to determine to what extent oil, grease, surfactants (nutrients), and other pollutants impair beneficial uses within Upper San Gabriel River Watershed water bodies. The aim here is determine if post-construction structural controls called for under the development planning program should be required for certain developments sited in certain watershed drainage areas.

5.4 Studies

The Applicants continue to look forward to using information developed from various studies conducted by the Principal Permittee (e.g., BMP effectiveness and Peak Discharge Impact). In addition, the Applicants realize that studies will be needed to demonstrate that the spreading grounds and other regional infiltration structures within the watershed operate to mitigate pollutants in runoff. The Applicants have already begun to work on initiating this task.

5.5 Funding

The Applicants will need to rely on outside sources of funding to pay for additional monitoring and studies that are watershed-specific. Grants are one potential source. As a watershed group, the Applicants intend to actively seek funding from a variety of available sources, including but not limited to the Integrated Regional Watershed Management Program (IRWMP), Consolidated Grants, USEPA water infra-structure grants, etc. The Applicants hope that they will qualify more easily for grant funds under the banner of a watershed group as opposed to being Permittees subordinate to the Los Angeles County MS4 Permit.

14-1220

Appendix A Water Quality Monitoring Program

The 2001 Permit states that the results of the monitoring program should be used to "refine the SQMP for the reduction of pollutant loadings and the protection and enhancement of the beneficial uses of the receiving waters in Los Angeles County." Techniques to quantify the relationship between SQMP implementation and water quality are still in their infancy, and will mature through an iterative process over many Permit cycles. The recommendations described in this ROWD have been made with this in mind. Resources are proposed to be shifted toward those studies and monitoring programs that allow for a better measure of SQMP effectiveness and lead to reduction in pollutant loading from urban and storm runoff. Table 1 compares key monitoring requirements under the 2001 Permit with Permittees' recommendations in this ROWD.

In preparing this ROWD, Permittees have also taken into account the five core management questions set forth in the Stormwater Monitoring Coalition's report entitled "Model Monitoring Program for Municipal Separate Storm Sewer Systems in Southern California":

Question 1: Are conditions in receiving waters protective, or likely to be protective, or beneficial uses?
Question 2: What is the extent and magnitude of the current or potential receiving water problems?
Question 3: What is the relative urban runoff contribution to the receiving water problems?
Question 4: What are the sources to urban runoff that contribute to receiving water problems?
Question 5: Are conditions in receiving waters getting better or worse?

Table 2 shows if and to what extent each of these questions is addressed by both the 2001 Permit and the Permittees' recommendations. Finally, Table 3 contains a list of impaired water body special studies and monitoring programs for which the Permittees are responsible. Striving to obtain a streamlined and cost-effective monitoring program under the new Permit, Permittees recommend that these studies and programs be integrated with other monitoring requirements as much as possible.

5.1 CORE MONITORING

A. Mass Emissions Monitoring

Mass Emissions Monitoring is conducted in order to approximate the pollutant loads discharged by the MS4 system, to assess temporal trends at the Mass Emissions sites and to determine if flows from the MS4 system contribute to exceedances of Water Quality Standards.

1. Existing Permit Requirements:

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- Monitor 7 Mass Emissions sites during the first storm, 2 additional storms and during 2 dry weather flows (3 storm flows and 2 dry weather flows).
- Monitor 6 Mass Emissions sites (automated sites only) for total suspended solids (TSS) during all storms with at least 0.25" of rain. Collected data to be used in conjunction with TSS correlation attempts.
- Samples at Mass Emissions sites may be taken with automatic samplers as under Order 96-054. Grab samples must be taken for pathogen indicators and oil and grease. Automated samplers should be set to monitor storms of at least 0.25".
- Samples at the Santa Clara River Mass Emissions site are taken manually due to the infeasibility of installing automated samplers. Flow weighted composites are to be collected during the first 3 hours of a storm, or for the duration if less than 3 hours. A minimum of 3 aliquots separated by a minimum of 15 minutes is collected within each hour of discharge.
- Annually an analysis of the correlation of TSS and other pollutants of concern is performed and reported.

2. Issues and Recommendations
   - Wet weather data has been collected at most Mass Emissions Sites for approximately 10 years. Several constituents that consistently exceed water quality objectives exhibit no statistically significant trend as discussed in the Los Angeles County 1994-2005 Integrated Receiving Water Impacts Final Report, and it is unlikely that these constituents will be reduced to below water quality objectives in a short time frame. Using existing data, several data modeling exercises were performed to simulate different sampling strategies for wet weather data. It was concluded that collecting samples 2 times a year, or 3 times on alternate years, would be sufficient to determine trends over an approximately 40 year time period with a confidence of 95%. These modeling efforts and a more detailed discussion can be found in the Los Angeles County 1994-2005 Integrated Receiving Water Impacts Final Report. The Permittees recommend monitoring 2 storms and 2 dry weather events per year.
   - Data collected during the period between 1994 and 2005 was analyzed for TSS correlation with other pollutants of concern and the results were reported in the Los Angeles County 1994-2005 Integrated Receiving Water Impacts Final Report. Statistically significant TSS correlations were found only in the Santa Clara watershed, a natural bottom river, for total chromium, lead, iron and arsenic as well as for dissolved copper and boron. No TSS correlations were found to be significant in the other watersheds.

14-1222

- Permittees recommend that the sampling of storms exclusively for TSS be discontinued since few significant correlations were found in the previous 10 years. TSS Correlation was intended as a monitoring shortcut whereby TSS measurements could be used to approximate other pollutant loads while avoiding more expensive analyses. However, since few significant TSS correlations were found in the Santa Clara Watershed, and none in the other watersheds, TSS correlation cannot serve its intended purpose as a surrogate for more expensive analysis and should be discontinued.

B. Water Column Toxicity Monitoring

Water Column Toxicity Monitoring is performed in order to evaluate the toxicity of water being discharged from the MS4 system at the Mass Emissions Sites, to determine the causes and extent of toxicity in receiving waters and to modify and utilize the SQMP in order to eliminate or reduce sources of toxicity in MS4 discharges.

1. Existing Permit Requirements
   - Two storm events (including the first of the season) and two dry weather events are annually analyzed for toxicity. Ceriodaphnia dubia (water flea) 7-day survival/reproduction and Strongylocentrotus purpuratus (purple sea urchin) fertilization tests are used as a minimum.
   - A Phase I Toxicity Identification Evaluation (TIE) is performed on samples exhibiting a toxicity of 1 Toxic Unit or more for the water flea and a toxicity of 2 Toxic Unit or more for the purple sea urchin.
   - A Toxicity Reduction Evaluation is performed if a pollutant or class of pollutants is responsible for 50 percent of three or more TIEs at the same location.

2. Issues and Recommendations
   - Only 9.6% of all toxicity tests for C. dubia (water flea) resulted in TIEs and no trends were apparent. Furthermore, no dry weather toxicity tests for C. dubia (water flea) were toxic. Therefore, the Permittees recommend reducing the dry weather C. dubia (water flea) toxicity testing at the Mass Emissions sites to one test per year unless the first dry weather event C. dubia test of each year exhibits toxicity, in which case the second dry weather event should also be tested for C. dubia (water flea) toxicity.
   - Toxicity Testing should be performed at Tributary Monitoring sites for 2 storms and 2 dry events in order to detect pollutant effects that are not detected by physical or chemical analysis. The toxicity tests should be identical to those for the Mass Emissions Sites.

C. Shoreline Monitoring

14-1223

The Shoreline Monitoring Program is intended to evaluate the impacts to coastal receiving waters and the loss of recreational beneficial uses resulting from storm water/urban runoff.

1. Existing Permit Requirements

- The City of Los Angeles is responsible for Shoreline Monitoring under 2001 Permit and the revised Santa Monica Bay Shoreline Monitoring Requirements approved June 14, 2005.
- Twenty shoreline water quality stations are monitored.
- Three additional sites are to be evaluated for future monitoring.
- Three indicator groups (Total coliforms, Fecal Coliforms and Enterococcus) are monitored using membrane filtration, multiple tube fermentation, or chromogenic substrate test kits.
- Sampling occurs weekly or 5 days a week depending upon historical water quality at the sampling sites.
- Sampling occurs during daylight hours and may be omitted during hazardous weather.
- Monitoring frequencies may be modified based on adjacent beach use and storm drain proximity as recommended by the Santa Monica Bay Restoration Commission's Technical Advisory Committee (SMBRC TAC) and the Los Angeles County Department of Health Services (LA County DHS).
- Data is transmitted daily to the LA County DHS.
- LA County DHS is responsible for taking appropriate action in accordance with State law when exceedances of bacterial water quality standards occur.

2. Issues and Recommendations

The Regional Board's 2005 revision to the shoreline-monitoring requirement only partially aligned the Permit's requirement with the Coordinated Shoreline Monitoring Program (CSMP) approved by the Regional Board on April 28, 2004. Some of the Permittees' concerns on this matter were presented in comment letters submitted to the Regional Board by the City of Redondo Beach and Los Angeles County Department of Public Works on April 27 and May 10, 2005, respectively.

The allowable number of exceedance days depends on monitoring frequency. In choosing to conduct weekly monitoring, responsible agencies agreed to a proportional reduction in the allowable number of exceedances from that for daily monitoring. While the rationale behind the SMBRC TAC's recommendation to base monitoring frequency on usage and historical water quality is understandable, Permittees believe that weekly monitoring, which is consistent with AB411, provides reasonable public health protection. Instead of more monitoring, scarce public funds should be directed toward identifying and eliminating anthropogenic sources contributing to shoreline water quality impairments.

Permittees recommend that the CSMP in its entirety replace the existing shoreline monitoring program under the 2001 Permit. Monitoring should be the

14-1224

joint responsibility of those Permittees which are responsible agencies to address impaired water bodies. Permittees welcome the opportunity to discuss this issue with the SMBRC TAC.

D. Tributary Monitoring

Tributary Monitoring is performed in order to identify sub-watersheds where storm water discharges are causing or contributing to exceedances of Water Quality Standards, and to prioritize drainage and sub-drainage areas that need management actions.

1. Existing Permit Requirements
   - A minimum of six tributaries per year is monitored for a minimum of 1 year each. If no exceedances of water quality objectives are found at a station within one year, the station may be moved upon approval of the Regional Board Executive Officer. If exceedances for the same constituent are found in 3 out of 4 sampled events in a year, the Permittees shall initiate a focused effort to identify the sources of pollutants within that subwatershed.
   - Monitoring started in the Los Angeles River Watershed and is rotated between watersheds subject to the approval of the Regional Board Executive Officer. Descriptions and explanation of proposed sites and a summary of the previous year's data are to be included in the Annual Monitoring Report. The first tributaries to be monitored were prescribed in Order 01-182.
   - Tributary sites are monitored for the first storm of the year and three additional storms. At least one dry weather event per year is monitored at each site. (4 storm events and 1 dry weather event)
   - Tributary sites are monitored using the same sampling protocol as Mass Emissions sites and samples are analyzed for: pH, dissolved oxygen, temperature, conductivity, TSS, indicator bacteria, all priority pollutants, all constituents for which the water body is impaired downstream, and all constituents that caused toxicity or exceeded water quality criteria at the associated Mass Emissions Site the previous year. Flow data is also collected.

2. Issues and Recommendations
   - Tributary Monitoring sites should be located within a watershed for a period of two years. Watersheds should be rotated until all watersheds within the permit area have been monitored before returning to a previously monitored watershed. Watersheds are monitored for two years for two distinct reasons. First, two years allows for better calibration of monitoring equipment and adjusting sampling protocols to site specific factors (traffic patterns, equipment quirks, flow calibration). Secondly, and more importantly, two years of monitoring provides time so that subwatersheds with consistently high levels of pollutant loading can be identified, sources within subwatersheds can be identified and

14-1225

the identified sources of pollutants can be properly addressed or eliminated.

- Tributary Monitoring sites will be located in the San Gabriel River Watershed, including the Coyote Creek Watershed, for the 06/07 monitoring year. Monitoring should continue in this watershed for a total of 2 years, and monitoring in the next watershed should begin during the 08/09 monitoring year. The Los Angeles River Watershed and Ballona Creek Watershed have each been previously monitored under the Tributary Monitoring program. The Santa Clara River, Malibu Creek, and Dominguez Channel watersheds should be monitored in the future.
- Dry weather flows occur for a larger portion of the year than storm flows and may be monitored at a much lower expense than storm flows. Dry weather flows may also provide insight into chronic conditions within the MS4 system that may be masked by the high volumes in a storm flow. Three wet weather sampling events are sufficient to detect and double check exceedances, in keeping with the purpose of Tributary Monitoring. Therefore, the Permittees recommend reducing wet weather sampling to 3 events and increasing the dry weather sampling to 2 events. Resources saved by reducing wet weather monitoring will be used to analyze tributary flows for toxicity.
- The Permittees propose the addition of toxicity testing to the tributary monitoring program so as to identify toxic pollutant classes that are not otherwise found using standard physical and chemical tests. The toxicity tests should be identical to those for the Mass Emissions Sites.

5.2 REGIONAL MONITORING

A. Estuary Sampling

The objective of the estuary-sampling requirement is to "sample estuaries for sediment chemistry, sediment toxicity, and benthic macroinvertibrate community to determine the spatial extent of sediment fate from storm water, and the magnitude of its effect." This objective is consistent with questions 1, 2, and 5 of the Model Monitoring Program.

1. Existing Permit Requirements
   The 2001 Permit requires the Principal Permittee to participate in the Bight '03 project, specifically with respect to the project's estuary sampling component. The permit language provides great detail on the extent of the participation; this has been summarized in Table 1.

2. Issues and Recommendation

14-1226

Based on a preliminary review of available results, it appears that the Bight '03 project has been conducted such that the 2001 Permit's requirement has been fulfilled. We now better understand the extent and magnitude of impairments in LA County's estuaries. While some characterization work will remain necessary, we believe it is time to look more systematically at 1) determining the sources of urban runoff that contribute to elevated sediment toxicity levels and 2) how to reduce that contribution. The former question corresponds to question 4 in the MMP; the latter, while not a question formulated in the MMP, is essential for improving estuary sediment quality.

The Permittees recommend continuing participation in and fund future bight-wide studies (e.g. Bight '08). However, Permittees' contribution should be directed towards follow-up studies designed to answer questions most pertinent to reducing toxicant loading into LA County's estuaries from urban and storm runoff. These questions will be formulated in the coming months in consultation with Regional Board and SCCWRP, and may include but are not limited to the following:

- What are the specific toxicants causing recurring sediment toxicity in Ballona Creek Estuary? Dominguez Channel Estuary?
- What are sources of urban runoff that contribute to sediment toxicity?
- Partitioning coefficients between water column and sediment?
- Suspended sediment toxicity sampling protocol?
- Sediment transport mechanism and deposition patterns?
- What is the state of current technology available to reduce toxicant loading from urban and storm runoff?

B. Bioassessment

Existing Permit Requirements

- Participate in the SMC and with the Surface Water Ambient Monitoring Program (SWAMP) in development of a regional Index of Biological Integrity (IBI).
- Perform bioassessment monitoring every October
- Monitor a minimum of 20 sampling sites and coordinate with Surface Water Ambient Monitoring Program (SWAMP) in site selection.
- Collect a minimum of three replicate samples at each site
- Submit annual monitoring report containing all physical, chemical, and biological data collected and analyzed during bioassessment

14-1227

1. Issues and Recommendations

- Regional IBI: Permittees will continue participation in the development and testing of a regional IBI for low graded and ephemeral streams and estuaries.

- Site Selection: Permittees will select the number and location of sampling sites through the protocol expected to be developed in the regional IBI. Permittees will consider those sites already sampled in the three years of the current permit for the sake of continuity.

- Indicator Species: Permittees will choose fresh and salt-water benthic species to indicate the health of low graded and ephemeral streams and estuaries from the regional IBI to be developed.

- Impaired Water Body Studies: Permittees will give consideration to how the bioassessment monitoring required by the MS4 permit can enhance impaired water body studies.

5.3 SPECIAL STUDIES

A. New Development Impact Study

1. Existing Permit Requirements

- With support from the City of Santa Clarita, determine impacts from new development in the Santa Clara River watershed
- Compare water quality between two subwatersheds, one with and one without post-construction SUSMP BMPs
- As agree, if in the event of not finding suitable subwatersheds for study, develop a water quality model to simulate results for a single watershed in the Santa Clara River watershed

2. Issues and Recommendations

- A watershed of multiple-land uses has been selected for the water quality model simulation, and monitoring instrumentation is being installed.

- The model will evaluate the effectiveness of SUSMP implementation by calculating the changes of runoff flows and contaminant loading due to certain BMPs installed. As a result, a matrix of most suitable BMPs for certain types of land use will be recommended.

14-1228

- Upon the sampling of at least three storms, the model will be calibrated and run for various scenarios of BMP types and placement.

- Results will be used to support a study proposed by the SMC to evaluate the effectiveness of post-construction Low Impact Development (LID) BMPs in new development.

- Permittees will participate with the SMC LID study.

The proposed changes in the study requirements are summarized in Table 1 as compared with the requirements under the existing permit. The SMC's management questions for the New Development Impact Study are addressed in Table 2

3. Integration of impaired water body specific programs

- Results of the SMC LID BMP study will be evaluated for their possible inclusion in impaired water body specific programs. The results of the study will provide a variety of options of structural BMPs to help implement impaired water body specific programs. Furthermore, the results of the study will help with impaired water body specific programs by minimizing the impact of any future development or redevelopment within the watershed.

4. Comparison of existing and proposed programs in addressing management questions by SMC

B. Peak Discharge Impact Study

1. Existing permit requirements

- Evaluate peak flow controls
- Determine numeric criteria to prevent or minimize erosion of natural stream channels and banks caused by upstream development.

2. Issues and Recommendations

- A study, conducted jointly with the Stormwater Monitoring Coalition, was funded in whole by County Public Works and managed by the Southern California Coastal Waters Research Project.
- The study was completed in a manner sufficient only to develop interim standards, which were promulgated and submitted to the Regional Board on January 31, 2005.
- Interest in hydromodification issues among the permittees and members of the SMC led to a technical workshop in October 2005,

14-1229

associated with the first annual conference of the California Stormwater Quality Association.

- Proceedings of the workshop were assembled and published by SCCWRP and USC Sea Grant in December 2005.
- Interest in peak discharge and hydromodification issues is still high among permittees and the SMC member agencies.
- Ongoing research is being discussed to take up where the County DPW-funded study left off.
- Permittees will continue participating with in-kind services and in a peer-review capacity in the SMC hydromodification impacts research and develop numeric criteria by Dec. 10, 2010, or 6 months after publication of the SMC research, whichever is later.
- Until that time, the Interim Peak Flow criteria will be enforced, applying to all areas draining directly or indirectly to natural streams.

The proposed changes in the study requirements are summarized in Table 1 as compared with the requirements under the existing permit.

3. Integration of impaired water body specific programs

4. Comparison of existing and proposed programs in addressing management questions by SMC

   The SMC's management questions for the Peak Discharge Impact Study are addressed in Table 2.

C. BMP Effectiveness Study

1. Existing Permit Requirements

   - Conduct or participate in studies to evaluate the effectiveness of structural and treatment control BMPs.
   - Monitor the reduction of pollutants of concern in storm water for five or more different types of BMPs
   - Evaluate the requirements, feasibility and cost of maintenance for each BMP
   - Develop recommendations for appropriate BMPs for the reduction of pollutants of concern in storm water.

2. Issues and Recommendations

   - Five structural BMPs have been tested, including infiltration trench, catch basin inserts, enhanced manhole, hydrodynamic separator, wet vaults, and bioswale.

14-1230

- Detailed results are provided in the Appendix H of Los Angeles County 1994-2005 Integrated Receiving Water Impacts Report, which was submitted to RWQCB in August 2005.
- Three of the tested BMPs warrant further evaluation, one will be evaluated by another agency, and one does not warrant further testing.
- At least two replacement BMPs will be included in the study. The BMPs will be from those structural BMPs incorporated in the permittees' Sun Valley Park Drain and Infiltration System Project.
- Because BMP evaluation for trash removal is already required under the Public Agency Activities Program, trash will not be one of the pollutants to be monitored.

The proposed changes in the study requirements are summarized in Table 1 as compared with the requirements under the existing permit.

D. Participation in Studies Organized by the SMC

County Public Works was a founding member of the Southern California SMC, and will continue to be an active member. Diligent efforts will be made to participate in ongoing or future studies organized by the SMC at various levels including peer review, in-kind services, and monetary contributions. In particular, DPW will participate in the following studies:

- Regional Index of Biological Indicators
- Laboratory Intercalibration
- Reference Watershed Study
- Low Impact Development BMP Evaluation, Guidance and Training
- Stormwater Toxicity Protocols
- Peak Flow/Hydromodification Study

5.4 INTEGRATION OF IMPAIRED WATER BODY SPECIFIC PROGRAMS

Alignment of Permit-mandated monitoring with those required under other actions of the Regional Board should be required. The shoreline-monitoring program is a good example. Impaired water body monitoring programs and special studies currently in progress, or are expected to be conducted during the 2006 Permit cycle, have been summarized in Table 3. All impaired water body projects should be conducted by those Permittees which are also responsible agencies for these impaired water bodies.

14-1231

Appendix B Applicant Certification Letters

This appendix contains letters from the Cities, signed by their City Managers, to Mr. Jonathan Bishop, Executive Officer of the California Regional Water Quality Control Board, Los Angeles Region, certifying their participation in a separate a Report of Waste Discharge application, referred to as the Upper San Gabriel River Watershed Coalition.

14-1232

The Canyon City — Gateway to the American Dream

June 12, 2006

Mr. Jonathan Bishop
Executive Officer
California Regional Water Quality Control Board
320 West 4th Street
Los Angeles, California 90013

Subject: Participation in Separate ROWD Application

Dear Mr. Bishop:

The City of Azusa writes to notify your office that it has decided to participate in a group watershed Report of Waste Discharge (ROWD), referred to as the Upper San Gabriel River Watershed Coalition (attached herewith).

The City, along with the other municipal applicants, is taking the initiative to promote and develop a more watershed-focused approach to urban runoff management. Each of the applicants shares the common characteristic of discharging partially or wholly upstream of percolation basins – including the Whittier Narrows Spreading Grounds and the Rio Hondo Spreading Grounds.

In the end, the City believes that this watershed approach, which is spelled out in greater detail in the attached ROWD, will "preserve and enhance" the beneficial use of the Upper San Gabriel River. The City believes that a watershed approach to runoff pollution control is in keeping with USEPA, State Water Resources Control Board, and Los Angeles Regional Water Quality Control policy. Beyond this, non-governmental agencies, Heal the Bay especially, have encouraged municipal NPDES Permittees to pursue a watershed management approach to runoff pollution control.

The City also believes that the approach will serve as a model for other watersheds. Although not all municipal permittees in the Upper San Gabriel River (differentiated from the lower half by the spreading grounds) are included in this application, we believe that the nucleus of Cities that form this watershed will, through the success of this approach, encourage other municipalities participate at a later date. Further, we see no reason why these Cites and the Los Angeles County Flood Control District could not participate with us shortly after the next MS4 Permits are adopted.

The City looks forward to your support of this the initiative, of which it is pleased to be a participant. Should you have any questions, please call James Makshanoff, Public Works Director at 626-812-5248.

Sincerely,

Francis M. Delach
City Manager

CITY OF CLAREMONT

Jeffrey C. Parker, City Manager

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City Clerk • (909) 399-5460
Personnel • (909) 399-5450
Community Information • (909) 399-5497

June 12, 2006

Jonathan Bishop, Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street
Los Angeles, CA 90013

Dear Mr. Bishop:

Participation in Separate ROWD Application

This letter is to notify your office that the City of Claremont has decided to participate in a group watershed Report of Waste Discharge (ROWD), referred to as the Upper San Gabriel River Watershed Coalition (attached herewith).

The City, along with the other municipal applicants, is taking the initiative to promote and develop a more watershed-focused approach to urban runoff management. Each of the applicants shares the common characteristic of discharging partially or wholly upstream of percolation basins – including the Whittier Narrows Spreading Grounds and the Rio Hondo Spreading Grounds.

In the end, the City believes that this watershed approach, which is spelled out in greater detail in the ROWD, will preserve and enhance the beneficial use of the Upper San Gabriel River. The City believes that a watershed approach to runoff pollution control is in keeping with USEPA, State Water Resources Control Board, and Los Angeles Regional Water Quality Control policy. Beyond this, non-governmental agencies, Heal the Bay especially, have encouraged municipal NPDES Permittees to pursue a watershed management approach to runoff pollution control.

The City also believes that the approach will serve as a model for other watersheds. Although not all municipal permittees in the Upper San Gabriel River (differentiated from the lower half by the spreading grounds) are included in this application, we believe that the nucleus of cities that form this watershed will, through the success of this approach, encourage the participation of other municipalities at a later date. Further, we see no

Jun 12 2006 11:33AM City of Claremont Engineer 909 399 5327 p.1
14-1234

reason why these Cities -- and the Los Angeles County Flood Control District for that matter -- could not participate with us shortly after the next MS4 Permits are adopted.

The City looks forward to your support of this initiative, of which it is pleased to be a participant.

Should you have any questions, please call our city engineer, Craig Bradshaw, at (909) 399-5465.

Sincerely,

Jeffrey C. Parker
City Manager

Attachment

c: City Council
Sonia Carvalho, City Attorney
Tony Ramos, Assistant City Manager
Anthony Witt, Community Development Director
Scott Carroll, Community Services Director
Craig Bradshaw, City Engineer

Jun 12 2006 11:33AM City of Claremont Engineer 909 399 5327 p.2

CITY OF GLENDORA CITY HALL (626) 914-8201
116 East Foothill Blvd., Glendora, California 91741
FAX (626) 914-8221
OFFICE OF THE CITY MANAGER city_manager@ci.glendora.ca.us

June 7, 2006

Mr. Jonathan Bishop
Executive Officer
California Regional Water Quality Control Board
Los Angeles Region
320 West 4th Street
Los Angeles, California 90013

Re: Participation in Separate ROWD Application

Dear Mr. Bishop:

The City of Glendora hereby gives notice, subject to concurrence of the Glendora City Council, that it has decided to participate in a group watershed Report of Waste Discharge (ROWD), referred to as the Upper San Gabriel River Watershed Coalition. The City Council is expected to authorize staff to file the appropriate application(s) as discussed below prior to the June 12 deadline for submission.

The City, along with the other applicants, is taking the initiative to promote and develop a more watershed-focused approach to urban runoff management. Each of the applicants shares the common characteristic of discharging partially or wholly upstream of percolation basins.

In the end, the City believes that this watershed approach, which is spelled out in greater detail in the ROWD, will preserve and enhance the beneficial use of this reach of the San Gabriel River. The City also believes that the approach will serve as a model for other watersheds.

Although not all municipal permittees in Reach 2 of the San Gabriel River are included in this application, we believe that the nucleus of Cities that form this watershed will, through the success of this approach, encourage other cities participate at a later date. Further, we see no reason why these cites could not participate with us shortly after the next MS4 Permits are adopted.

The City looks forward to your support of this the initiative, in which it is pleased to be a participant.

Should you have any questions, please call me.

Sincerely,

Eric G. Ziegler
City Manager

cc: City Council

14-1236

City of
IRWINDALE

June 6, 2006

Mr. Jonathan Bishop, Executive Officer
California Regional Water Quality Control Board, Los Angeles Region
320 West 4th Street
Los Angeles, California 90013

Subject: Participation in Separate ROWD Application

Dear Mr. Bishop:

The City of Irwindale writes to notify your office that it has decided to participate in a group watershed Report of Waste Discharge (ROWD), referred to as the Upper San Gabriel River Watershed Coalition (attached herewith).

The City, along with the other applicants, is taking the initiative to promote and develop a more watershed-focused approach to urban runoff management. Each of the applicants shares the common characteristic of discharging, partially or wholly, upstream of percolation basins.

In the end, the City believes that this watershed approach, which is spelled out in greater detail in the ROWD, will preserve and enhance the beneficial use of this reach of the San Gabriel River. The City also believes that the approach will serve as a model for other watersheds. Although not all municipal permittees in reach 2 of the San Gabriel River are included in this application, we believe that the nucleus of Cities that form this watershed will, through the success of this approach, encourage other Cities to participate at a later date. Further, we see no reason why these Cities could not participate with us shortly after the next MS4 Permits are adopted.

The City looks forward to your support of this initiative, of which it is pleased to be a participant.

Should you have any questions, please call me at (626) 430-2217.

Sincerely,

Robert Griego
Interim City Manager

5050 North Irwindale Ave. Irwindale, CA 91706 | (626) 430-2200 Facsimile: (626) 962-4209

14-1237

City of Whittier
13230 Penn Street, Whittier, California 90602-1772
(562) 945-8200

Cathy Warner
Mayor

Owen Newcomer
Mayor Pro Tem

Joe Vinatieri
Council Member

Bob Henderson
Council Member

Greg Nordbak
Council Member

Stephen W. Helvey
City Manager

June 8, 2006

Mr. Jonathan Bishop, Executive Officer
California Regional Water Quality Board
Los Angeles Region
320 West 4th Street
Los Angeles, CA 90013

Dear Mr. Bishop:

RE: Participation in Separate ROWD Application

The City of Whittier writes to notify your office that it has decided to participate in a group watershed Report of Waste Discharge (ROWD), referred to as the Upper San Gabriel River Watershed Coalition (attached herewith).

The City, along with the other applicants, is taking the initiative to promote and develop a more watershed-focused approach to urban runoff management. Each of the applicants shares the common characteristic of discharging partially or wholly upstream of percolation basins.

In the end, the City believes that this watershed approach, which is spelled out in greater detail in the ROWD, will preserve and enhance the beneficial use of this Reach of the San Gabriel River. The City also believes that the approach will serve as a model for other watersheds. Although not all municipal permittees in Reaches 2 & 3 of the San Gabriel River are included in this application, we believe that the nucleus of Cities that form this watershed will, through the success of this approach, encourage other Cities to participate at a later date. Further, we see no reason why these Cities could not participate with us shortly after the next MS4 Permits are adopted.

The City looks forward to your support for this initiative, of which it is pleased to be a participant. Should you have any questions, please contact Dave Mochizuki, Director of Public Works, at (562) 464-3510.

Sincerely,

Stephen W. Helvey
City Manager

SH:ck

Attachment: Report of Waste Discharge
O:\Staff\Leon Yehuda\Separate ROWD App 6 8 06.doc

14-1238

California Regional Water Quality Control Board

Los Angeles Region

Recipient of the 2001 *Environmental Leadership Award* from Keep California Beautiful

Linda S. Adams
Agency Secretary

320 W. 4th Street, Suite 200, Los Angeles, California 90013
Phone (213) 576-6600 FAX (213) 576-6640 - Internet Address: http://www.waterboards.ca.gov/losangeles

Arnold Schwarzenegger
Governor

July 12, 2006

Mr. Mark Pestrella
Assistant Deputy Director
Watershed Management Division
County of Los Angeles Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803-1331

and

Los Angeles County Municipal Storm Water Permittees

REVIEW OF THE REPORT OF WASTE DISCHARGE FOR THE REISSUANCE OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MUNICIPAL STORM WATER DISCHARGE PERMIT FOR THE COUNTY OF LOS ANGELES AND PERMITTEES (NPDES No. CAS004001, ORDER No. 01-182)

Dear Mr. Pestrella:

We have received the Report of Waste Discharge (ROWD) submitted on June 12, 2006 for reissuance of the County of Los Angeles Municipal Storm Water Discharge Permit (LA MS4 Permit). The County of Los Angeles and Permittees are currently covered under Regional Board Order No. 01-182, which expires on December 12, 2006. Two Permittees currently covered under Order 01-182 have submitted separate ROWD's (City of Downey and City of Signal Hill) for their own MS4 Permit. A fourth ROWD was received for a portion of the San Gabriel River Watershed which only includes the Cities of Azusa, Claremont, Glendora, Irwindale, and Whittier. For purposes of the LA MS4 Permit renewal, the cities of Azusa, Claremont, Downey, Glendora, Irwindale, Signal Hill, and Whittier are excluded, and among other things will be responsible for their own storm water management programs and monitoring programs, if they pursue separate MS4 Permits.

Our review of the ROWD indicates that while the Permittees are proposing some positive changes, other areas of the ROWD do not satisfy federal storm water regulations contained in the United States Environmental Protection Agency (USEPA) Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems; Final Rule August 9, 1996 (*61 Fed Reg. 41697*). Some of the inadequacies include:

1. The elimination of Local SWPPPs for all construction sites 1 acre and greater; and
2. The proposal for inclusion of TMDL requirements only in memoranda of understanding (MOUs) in lieu of TMDL Waste Load Allocations (WLAs) included in NPDES Permits as required by federal regulations.

And Permittees

Federal Regulations (40 C.F.R. § 122.44(d)(1)(vii)(B)) require that NPDES Permits incorporate all applicable TMDL WLAs when reissued and are made enforceable. There is no existing authority to use MOUs for compliance within the NPDES regulatory scheme. Further, any dry weather WLAs are unaffected by storm water policy.

The ROWD did not satisfy the requirements in the United States Environmental Protection Agency (USEPA) Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems; Final Rule August 9, 1996 (*61 Fed Reg. 41697*). For these and other deficiencies in the ROWD, we deem it incomplete.

We do however, look forward to working out these details with your staff during the MS4 permit reapplication process. Our review will not be deemed to prejudice the Board from raising additional subject matter not identified herein, during the permit reissuance process. We intend to conduct a series of work-group meetings to receive input over the coming months with Permittee representatives and interested persons, to assist us in developing permit requirements. Pursuant to 40 CFR 122.6, Order 01-182 shall remain in effect and enforceable until a replacement LA MS4 Permit is adopted by the Board.

If you have any questions, please do not hesitate to contact me at (213) 576-6605 or Dr. Xavier Swamikannu at (213) 620-2094 or Carlos Urrunaga at (213) 620-2083.

Sincerely,

Jonathan S. Bishop
Executive Officer

Enclosure

cc: Mr. Michael Levy Esq, Office of the Chief Counsel, State Water Resources Control Board
Mr. Bruce Fujimoto, Division of Water Quality, State Water Resources Control Board
Mr. Eugene Bromley, CWA Standards and Permits, USEPA Region IX
Mr. Dan Lafferty, Watershed Mgmt. Division, Los Angeles County Dept. of Public Works

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Arnold Schwarzenegger
Governor

July 12, 2006

Mr. Gerald Caton
City Manager
City of Downey
11111 Brookshire Avenue
Downey, CA 90241

THE REISSUANCE OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MUNICIPAL STORM WATER DISCHARGE PERMIT FOR THE COUNTY OF LOS ANGELES AND PERMITTEES (NPDES No. CAS004001, ORDER No. 01-182) - REVIEW OF THE CITY OF DOWNEY REPORT OF WASTE DISCHARGE

Dear Mr. Caton:

We have received the Report of Waste Discharge (ROWD) submitted on June 12, 2006 for a Downey Municipal Separate Storm Sewer System Permit (DMS4 Permit). Municipal storm water discharges from the City of Downey are presently regulated under Regional Board Order No. 01-182, which expires on December 12, 2006.

The City of Downey (City) by submitting a separate ROWD is pursing a separate MS4 permit and will assume among other things, the responsibility for a city specific storm water management program and monitoring program.

Our review of the ROWD indicates that while the City is proposing some positive changes other areas of the ROWD do not satisfy federal storm water regulations contained in the United States Environmental Protection Agency (USEPA) Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems; Final Rule August 9, 1996 (*61 Fed Reg. 41697*). Some of the inadequacies include but are not limited to the following:

1. The elimination of inspection programs for commercial facilities;
2. The elimination of the Development Planning Program including SUSMP and peak flow controls;
3. The elimination of Local SWPPPs for all construction sites 1 acre and greater;
4. The monitoring program description only includes monitoring of the Rio Hondo but not of the Los Angeles or San Gabriel Rivers to which the City discharges; and
5. The proposal for inclusion of TMDL requirements only in memoranda of understanding (MOUs) in lieu of TMDL Waste Load Allocations (WLAs) included in NPDES Permits as required by federal regulations.

Federal Regulations (40 C.F.R. § 122.44(d)(1)(vii)(B)) require that NPDES Permits incorporate all applicable TMDL WLAs when reissued and are made enforceable. There is no existing authority to use MOUs for compliance within the NPDES regulatory scheme. Further, any dry weather WLAs are unaffected by storm water policy.

The ROWD did not satisfy the requirements in the United States Environmental Protection Agency (USEPA) Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems; Final Rule August 9, 1996 (*61 Fed Reg. 41697*). For these and other deficiencies in the ROWD, we deem it incomplete.

We do however, look forward to working out these details with your staff during the MS4 permit reapplication process. Our review will not be deemed to prejudice the Board from raising additional subject matter not identified herein, during the permit reissuance process. We intend to conduct a series of work-group meetings to receive input over the coming months with Permittee representatives and interested persons, to assist us in developing permit requirements. Pursuant to 40 CFR 122.6, Order 01-182 shall remain in effect and enforceable until a replacement LA MS4 Permit (with Downey as a Permittee) or Downey MS4 Permit is adopted by the Board.

If you have any questions, please do not hesitate to contact me at (213) 576-6605 or Dr. Xavier Swamikannu at (213) 620-2094 or Carlos Urrunaga at (213) 620-2083.

Sincerely,

Jonathan S. Bishop
Executive Officer

Enclosure

cc: Mr. Michael Levy Esq, Office of the Chief Counsel, State Water Resources Control Board
Mr. Bruce Fujimoto, Division of Water Quality, State Water Resources Control Board
Mr. Eugene Bromley, CWA Standards and Permits, USEPA Region IX
Mr. Dan Lafferty, Watershed Mgmt. Division, Los Angeles County Dept. of Public Works

California Regional Water Quality Control Board

Los Angeles Region

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Arnold Schwarzenegger
Governor

July 12, 2006

Mr. Kenneth Farfsing, City Manager
City of Signal Hill
2175 Cherry Avenue
Signal Hill, CA 90755

THE REISSUANCE OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MUNICIPAL STORM WATER DISCHARGE PERMIT FOR THE COUNTY OF LOS ANGELES AND PERMITTEES (NPDES No. CAS004001, ORDER No. 01-182) - REVIEW OF THE CITY OF SIGNAL HILL REPORT OF WASTE DISCHARGE

Dear Mr. Farfsing:

We have received the Report of Waste Discharge (ROWD) submitted on June 12, 2006 for a Signal Hill Municipal Separate Storm Sewer System Permit (SHMS4 Permit). Municipal storm water discharges from the City of Signal Hill are presently regulated under Regional Board Order No. 01-182, which expires on December 12, 2006.

The City of Signal Hill (City) by submitting a separate ROWD is pursing a separate MS4 permit and will assume among other things, the responsibility for a city specific storm water management program and monitoring program.

Our review of the ROWD indicates that while the City is proposing some positive changes other areas of the ROWD do not satisfy federal storm water regulations contained in the United States Environmental Protection Agency (USEPA) Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems; Final Rule August 9, 1996 (*61 Fed Reg. 41697*). Some of the inadequacies include:

1. The elimination of inspection programs for commercial facilities;
2. The elimination of the Development Planning Program including SUSMP and peak flow controls;
3. The elimination of Local SWPPPs for all construction sites 1 acre and greater;
4. The monitoring program description only includes a simplistic monitoring regime with a lack of details such as whether samples will be "grab" or "flow weighted composite" samples; and
5. The proposal for inclusion of TMDL requirements only in memoranda of understanding (MOUs) in lieu of TMDL Waste Load Allocations (WLAs) included in NPDES Permits as required by federal regulations.

Federal Regulations (40 C.F.R. § 122.44(d)(1)(vii)(B)) require that NPDES Permits incorporate all applicable TMDL WLAs when reissued and are made enforceable. There is no existing

authority to use MOUs for compliance within the NPDES regulatory scheme. Further, any dry weather WLAs are unaffected by storm water policy.

The ROWD did not satisfy the requirements in the United States Environmental Protection Agency (USEPA) Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems; Final Rule August 9, 1996 (*61 Fed Reg. 41697*). For these and other deficiencies in the ROWD, we deem it incomplete.

We do however, look forward to working out these details with your staff during the MS4 permit reapplication process. Our review will not be deemed to prejudice the Board from raising additional subject matter not identified herein, during the permit reissuance process. We intend to conduct a series of work-group meetings to receive input over the coming months with Permittee representatives and interested persons, to assist us in developing permit requirements. Pursuant to 40 CFR 122.6, Order 01-182 shall remain in effect and enforceable until a replacement LA MS4 Permit (with Signal Hill as a Permittee) or Signal Hill MS4 Permit is adopted by the Board.

If you have any questions, please do not hesitate to contact me at (213) 576-6605 or Dr. Xavier Swamikannu at (213) 620-2094 or Carlos Urrunaga at (213) 620-2083.

Sincerely,

Jonathan S. Bishop
Executive Officer

Enclosure

cc: Mr. Michael Levy Esq, Office of the Chief Counsel, State Water Resources Control Board
Mr. Bruce Fujimoto, Division of Water Quality, State Water Resources Control Board
Mr. Eugene Bromley, CWA Standards and Permits, USEPA Region IX
Mr. Dan Lafferty, Watershed Mgmt. Division, Los Angeles County Dept. of Public Works

California Regional Water Quality Control Board

Los Angeles Region

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Agency Secretary

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Arnold Schwarzenegger
Governor

July 12, 2006

Ms. Frances M. Delach, City Manager
City of Azusa
213 E. Foothill Blvd.
Azusa, California 91702

Mr. Jeffrey C. Parker, City Manager
City of Claremont
207 Harvard Avenue
Claremont, CA 91711

Mr. Eric G. Ziegler, City Manager
City of Glendora
116 East Foothill Blvd
Glendora, CA 91741

Mr. Robert Griego, Interim City Manager
City of Irwindale
5050 North Irwindale Avenue
Irwindale, CA 91706

Mr. Stephen W. Helvey, City Manager
City of Whittier
13230 Penn Steet
Whittier, CA 90602

REVIEW OF THE FIVE CITIES' SAN GABRIEL RIVER REPORT OF WASTE DISCHARGE IN LIEU OF THE REISSUANCE OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM MUNICIPAL STORM WATER DISCHARGE PERMIT FOR THE COUNTY OF LOS ANGELES AND PERMITTEES (NPDES No. CAS004001, ORDER No. 01-182)

Dear Ms. Delach and Messrs. Parker; Ziegler; Griego; and Helvey:

We have received the Report of Waste Discharge (ROWD) submitted on June 12, 2006 for a 5 Cities San Gabriel River Municipal Separate Storm Sewer System Permit (SGR MS4 Permit). Municipal storm water discharges from the Cities of Azusa, Claremont, Glendora, Irwindale, and Whittier, (hereinafter referred to as "5 Cities") are presently regulated under Regional Board Order No. 01-182, which expires on December 12, 2006.

The 5 Cities, by submitting a separate ROWD are pursing a separate MS4 permit and will assume among other things, the responsibility for their city specific storm water management program and monitoring program.

Our review of the ROWD indicates that while the 5 Cities are proposing some positive changes, other areas of the ROWD do not satisfy federal storm water regulations contained in the United States Environmental Protection Agency (USEPA) Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems; Final Rule August 9, 1996 (*61 Fed Reg. 41697*). Some of the inadequacies include but are not limited to the following:

1. Eliminating inspections programs for commercial facilities;
2. Eliminating the Development Planning Program including SUSMP and peak flow controls;
3. Eliminating Local SWPPPs for all construction sites 1 acre and greater; and
4. The Monitoring Program only includes using other Permittees' data but provides no monitoring for 5 Cities.

Federal Regulations (40 C.F.R. § 122.44(d)(1)(vii)(B)) require that NPDES Permits incorporate all applicable TMDL WLAs when reissued and are made enforceable. There is no existing authority to use MOUs for compliance within the NPDES regulatory scheme. Further, any dry weather WLAs are unaffected by storm water policy.

The ROWD did not satisfy the requirements in the United States Environmental Protection Agency (USEPA) Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems; Final Rule August 9, 1996 (*61 Fed Reg. 41697*). For these and other deficiencies in the ROWD, we deem it incomplete.

We do however, look forward to working out these details with your staff during the MS4 permit reapplication process. Our review will not be deemed to prejudice the Board from raising additional subject matter not identified herein, during the permit reissuance process. We intend to conduct a series of work-group meetings to receive input over the coming months with Permittee representatives and interested persons, to assist us in developing permit requirements. Pursuant to 40 CFR 122.6, Order 01-182 shall remain in effect and enforceable until a replacement LA MS4 Permit (with the 5 Cities as Permittees) or a 5 Cities MS4 Permit is adopted by the Board.

If you have any questions, please do not hesitate to contact me at (213) 576-6605 or Dr. Xavier Swamikannu at (213) 620-2094 or Carlos Urrunaga at (213) 620-2083.

Sincerely,

Jonathan S. Bishop
Executive Officer

cc: Mr. Michael Levy Esq, Office of the Chief Counsel, State Water Resources Control Board
Mr. Bruce Fujimoto, Division of Water Quality, State Water Resources Control Board
Mr. Eugene Bromley, CWA Standards and Permits, USEPA Region IX
Mr. Dan Lafferty, Watershed Mgmt. Division, Los Angeles County Dept. of Public Works

State Water Resources Control Board

Division of Water Quality
1001 I Street • Sacramento, California 95814 • (916) 341-5538
Mailing Address: P.O. Box 1977 • Sacramento, California • 95812-1977
FAX (916) 341-5543 • Internet Address: http://www.waterboards.ca.gov/water_issues/programs/stormwater/

Linda S. Adams
Secretary for
Environmental Protection

Arnold Schwarzengger
Governor

To: STORM WATER DISCHARGER

SUBJECT: CHECKLIST FOR SUBMITTING A NOTICE OF INTENT

In order for the State Water Resources Control Board to expeditiously process your Notice of Intent (NOI), the following items must be submitted to either of the addresses indicated below:

1._____ NOI (please keep a copy for your files) with all applicable sections completed and original signature of the facility operator;

2._____ Check made out to the "State Water Resources Control Board" with the appropriate fee. The total annual fee is **$1008.00.**

3._____ Site Map of the facility (see NOI instructions). DO NOT SEND BLUEPRINTS

U.S. Postal Service Address

State Water Resources Control Board
Division of Water Quality
Attn: Storm Water Section
P.O. Box 1977
Sacramento, CA 95812-1977

Overnight Mailing Address

State Water Resources Control Board
Division Of Water Quality
Attn: Storm Water, 15th Floor
1001 I Street
Sacramento, CA 95814

NOIs are processed in the order they are received. A NOI receipt letter will be mailed to the facility operator within approximately two weeks. Incomplete NOI submittals will be returned to the facility operator within the same timeframe and will specify the reason(s) for return. If you need a receipt letter by a specific date (for example, to provide to a local agency), we advise that you submit your NOI thirty (30) days prior to the date the receipt letter is needed.

Please do not call us to verify your NOI status. A copy of your NOI receipt letter will be available on our web page within twenty-four (24) hours of processing. Go to: http://www.waterboards.ca.gov/water_issues/programs/stormwater/databases.shtml to retrieve an electronic copy of your NOI receipt letter. If you have any questions regarding this matter, please contact us at (916) 341-5538.

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WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
DISCHARGES OF STORM WATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES
EXCLUDING CONSTRUCTION ACTIVITIES

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FACT SHEET
FOR

STATE WATER RESOURCES CONTROL BOARD (STATE WATER BOARD)
WATER QUALITY ORDER NO. 97-03-DWQ
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000001 (GENERAL PERMIT)

WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
DISCHARGES OF STORM WATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES
EXCLUDING CONSTRUCTION ACTIVITIES

BACKGROUND

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is effectively prohibited unless the discharge is in compliance with an NPDES permit. The 1987 amendments to the CWA added Section 402(p) that establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (U.S. EPA) published final regulations that establish application requirements for storm water permits. The regulations require that storm water associated with industrial activity (storm water) that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

U.S. EPA developed a four-tier permit issuance strategy for storm water discharges associated with industrial activity as follows:

Tier I, Baseline Permitting--One or more general permits will be developed to initially cover the majority of storm water discharges associated with industrial activity.

Tier II, Watershed Permitting--Facilities within watersheds shown to be adversely impacted by storm water discharges associated with industrial activity will be targeted for individual or watershed-specific general permits.

Tier III, Industry-Specific Permitting--Specific industry categories will be targeted for individual or Industry-specific general permits.

Tier IV, Facility-Specific Permitting--A variety of factors will be used to target specific facilities for individual permits.

The regulations allow authorized states to issue general permits or individual permits to regulate storm water discharges.

Consistent with Tier I, Baseline Permitting, of the U.S. EPA permitting strategy, the State Water Board issued a statewide General Permit on November 19, 1991 that applied to all storm water discharges requiring a permit except construction activity. The monitoring requirements of this General Permit were amended September 17, 1992. A separate statewide general permit has been issued for construction activity.

To obtain authorization for continued and future storm water discharge under this General Permit, each facility operator must submit a Notice of Intent (NOI). This approach is consistent with the four-tier permitting strategy described in Federal regulations, i.e., Tier 1, Baseline Permitting. Tier 1, Baseline Permitting, enables the State to begin reducing pollutants in industrial storm water in the most efficient manner possible.

This General Permit generally requires facility operators to:

1. Eliminate unauthorized non-storm water discharges;
2. Develop and implement a storm water pollution prevention plan (SWPPP); and
3. Perform monitoring of storm water discharges and authorized non-storm water discharges.

TYPES OF STORM WATER DISCHARGES COVERED BY THIS GENERAL PERMIT

This General Permit is intended to cover all new or existing storm water discharges and authorized non-storm water discharges from facilities required by Federal regulations to obtain a permit including those (1) facilities previously covered by the San Francisco Bay Regional Water Quality Control Board Order No. 92-011 (as amended by Order No. 92-116), (2) facilities designated by the Regional Water Quality Control Boards (Regional Water Boards), (3) facilities whose operators seek coverage under this General Permit, (4) and facilities required by future U.S. EPA storm water regulations.

The General Permit is intended to cover all facilities described in Attachment 1, whether the facility is primary or is auxiliary to the facility operator's function. For example, although a school district's primary function is education, a facility that it operates for vehicle maintenance of school buses is a transportation facility that is covered by this General Permit.

The definition of "storm water associated with industrial activity" is provided in Attachment 4, Definition 9, of this General Permit. Facilities that discharge storm water associated with industrial activity requiring a General Permit are listed by category in 40 Code of Federal Regulations (CFR) Section 122.26(b)(14) (Federal Register, Volume 55 on

Pages 48065-66) and in Attachment 1 of this General Permit. The facilities can be publicly or privately owned. General descriptions of these categories are:

1. Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards (40 CFR Subchapter N);

2. Manufacturing facilities;

3. Mining/oil and gas facilities;

4. Hazardous waste treatment, storage, or disposal facilities;

5. Landfills, land application sites, and open dumps that receive industrial waste;

6. Recycling facilities such as metal scrap yards, battery reclaimers, salvage yards, automobile yards;

7. Steam electric generating facilities;

8. Transportation facilities that conduct any type of vehicle maintenance such as fueling, cleaning, repairing, etc.;

9. Sewage treatment plants;

10. Construction activity (covered by a separate general permit); and

11. Certain facilities (often referred to as "light industry") where industrial materials, equipment, or activities are exposed to storm water.

For the most part, these facilities are identified in the Federal regulations by a Standard Industrial Classification (SIC).

Category 1 Dischargers

The following categories of facilities currently have storm water effluent limitation guidelines for at least one of their subcategories. They are cement manufacturing (40 CFR Part 411); feedlots (40 CFR Part 412); fertilizer manufacturing (40 CFR Part 418); petroleum refining (40 CFR Part 419); phosphate manufacturing (40 CFR Part 422); steam electric power generation (40 CFR Part 423); coal mining (40 CFR Part 434); mineral mining and processing (40 CFR Part 436); ore mining and dressing (40 CFR Part 440); and asphalt emulsion (40 CFR Part 443). A facility operator whose facility falls into one of these general categories should examine the effluent guidelines to determine if the facility is categorized in one of the subcategories that have storm water effluent guidelines. If

a facility is classified as one of those subcategories, that facility is subject to the standards listed in the CFR for that category and is subject to this General Permit. This General Permit contains additional requirements (see Section B.6.) for facilities with storm water effluent limitations guidelines.

Category 5 Dischargers

Inactive or closed landfills, land application sites, and open dumps that have received industrial wastes (Category 5) may be subject to this General Permit unless the storm water discharges from the sites are already regulated by an NPDES permit issued by the appropriate Regional Water Board. Facility operators of closed landfills that are regulated by waste discharge requirements (WDRs) may be required to comply with this General Permit. In some cases, it may be appropriate for closed landfills to be covered by the State Water Board's General Permit during closure activities. The Construction Activities General Permit should cover new landfill construction. Facility operators should contact their Regional Water Board to determine the appropriate permit coverage.

Category 10 Dischargers

Facility operators of Category 10 (light industry) facilities are not subject to this General Permit if they can certify that the following minimum conditions at their facilities are met:

1. All prohibited non-storm water discharges have been eliminated or otherwise permitted.

2. All areas of past exposure have been inspected and cleaned, as appropriate.

3. All materials related to industrial activity (including waste materials) are not exposed to storm water or authorized non-storm water discharges.

4. All industrial activities and industrial equipment are not exposed to storm water or authorized non-storm water discharges.

5. There is no exposure of materials associated with industrial activity through other direct or indirect pathways such as particulates from stacks and exhaust systems.

6. There is periodic re-evaluation of the facility to ensure Conditions 1, 3, 4, and 5 are continuously met.

Currently, facility operators that can certify that the above conditions are met are not required to notify the State Water

Board or Regional Water Board. These facility operators are advised to retain such certification documentation on site.

The Ninth Circuit Court of Appeals invalidated the exemption granted by U.S. EPA for storm water discharges from facilities in Category 11 that do not have exposure and remanded the regulation to U.S. EPA for further action. The State Water Board, at this time, is not requiring storm water discharges from facilities in Category 11 that do not have exposure to be covered by this General Permit. Instead, the State Water Board will await future U.S. EPA or court action clarifying the types of storm water discharges that must be permitted. If necessary, the State Water Board will reopen the General Permit to accommodate such a clarification.

Section 1068 of the Intermodal Surface Transportation Act of 1991 exempts municipal agencies serving populations of less than 100,000 from Phase I permit requirements for most facilities they operate (uncontrolled sanitary landfills, power plants, and airports are still required to be permitted in Phase I). Phase II of the Permit Program scheduled to begin August 7, 2001 will cover the facilities that are exempt from Phase I permit requirements.

TYPES OF DISCHARGES NOT COVERED BY THIS GENERAL PERMIT

1. CONSTRUCTION ACTIVITY: Discharges from construction activity of five acres or more, including clearing, grading, and excavation. A separate general permit was adopted on August 20, 1992 for this industrial category.

2. FACILITIES WHICH HAVE NPDES PERMITS CONTAINING STORM WATER PROVISIONS: Some storm water discharges may be regulated by other individual or general NPDES permits issued by the State Water Board or the Regional Water Boards. This General Permit shall not regulate these discharges. When the individual or general NPDES permits for such discharges expire, the State Water Board or Regional Water Board may authorize coverage under this General Permit or another general NPDES permit, or may issue a new individual NPDES permit consistent with the Federal and State storm water regulations. Interested parties may petition the State Water Board or appropriate Regional Water Board to issue individual or General NPDES Permits. General Permits may be issued for a particular industrial group or watershed area.

3. FACILITIES DETERMINED INELIGIBLE BY REGIONAL WATER BOARDS: Regional Water Boards may determine that discharges from a facility or groups of facilities, otherwise eligible for coverage under this General Permit, have potential water quality impacts that may not be appropriately addressed by

this General Permit. In such cases, a Regional Water Board may require such discharges to be covered by an individual or general NPDES permit. Interested persons may petition the appropriate Regional Water Board to issue individual NPDES permits. The applicability of this General Permit to such discharges will be terminated upon adoption of an individual NPDES permit or a different general NPDES permit.

4. FACILITIES WHICH DO NOT DISCHARGE STORM WATER TO WATERS OF THE UNITED STATES: The discharges from the following facilities are not required to be permitted:

   a. FACILITIES THAT DISCHARGE STORM WATER TO MUNICIPAL SANITARY SEWER SYSTEMS: Facilities that discharge storm water to municipal sanitary sewer systems or combined sewer systems are not required by Federal regulations to be covered by an NPDES storm water permit or to submit an NOI to comply with this General Permit. (It should be noted that many municipalities have sewer use ordinances that prohibit storm drain connections to their sanitary sewers.)

   b. FACILITIES THAT DO NOT DISCHARGE STORM WATER TO SURFACE WATERS OR SEPARATE STORM SEWERS: Storm water that is captured and treated and/or disposed of with the facility's NPDES permitted process wastewater and storm water that is disposed of to evaporation ponds, percolation ponds, or combined sewer systems are not required to obtain a storm water permit. To avoid liability, the facility operator should be certain that no discharge of storm water to surface waters would occur under any circumstances.

5. MOST SILVICULTURAL ACTIVITIES: Storm water discharges from most silvicultural activities such as thinning, harvesting operations, surface drainage, or road construction and maintenance are exempt from this permit. Log sorting or log storage facilities that fall within SIC 2411 are required to be permitted.

6. MINING AND OIL AND GAS FACILITIES: Oil and gas facilities that have not released storm water resulting in a discharge of a reportable quantity (RQ) for which notification is or was required pursuant to 40 CFR Parts 110, 117, and 302 at any time after November 19, 1987 are not required to be permitted unless the industrial storm water discharge contributed to a violation of a water quality standard. Mining facilities that discharge storm water that does not come into contact with any overburden, raw materials, intermediate product, finished product, by-product, or waste product located at the facility are not required to be permitted. These facilities must be permitted if they have a new release of storm water resulting in a discharge of an RQ.

7. FACILITIES ON INDIAN LANDS: the U.S. EPA will regulate Discharges from facilities on Indian lands.

NOTIFICATION REQUIREMENTS

Storm water discharges from facilities described in the section titled "Types of Storm Water Discharges Covered by This General Permit" must be covered by an NPDES permit. An NOI must be submitted by the facility operator for each individual facility to obtain coverage. Certification of the NOI signifies that the facility operator intends to comply with the provisions of the General Permit. Facility operators who have filed NOIs for the State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12-DWQ) or San Francisco Bay Regional Water Board Order No. 92-011 (as amended by Order No. 92-116) will be sent an abbreviated NOI soon after adopting this General Permit that must be completed and returned within 45 days of receipt. Where operations have discontinued and significant materials remain on site (such as at closed landfills), the landowner may be responsible for filing an NOI and complying with this General Permit. A landowner may also file an NOI for a facility if the landowner, rather than the facility operator(s), is responsible for compliance with this General Permit.

A facility operator that does not submit an NOI for a facility must submit an application for an individual NPDES permit. U.S. EPA's regulations [40 CFR 122.21 (a)] exclude facility operators covered by a general permit from requirements to submit an individual permit application unless required by the Regional Water Board. The NOI requirements of this General Permit are intended to establish a mechanism which can be used to establish a clear accounting of the number of facility operators complying with the General Permit, their identities, the nature of operations at the facilities, and location.

All facility operators filing an NOI after the adoption of this General Permit must comply with this General Permit. Existing facility operators who have filed NOIs prior to the adoption of this General Permit shall continue to complete the requirements of the previous General Permit through June 30, 1997 including submitting annual reports to the Regional Water Boards by July 1, 1997. Group Leaders are required to submit a 1996-97 Group Evaluation Report by August 1, 1997.

DESCRIPTION OF GENERAL PERMIT CONDITIONS

Prohibitions

This General Permit authorizes storm water and authorized non-storm water discharges from facilities that are required to be covered by a storm water permit. This General Permit prohibits discharges of material other than storm water (non-storm water discharges) that are not authorized by the General Permit and discharges containing hazardous substances in storm water in excess of reportable quantities established at 40 CFR 117.3 and 40 CFR 302.4. Authorized non-storm water discharges are addressed in the Special Conditions of the General Permit.

Effluent Limitations

NPDES Permits for storm water discharges must meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require control of pollutant discharges using best available technology economically achievable (BAT) and best conventional pollutant control technology (BCT) to prevent and reduce pollutants and any more stringent controls necessary to meet water quality standards.

U.S. EPA regulations (40 CFR Subchapter N) establish effluent limitation guidelines for storm water discharges from facilities in ten industrial categories. For these facilities, compliance with the effluent limitation guidelines constitutes compliance with BAT and BCT for the specified pollutants and must be met to comply with this General Permit.

For storm water discharges from facilities not among the ten industrial categories listed in 40 CFR Subchapter N, it is not feasible at this time to establish numeric effluent limitations. The reasons why establishment of numeric effluent limitations is not feasible are discussed in detail in State Water Board Orders No. WQ 91-03 and WQ 91-04. Therefore, this General Permit allows the facility operator to implement best management practices (BMPs) to comply with the requirements of this General Permit. This approach is consistent with the U.S. EPA's August 1, 1996 "Interim Permitting Approach for Water Quality Based Effluent Limitations in Storm Water Permits".

Receiving Water Limitations

Storm water discharges shall not cause or contribute to a violation of an applicable water quality standard. The General Permit requires facility operators to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges through the development and implementation of BMPs which constitutes compliance with BAT and BCT and, in most cases, compliance with water quality standards. If receiving water quality standards are exceeded, facility operators are required to submit a written report providing additional BMPs that will be implemented to achieve water quality standards.

Storm Water Pollution Prevention Plans (SWPPPs)

All facility operators must prepare, retain on site, and implement an SWPPP. The SWPPP has two major objectives: (1) to help identify the sources of pollution that affect the quality of industrial storm water discharges and authorized non-storm water discharges, and (2) to describe and ensure the implementation of BMPs to reduce or prevent pollutants in industrial storm water discharges and authorized non-storm water discharges.

This General Permit requires development and implementation of an SWPPP emphasizing BMPs. This approach provides the flexibility necessary to establish appropriate BMPs for different types of industrial activities and pollutant sources. As this General Permit covers vastly different types of facilities, the State Water Board recognizes that there is no single best way of developing or organizing an SWPPP. The SWPPP requirements contain the essential elements that all facility operators must consider and address in the SWPPP. This General Permit's SWPPP requirements are more detailed than the previous general permit's SWPPP requirements, and the suggested order of the SWPPP elements have been rearranged (1) to correspond more closely with other storm water permits in effect throughout the country, and (2) to generally follow a more logical path. Facility operators that have already developed and implemented SWPPPs under previous general permits are required to review the SWPPP's requirements contained in this General Permit and then review their existing SWPPP for adequacy. If the existing SWPPP adequately identifies and assesses all potential sources of pollutants and describes the appropriate BMPs necessary to reduce or prevent pollutants, the facility operator is not required to revise the existing SWPPP.

One of the major elements of the SWPPP is the elimination of unauthorized non-storm water discharges to the facility's storm drain system. Unauthorized non-storm water discharges can be generated from a wide variety of potential pollutant sources. They include waters from the rinsing or washing of vehicles, equipment, buildings, or pavement; materials that have been improperly disposed of or dumped, and spilled; or leaked materials. Unauthorized non-storm water discharges can contribute a significant pollutant load to receiving waters. Measures to control spills, leakage, and dumping can often be addressed through BMPs. Unauthorized non-storm water discharges may enter the storm drain system via conveyances such as floor drains. All conveyances should be evaluated to determine whether they convey unauthorized non-storm water discharges to the storm drain system. Unauthorized non-storm water discharges (even when commingled with storm water) shall be eliminated or covered by a separate NPDES Permit.

There are many non-storm water discharges that, under certain conditions, should not contain pollutants associated with

industrial activity (i.e., air conditioning condensate, potable water line testing, landscaping overflow, etc.). Item D, Special Conditions, provides the conditions where certain listed non-storm water discharges are authorized by this General Permit.

Monitoring Program

The General Permit requires development and implementation of a monitoring program. The objectives of the monitoring program are to (1) demonstrate compliance with the General Permit, (2) aid in the implementation of the SWPPP, and (3) measure the effectiveness of the BMPs in reducing or preventing pollutants in storm water discharges and authorized non-storm water discharges.

All facility operators (with the exception of inactive mining operations) are required to:

1. Perform visual observations of storm water discharges and authorized storm water discharges.

2. Collect and analyze samples of storm water discharges. Analysis must include pH, total suspended solids (TSS), total organic carbon (TOC), specific conductance, toxic chemicals, and other pollutants which are likely to be present in storm water discharges in significant quantities, and those parameters listed in Table D of this General Permit. The Table D parameters are those listed in the U.S. EPA Multi-Sector General Permit. Facility operators subject to Federal storm water effluent limitation guidelines in 40 CFR Subchapter N must also sample and analyze for any pollutant specified in the appropriate category of 40 CFR Subchapter N.

Facility operators are not required to collect samples or perform visual observations during adverse climatic conditions. Sample collection and visual observations are required only during scheduled facility operating hours. Visual observations are required only during daylight hours. Facility operators that are unable to collect any of the required samples or visual observations because of the above circumstances must provide documentation to the Regional Water Board in their annual report.

Facility operators may be exempt from performing sampling and analysis if they: (1) do not have areas of industrial activity exposed to storm water, (2) receive an exemption from a local agency which has jurisdiction over the storm sewer system, or (3) receive an exemption from the appropriate Regional Water Board. Facility operators must always perform sampling and analysis for any pollutant specified in storm water effluent limitation guidelines.

This General Permit contains a new procedure where facility operators, if they meet certain minimum conditions, may certify compliance with the General Permit and reduce the number of

sampling events required to be sampled for the remaining term of the General Permit. Each Regional Water Board may develop instructions, guidance, and checklists to assist facility operators to complete sampling reduction requests.

Local agencies that wish to provide sampling and analysis exemptions or reductions to facility operators within their jurisdiction shall develop a certification program that clearly indicates the certification procedures and criteria used by the local agency. At a minimum, these programs should include site inspections, a review of the facility operator's SWPPP, and a review of other records such as monitoring data, receiving water data, etc. The certification program shall be approved by the local Regional Water Board before implementation.

Alternative Monitoring

Facility operators are required to develop a facility-specific monitoring program that satisfies both the minimum monitoring program requirements and the objectives of the monitoring program. Some facility operators have indicated that cost-effective alternative monitoring programs can be developed that provide equivalent or more accurate indicators of pollutants and/or BMP performance than a monitoring program based upon the minimum monitoring program requirements. An example of such an alternative monitoring program would be one that identifies sample locations at or near pollutant sources rather than sampling an entire drainage area where the storm water discharge has been diluted with storm water from areas with little or no industrial activity.

The State Water Board does not want to preclude facility operators from developing better, and perhaps more cost-effective, monitoring programs. This General Permit allows facility operators to submit alternative monitoring programs for approval by the Regional Water Board. For individual facilities, these proposals must be facility specific and demonstrate how the alternative monitoring program will result in an equivalent or more accurate indicator of pollutants and/or BMP effectiveness. Facility operators with similar industrial activities may also propose alternative monitoring programs for approval by the Regional Water Boards. These proposals must demonstrate how the alternative monitoring program will result in an equivalent or more accurate indicator of pollutants and/or BMP effectiveness for all of the participating facilities.

Facility operators shall continue to comply with the existing monitoring program requirements until receiving approval by the Regional Water Board.

Group Monitoring

Each facility operator may either perform sampling and analysis individually or participate in a group monitoring program. A group monitoring program may be developed either by a group leader representing a group of similar facilities or by a local agency which holds a storm water permit for a municipal separate storm sewer system for industrial facilities within its jurisdiction. The group leader or local agency responsible for the group monitoring program must schedule all participating facilities to sample two storm events over the life of this General Permit. Facility operators subject to Federal effluent limitations guidelines in 40 CFR Subchapter N must individually sample and analyze for pollutants listed in the appropriate Federal regulations.

Participants within a group may be located within the jurisdiction of more than one Regional Water Board. Multi-Regional Water Board groups must receive the approval of the State Water Board Executive Director (with the concurrence of the appropriate Regional Water Boards).

Each group leader or local agency responsible for group sampling must: (1) provide guidance or training so that the monitoring is done correctly, (2) recommend appropriate BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges from group participants, (3) evaluate and report the monitoring data to the State Water Board and/or the appropriate Regional Water Board(s), and (4) conduct two on-site inspections at each facility over the five year term of this General Permit to evaluate facility compliance and recommend BMPs to achieve compliance with this General Permit. The group leader or local agency may designate, hire, or train inspectors to conduct these inspections that are or are not directly affiliated with the group leader or local agency. It is the group leader's or local agency's responsibility to select inspectors that are capable of evaluating each facility's compliance with the General Permit and can recommend appropriate BMPs. All group monitoring plans are subject to State Water Board and/or Regional Water Board(s) review. Consistent with the four-tier permitting strategy described in the Federal regulations, the Regional Water Board(s) may evaluate the data and results from group monitoring to establish future permitting decisions. As appropriate, the State Water Board and/or the Regional Water Board(s) may terminate or require substantial amendment to the group monitoring plans. The State Water Board and/or the Regional Water Board(s) may terminate a facility's participation in group monitoring or require additional monitoring activities.

Retention of Records

The facility operator is required to retain records of all monitoring information, copies of all reports required by this General Permit, and records of all data used to complete the NOI for a period of five years from the date of measurement, report, or monitoring activity. This period may be extended by the State and/or Regional Water Boards. All records are public documents and must be provided to the Regional Water Boards on request.

Watershed Management

The State and Regional Water Boards are undertaking a focussed effort in watershed management throughout the State. In reissuing this General Permit, the State Water Board recognizes both the evolving nature of watershed management and the long-term desirability of structuring monitoring programs to support the Watershed Management Initiative. Therefore, the amended monitoring and reporting provisions provide flexibility for individual facility operators or groups of facility operators to propose and participate in, subject to Regional Water Board approval, watershed monitoring programs in lieu of some or all of the monitoring requirements contained in this General Permit.

Facility Operator Compliance Responsibilities

This General Permit has been written to encourage individual facility operators to develop their own SWPPP and monitoring programs. Many facility operators, however, choose to obtain compliance assistance either by hiring a consultant on an individual basis or by participating in a group monitoring plan. Regardless of how a facility operator chooses to pursue compliance, it is the facility operator that is responsible for compliance with this General Permit.

The State Water Board recognizes that industrial activities and operating conditions at many facilities change over time. In addition, new and more effective BMPs are being developed by various facility operators and by industrial groups. The SWPPP and monitoring program requirements include various inspections, reviews, and observations all of which recognize, encourage, and mandate an iterative self-evaluation process that is necessary to consistently comply with this General Permit. In general, facility operators that develop and implement SWPPPs that comply with this General Permit should not be penalized when discovering minor violations through this iterative self-evaluation process. The General Permit provides facility operators up to 90 days to revise and implement the SWPPP to correct such violations.

STATE WATER RESOURCES CONTROL BOARD (STATE WATER BOARD)
WATER QUALITY ORDER NO. 97-03-DWQ
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000001 (GENERAL PERMIT)

WASTE DISCHARGE REQUIREMENTS (WDRS)
FOR
DISCHARGES OF STORM WATER ASSOCIATED WITH INDUSTRIAL ACTIVITIES
EXCLUDING CONSTRUCTION ACTIVITIES

The State Water Board finds that:

1. Federal regulations for storm water discharges were issued by the U.S. Environmental Protection Agency (U.S. EPA) on November 16, 1990 (40 Code of Federal Regulations [CFR] Parts 122, 123, and 124). The regulations require operators of specific categories of facilities where discharges of storm water associated with industrial activity (storm water) occur to obtain an NPDES permit and to implement Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or prevent pollutants associated with industrial activity in storm water discharges and authorized non-storm discharges.

2. This General Permit shall regulate storm water discharges and authorized non-storm water discharges from specific categories of industrial facilities identified in Attachment 1, storm water discharges and authorized non-storm water discharges from facilities as designated by the Regional Water Quality Control Boards (Regional Water Boards), and storm water discharges and authorized non-storm water discharges from other facilities seeking General Permit coverage. This General Permit may also regulate storm water discharges and authorized non-storm water discharges from facilities as required by U.S. EPA regulations. This General Permit shall regulate storm water discharges and authorized non-storm water discharges previously regulated by San Francisco Bay Regional Water Board Order, No.92-11 (as amended by Order No. 92-116). This General Permit excludes storm water discharges and non-storm water discharges that are regulated by other individual or general NPDES permits, storm water discharges and non-storm water discharges from construction activities, and storm water discharges and non-storm water discharges excluded by the Regional Water Boards for coverage by this General Permit. Attachment 2 contains the addresses and telephone numbers of each Regional Water Board office.

3. To obtain coverage for storm water discharges and authorized non-storm water discharges pursuant to this General Permit, operators of facilities (facility operators) must submit a Notice of Intent (NOI), in accordance with the Attachment 3

instructions, and appropriate annual fee to the State Water Board. This includes facility operators that have participated in U.S. EPA's group application process.

4. This General Permit does not preempt or supersede the authority of local agencies to prohibit, restrict, or control storm water discharges and authorized non-storm water discharges to storm drain systems or other water-courses within their jurisdictions as allowed by State and Federal law.

5. If an individual NPDES permit is issued to a facility operator otherwise subject to this General Permit or an alternative NPDES general permit is subsequently adopted which covers storm water discharges and/or authorized non-storm water discharges regulated by this General Permit, the applicability of this General Permit to such discharges is automatically terminated on the effective date of the individual NPDES permit or the date of approval for coverage under the subsequent NPDES general permit.

6. Effluent limitations and toxic and effluent standards established in Sections 208(b), 301, 302, 303(d), 304, 306, 307, and 403 of the Federal Clean Water Act (CWA), as amended, are applicable to storm water discharges and authorized non-storm water discharges regulated by this General Permit.

7. This action to adopt an NPDES general permit is exempt from the provisions of the California Environmental Quality Act (Public Resources Code Section 21100, et seq.) in accordance with Section 13389 of the California Water Code.

8. Federal regulations (40 CFR Subchapter N) establish effluent limitations guidelines for storm water discharges from some facilities in ten industrial categories.

9. For facilities which do not have established effluent limitation guidelines for storm water discharges in 40 CFR Subchapter N, it is not feasible at this time to establish numeric effluent limitations. This is due to the large number of discharges and the complex nature of storm water discharges. This is also consistent with the U.S. EPA's August 1, 1996 "Interim Permitting Approach for Water Quality Based Effluent Limitations in Storm Water Permits."

10. Facility operators are required to comply with the terms and conditions of this General Permit. Compliance with the terms and conditions of this General Permit constitutes compliance with BAT/BCT requirements and with requirements to achieve water quality standards. This includes the development and implementation of an effective Storm Water Pollution Prevention Plan (SWPPP) to reduce or prevent pollutants associated with industrial activity in storm water discharges and authorized non-storm water discharges.

11. Best Management Practices (BMPs) to reduce or prevent pollutants associated with industrial activity in storm water discharges and authorized non-storm water discharges are appropriate where numeric effluent limitations are infeasible, and the implementation of BMPs is adequate to achieve compliance with BAT/BCT and with water quality standards.

12. The State Water Board has adopted a Watershed Management Initiative that encourages watershed management throughout the State. This General Permit recognizes the Watershed Management Initiative by supporting the development of watershed monitoring programs authorized by the Regional Water Boards.

13. Following adoption of this General Permit, the Regional Water Boards shall enforce its provisions.

14. Following public notice in accordance with State and Federal laws and regulations, the State Water Board held a public hearing on November 12, 1996 and heard and considered all comments pertaining to this General Permit. A response to all significant comments has been prepared and is available for public review.

15. This Order is an NPDES General Permit in compliance with Section 402 of the CWA and shall take effect upon adoption by the State Water Board.

16. All terms that are defined in the CWA, U.S. EPA storm water regulations and the Porter-Cologne Water Quality Control Act will have the same definition in this General Permit unless otherwise stated.

IT IS HEREBY ORDERED that all facility operators required to be regulated by this General Permit shall comply with the following:

A. DISCHARGE PROHIBITIONS:

1. Except as allowed in Special Conditions (D.1.) of this General Permit, materials other than storm water (non-storm water discharges) that discharge either directly or indirectly to waters of the United States are prohibited. Prohibited non-storm water discharges must be either eliminated or permitted by a separate NPDES permit.

2. Storm water discharges and authorized non-storm water discharges shall not cause or threaten to cause pollution, contamination, or nuisance.

B. EFFLUENT LIMITATIONS:

1. Storm water discharges from facilities subject to storm water effluent limitation guidelines in Federal regulations (40 CFR

Subchapter N) shall not exceed the specified effluent limitations.

2. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of a reportable quantity listed in 40 CFR Part 117 and/or 40 CFR Part 302.

3. Facility operators covered by this General Permit must reduce or prevent pollutants associated with industrial activity in storm water discharges and authorized non-storm water discharges through implementation of BAT for toxic and non-conventional pollutants and BCT for conventional pollutants. Development and implementation of an SWPPP that complies with the requirements in Section A of the General Permit and that includes BMPs that achieve BAT/BCT constitutes compliance with this requirement.

C. RECEIVING WATER LIMITATIONS:

1. Storm water discharges and authorized non-storm water discharges to any surface or ground water shall not adversely impact human health or the environment.

2. Storm water discharges and authorized non-storm water discharges shall not cause or contribute to an exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan or the applicable Regional Water Board's Basin Plan.

3. A facility operator will not be in violation of Receiving Water Limitation C.2. as long as the facility operator has implemented BMPs that achieve BAT/BCT and the following procedure is followed:

   a. The facility operator shall submit a report to the appropriate Regional Water Board that describes the 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 water quality standards. The report shall include an implementation schedule. The Regional Water Board may require modifications to the report.

   b. Following approval of the report described above by the Regional Water Board, the facility operator shall revise its SWPPP and monitoring program to incorporate the additional BMPs that have been and will be implemented, the implementation schedule, and any additional monitoring required.

4. A facility operator shall be in violation of this General Permit if he/she fails to do any of the following:

a. Submit the report described above within 60 days after either the facility operator or the Regional Water Board determines that discharges are causing or contributing to an exceedance of an applicable water quality standard;

b. Submit a report that is approved by the Regional Water Board; or

c. Revise its SWPPP and monitoring program as required by the approved report.

D. SPECIAL CONDITIONS

1. Non-Storm Water Discharges

a. The following non-storm water discharges are authorized by this General Permit provided that they satisfy the conditions specified in Paragraph b. below: fire hydrant flushing; potable water sources, including potable water related to the operation, maintenance, or testing of potable water systems; drinking fountain water; atmospheric condensates including refrigeration, air conditioning, and compressor condensate; irrigation drainage; landscape watering; springs; ground water; foundation or footing drainage; and sea water infiltration where the sea waters are discharged back into the sea water source.

b. The non-storm water discharges as provided in Paragraph a. above are authorized by this General Permit if all the following conditions are met:

i. The non-storm water discharges are in compliance with Regional Water Board requirements.

ii. The non-storm water discharges are in compliance with local agency ordinances and/or requirements.

iii. BMPs are specifically included in the SWPPP to (1) prevent or reduce the contact of non-storm water discharges with significant materials or equipment and (2) minimize, to the extent practicable, the flow or volume of non-storm water discharges.

iv. The non-storm water discharges do not contain significant quantities of pollutants.

v. The monitoring program includes quarterly visual observations of each non-storm water discharge and its sources to ensure that BMPs are being implemented and are effective.

vi. The non-storm water discharges are reported and described annually as part of the annual report.

c. The Regional Water Board or its designee may establish additional monitoring programs and reporting requirements for any non-storm water discharge authorized by this General Permit.

d. Discharges from firefighting activities are authorized by this General Permit and are not subject to the conditions of Paragraph b. above.

E. PROVISIONS

1. All facility operators seeking coverage by this General Permit must submit an NOI for each of the facilities they operate. Facility operators filing an NOI after the adoption of this General Permit shall use the NOI form and instructions (Attachment 3) attached to this General Permit. Existing facility operators who have filed an NOI pursuant to State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12-DWQ) or San Francisco Bay Regional Water Board Order No. 92-11 (as amended by Order No. 92-116) shall submit an abbreviated NOI form provided by the State Water Board. The abbreviated NOI form shall be submitted within 45 days of receipt.

2. Facility operators who have filed an NOI, pursuant to State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12-DWQ) or San Francisco Bay Regional Water Board Order No. 92-11 (as amended by Order No. 92-116), shall continue to implement their existing SWPPP and shall implement any necessary revisions to their SWPPP in accordance with Section A of this General Permit in a timely manner, but in no case later than August 1, 1997. Facility operators beginning industrial activities after adoption of this General Permit must develop and implement an SWPPP in accordance with Section A of this General Permit when the industrial activities begin.

3. Facility operators who have filed an NOI, pursuant to State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12-DWQ) or San Francisco Bay Regional Water Board Order No. 92-11 (as amended by Order No. 92-116), shall continue to implement their existing Monitoring Program and shall implement any necessary revisions to their Monitoring Program in accordance with Section B of the General Permit in a timely manner, but in no case later than August 1, 1997. Facility operators beginning industrial activities after adoption of this General Permit must develop and implement a Monitoring Program in

accordance with Section B of this General Permit when industrial activities begin.

4. Facility operators of feedlots as defined in 40 CFR Part 412 that are in full compliance with Section 2560 to Section 2565, Title 23, California Code of Regulations (Chapter 15) will be in compliance with all effluent limitations and prohibitions contained in this General Permit. Facility operators of feedlots that comply with Chapter 15, however, must perform monitoring in compliance with the requirements of Section B.4.d. and B.14. of this General Permit. Facility operators of feedlots must also comply with any Regional Water Board WDRs or NPDES general permit regulating their storm water discharges.

5. All facility operators must comply with lawful requirements of municipalities, counties, drainage districts, and other local agencies regarding storm water discharges and non-storm water discharges entering storm drain systems or other watercourses under their jurisdiction, including applicable requirements in municipal storm water management programs developed to comply with NPDES permits issued by the Regional Water Boards to local agencies.

6. All facility operators must comply with the standard provisions and reporting requirements for each facility covered by this General Permit contained in Section C, Standard Provisions.

7. Facility operators that operate facilities with co-located industrial activities (facilities that have industrial activities that meet more than one of the descriptions in Attachment 1) that are contiguous to one another are authorized to file a single NOI to comply with the General Permit. Storm water discharges and authorized non-storm water discharges from the co-located industrial activities are authorized if the SWPPP and Monitoring Program addresses each co-located industrial activity.

8. Upon reissuance of a successor NPDES general permit by the State Water Board, the facility operators subject to this reissued General Permit may be required to file an NOI.

9. Facility operators may request to terminate their coverage under this General Permit by filing a Notice of Termination (NOT) with the Regional Water Board. The NOT shall provide all documentation requested by the Regional Water Board. The facility operator will be notified when the NOT has been approved. Should the NOT be denied, facility operators are responsible for continued compliance with the requirements of this General Permit.

10. Facility operators who have filed an NOI, pursuant to State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12) or San Francisco Bay Regional Water Board Order No. 92-11 (as amended by Order No. 92-116) shall:

    a. Complete the 1996-97 activities required by those general permits. These include, but are not limited to, conducting any remaining visual observations, sample collection, annual site inspection, annual report submittal, and (for group monitoring leaders) Group Evaluation Reports; and

    b. Comply with the requirements of this General Permit no later than August 1, 1997.

11. If the Regional Water Board determines that a discharge may be causing or contributing to an exceedance of any applicable water quality standards contained in a Statewide Water Quality Control Plan or the applicable Regional Water Board's Basin Plan, the Regional Water Board may order the facility operator to comply with the requirements described in Receiving Water Limitation C.3. The facility operator shall comply with the requirements within the time schedule established by the Regional Water Board.

12. If the facility operator determines that its storm water discharges or authorized non-storm water discharges are causing or contributing to an exceedance of any applicable water quality standards, the facility operator shall comply with the requirements described in Receiving Water Limitation C.3.

13. State Water Board Order No. 91-013-DWQ (as amended by Order No. 92-12-DWQ) and San Francisco Bay Regional Water Board Order No. 91-011 (as amended by Order No. 92-116) are hereby rescinded.

F. REGIONAL WATER BOARD AUTHORITIES

1. Following adoption of this General Permit, Regional Water Boards shall:

    a. Implement the provisions of this General Permit, including, but not limited to, reviewing SWPPPs, reviewing annual reports, conducting compliance inspections, and taking enforcement actions.

    b. Issue other NPDES general permits or individual NPDES storm water permits as they deem appropriate to individual facility operators, facility operators of specific categories of industrial activities, or facility operators in a watershed or geographic area. Upon issuance of such NPDES permits by a Regional Water Board, the affected facility operator shall no longer

be regulated by this General Permit. Any new NPDES permit issued by the Regional Water Board may contain different requirements than the requirements of this General Permit.

2. Regional Water Boards may provide guidance to facility operators on the SWPPP and the Monitoring Program and reporting implementation.

3. Regional Water Boards may require facility operators to conduct additional SWPPP and Monitoring Program and reporting activities necessary to achieve compliance with this General Permit.

4. Regional Water Boards may approve requests from facility operators whose facilities include co-located industrial activities that are not contiguous within the facilities (e.g., some military bases) to comply with this General Permit under a single NOI. Storm water discharges and authorized non-storm water discharges from the co-located industrial activities and from other sources within the facility that may generate significant quantities of pollutants are authorized provided the SWPPP and Monitoring Program addresses each co-located industrial activity and other sources that may generate significant quantities of pollutants.

CERTIFICATION

The undersigned, Administrative Assistant to the State Water Board, does hereby certify that the foregoing is a full, true, and correct copy of an order duly and regularly adopted at a meeting of the State Water Resources Control Board held on April 17, 1997.

AYE: John P. Caffrey
John W. Brown
James M. Stubchaer
Marc Del Piero
Mary Jane Forster

NO: None

ABSENT: None

ABSTAIN: None

Maureen Marché

Administrative Assistant to the Board

SECTION A: STORM WATER POLLUTION PREVENTION PLAN REQUIREMENTS

1. *Implementation Schedule*

A storm water pollution prevention plan (SWPPP) shall be developed and implemented for each facility covered by this General Permit in accordance with the following schedule.

a. Facility operators beginning industrial activities before October 1, 1992 shall develop and implement the SWPPP no later than October 1, 1992. Facility operators beginning industrial activities after October 1, 1992 shall develop and implement the SWPPP when industrial activities begin.

b. Existing facility operators that submitted a Notice of Intent (NOI), pursuant to State Water Resources Control Board (State Water Board) Order No. 91-013-DWQ (as amended by Order No. 92-12) or San Francisco Bay Regional Water Quality Control Board (Regional Water Board) Order No. 92-11 (as amended by Order No. 92-116), shall continue to implement their existing SWPPP and shall implement any necessary revisions to their SWPPP in a timely manner, but in no case later than August 1, 1997.

2. *Objectives*

The SWPPP has two major objectives: (a) to identify and evaluate sources of pollutants associated with industrial activities that may affect the quality of storm water discharges and authorized non-storm water discharges from the facility; and (b) to identify and implement site-specific best management practices (BMPs) to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges. BMPs may include a variety of pollution prevention measures or other low-cost and pollution control measures. They are generally categorized as non-structural BMPs (activity schedules, prohibitions of practices, maintenance procedures, and other low-cost measures) and as structural BMPs (treatment measures, run-off controls, over-head coverage.) To achieve these objectives, facility operators should consider the five phase process for SWPPP development and implementation as shown in Table A.

The SWPPP requirements are designed to be sufficiently flexible to meet the needs of various facilities. SWPPP requirements that are not applicable to a facility should not be included in the SWPPP.

A facility's SWPPP is a written document that shall contain a compliance activity schedule, a description of industrial activities and pollutant sources, descriptions of BMPs, drawings, maps, and relevant copies or references of parts of other plans. The SWPPP shall be revised whenever appropriate and shall be readily available for review by facility employees or Regional Water Board inspectors.

3. *Planning and Organization*

a. *Pollution Prevention Team*

The SWPPP shall identify a specific individual or individuals and their positions within the facility organization as members of a storm water pollution prevention team responsible for developing the SWPPP, assisting the facility manager in SWPPP implementation and revision, and conducting all monitoring program activities required in Section B of this General Permit. The SWPPP shall clearly identify the General Permit related responsibilities, duties, and activities of each team member. For small facilities, storm water pollution prevention teams may consist of one individual where appropriate.

b. *Review Other Requirements and Existing Facility Plans*

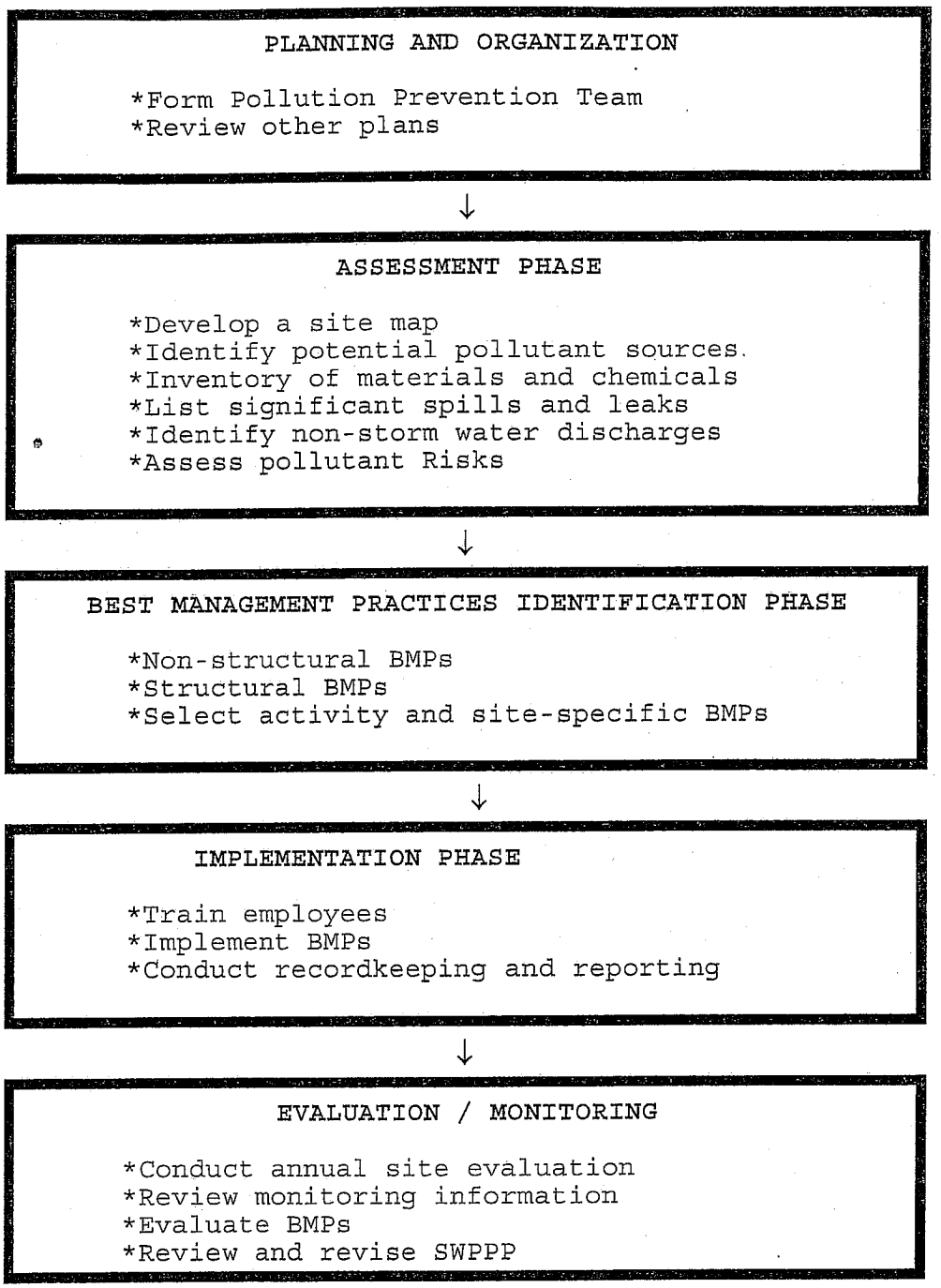
The SWPPP may incorporate or reference the appropriate elements of other regulatory requirements. Facility operators should review all local, State, and Federal requirements that impact, complement, or are consistent with the requirements of this General Permit. Facility operators should identify any existing facility plans that contain storm water pollutant control measures or relate to the requirements of this General Permit. As examples, facility operators whose facilities are subject to Federal Spill Prevention Control and Countermeasures' requirements should already have instituted a plan to control spills of certain hazardous materials. Similarly, facility operators whose facilities are subject to air quality related permits and regulations may already have evaluated industrial activities that generate dust or particulates.

4. *Site Map*

The SWPPP shall include a site map. The site map shall be provided on an 8-½ x 11 inch or larger sheet and include notes, legends, and other data as appropriate to ensure that the site map is clear and understandable. If necessary, facility operators may provide the required information on multiple site maps.

TABLE A

FIVE PHASES FOR DEVELOPING AND IMPLEMENTING INDUSTRIAL STORM WATER POLLUTION PREVENTION PLANS



The following information shall be included on the site map:

a. The facility boundaries; the outline of all storm water drainage areas within the facility boundaries; portions of the drainage area impacted by run-on from surrounding areas; and direction of flow of each drainage area, on-site surface water bodies, and areas of soil erosion. The map shall also identify nearby water bodies (such as rivers, lakes, and ponds) and municipal storm drain inlets

where the facility's storm water discharges and authorized non-storm water discharges may be received.

b. The location of the storm water collection and conveyance system, associated points of discharge, and direction of flow. Include any structural control measures that affect storm water discharges, authorized non-storm water discharges, and run-on. Examples of structural control measures are catch basins, berms, detention ponds, secondary containment, oil/water separators, diversion barriers, etc.

c. An outline of all impervious areas of the facility, including paved areas, buildings, covered storage areas, or other roofed structures.

d. Locations where materials are directly exposed to precipitation and the locations where significant spills or leaks identified in Section A.6.a.iv. below have occurred.

e. Areas of industrial activity. This shall include the locations of all storage areas and storage tanks, shipping and receiving areas, fueling areas, vehicle and equipment storage/maintenance areas, material handling and processing areas, waste treatment and disposal areas, dust or particulate generating areas, cleaning and rinsing areas, and other areas of industrial activity which are potential pollutant sources.

5. *List of Significant Materials*

The SWPPP shall include a list of significant materials handled and stored at the site. For each material on the list, describe the locations where the material is being stored, received, shipped, and handled, as well as the typical quantities and frequency. Materials shall include raw materials, intermediate products, final or finished products, recycled materials, and waste or disposed materials.

6. *Description of Potential Pollutant Sources*

a. The SWPPP shall include a narrative description of the facility's industrial activities, as identified in Section A.4.e above, associated potential pollutant sources, and potential pollutants that could be discharged in storm water discharges or authorized non-storm water discharges. At a minimum, the following items related to a facility's industrial activities shall be considered:

i. Industrial Processes

Describe each industrial process, the type, characteristics, and quantity of significant materials used in or resulting from the process, and a description of the manufacturing, cleaning, rinsing, recycling, disposal, or other activities related to the process. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

ii. Material Handling and Storage Areas

Describe each handling and storage area, type, characteristics, and quantity of significant materials handled or stored, description of the shipping, receiving, and loading procedures, and the spill or leak prevention and response procedures. Where applicable, areas protected by containment structures and the corresponding containment capacity shall be described.

iii. Dust and Particulate Generating Activities

Describe all industrial activities that generate dust or particulates that may be deposited within the facility's boundaries and identify their discharge locations; the characteristics of dust and particulate pollutants; the approximate quantity of dust and particulate pollutants that may be deposited within the facility boundaries; and a description of the primary areas of the facility where dust and particulate pollutants would settle.

iv. Significant Spills and Leaks

Describe materials that have spilled or leaked in significant quantities in storm water discharges or non-storm water discharges since April 17, 1994. Include toxic chemicals (listed in 40 CFR, Part 302) that have been discharged to storm water as reported on U.S. Environmental Protection Agency (U.S. EPA) Form R, and oil and hazardous substances in excess of reportable quantities (see 40 Code of Federal Regulations [CFR], Parts 110, 117, and 302).

The description shall include the type, characteristics, and approximate quantity of the material spilled or leaked, the cleanup or remedial actions that have occurred or are planned, the approximate remaining quantity of materials that may be exposed to storm water or non-storm water

discharges, and the preventative measures taken to ensure spill or leaks do not reoccur. Such list shall be updated as appropriate during the term of this General Permit.

v. Non-Storm Water Discharges

Facility operators shall investigate the facility to identify all non-storm water discharges and their sources. As part of this investigation, all drains (inlets and outlets) shall be evaluated to identify whether they connect to the storm drain system.

All non-storm water discharges shall be described. This shall include the source, quantity, frequency, and characteristics of the non-storm water discharges and associated drainage area.

Non-storm water discharges that contain significant quantities of pollutants or that do not meet the conditions provided in Special Conditions D. are prohibited by this General Permit (Examples of prohibited non-storm water discharges are contact and non-contact cooling water, boiler blowdown, rinse water, wash water, etc.). Non-storm water discharges that meet the conditions provided in Special Condition D. are authorized by this General Permit. The SWPPP must include BMPs to prevent or reduce contact of non-storm water discharges with significant materials or equipment.

vi. Soil Erosion

Describe the facility locations where soil erosion may occur as a result of industrial activity, storm water discharges associated with industrial activity, or authorized non-storm water discharges.

b. The SWPPP shall include a summary of all areas of industrial activities, potential pollutant sources, and potential pollutants. This information should be summarized similar to Table B. The last column of Table B, "Control Practices", should be completed in accordance with Section A.8. below.

7. *Assessment of Potential Pollutant Sources*

a. The SWPPP shall include a narrative assessment of all industrial activities and potential pollutant sources as described in A.6. above to determine:

i. Which areas of the facility are likely sources of

pollutants in storm water discharges and authorized non-storm water discharges, and

ii. Which pollutants are likely to be present in storm water discharges and authorized non-storm water discharges. Facility operators shall consider and evaluate various factors when performing this assessment such as current storm water BMPs; quantities of significant materials handled, produced, stored, or disposed of; likelihood of exposure to storm water or authorized non-storm water discharges; history of spill or leaks; and run-on from outside sources.

b. Facility operators shall summarize the areas of the facility that are likely sources of pollutants and the corresponding pollutants that are likely to be present in storm water discharges and authorized non-storm water discharges.

Facility operators are required to develop and implement additional BMPs as appropriate and necessary to prevent or reduce pollutants associated with each pollutant source. The BMPs will be narratively described in Section 8 below.

8. *Storm Water Best Management Practices*

The SWPPP shall include a narrative description of the storm water BMPs to be implemented at the facility for each potential pollutant and its source identified in the site assessment phase (Sections A.6. and 7. above). The BMPs shall be developed and implemented to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Each pollutant and its source may require one or more BMPs. Some BMPs may be implemented for multiple pollutants and their sources, while other BMPs will be implemented for a very specific pollutant and its source.

TABLE B
EXAMPLE
ASSESSMENT OF POTENTIAL POLLUTION SOURCES AND CORRESPONDING BEST MANAGEMENT PRACTICES
SUMMARY

Area	Activity	Pollutant Source	Pollutant	Best Management Practices
Vehicle & Equipment Fueling	Fueling	Spills and leaks during delivery	fuel oil	- Use spill and overflow protection - Minimize run-on of storm water into the fueling area - Cover fueling area - Use dry cleanup methods rather than hosing down area - Implement proper spill prevention control program - Implement adequate preventative maintenance program to preventive tank and line leaks - Inspect fueling areas regularly to detect problems before they occur - Train employees on proper fueling, cleanup, and spill response techniques.
		Spills caused by topping off fuel tanks	fuel oil	
		Hosing or washing down fuel area	fuel oil	
		Leaking storage tanks	fuel oil	
		Rainfall running off fueling area, and rainfall running onto and off fueling area	fuel oil	

The description of the BMPs shall identify the BMPs as (1) existing BMPs, (2) existing BMPs to be revised and implemented, or (3) new BMPs to be implemented. The description shall also include a discussion on the effectiveness of each BMP to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. The SWPPP shall provide a summary of all BMPs implemented for each pollutant source. This information should be summarized similar to Table B.

Facility operators shall consider the following BMPs for implementation at the facility:

a. Non-Structural BMPs

Non-structural BMPs generally consist of processes, prohibitions, procedures, schedule of activities, etc., that prevent pollutants associated with industrial activity from contacting with storm water discharges and authorized non-storm water discharges. They are considered low technology, cost-effective measures. Facility operators should consider all possible non-structural BMPs options before considering additional structural BMPs (see Section A.8.b. below). Below is a list of non-structural BMPs that should be considered:

i. Good Housekeeping

Good housekeeping generally consist of practical procedures to maintain a clean and orderly facility.

ii. Preventive Maintenance

Preventive maintenance includes the regular inspection and maintenance of structural storm water controls (catch basins, oil/water separators, etc.) as well as other facility equipment and systems.

iii. Spill Response

This includes spill clean-up procedures and necessary clean-up equipment based upon the quantities and locations of significant materials that may spill or leak.

iv. Material Handling and Storage

This includes all procedures to minimize the potential for spills and leaks and to minimize exposure of significant materials to storm water and authorized non-storm water discharges.

v. Employee Training

This includes training of personnel who are responsible for (1) implementing activities identified in the SWPPP, (2) conducting inspections, sampling, and visual observations, and (3) managing storm water. Training should address topics such as spill response, good housekeeping, and material handling procedures, and actions necessary to implement all BMPs identified in the SWPPP. The SWPPP shall identify periodic dates for such training. Records shall be maintained of all training sessions held.

vi. Waste Handling/Recycling

This includes the procedures or processes to handle, store, or dispose of waste materials or recyclable materials.

vii. Recordkeeping and Internal Reporting

This includes the procedures to ensure that all records of inspections, spills, maintenance activities, corrective actions, visual observations, etc., are developed, retained, and provided, as necessary, to the appropriate facility personnel.

viii. Erosion Control and Site Stabilization

This includes a description of all sediment and erosion control activities. This may include the planting and maintenance of vegetation, diversion of run-on and runoff, placement of sandbags, silt screens, or other sediment control devices, etc.

ix. Inspections

This includes, in addition to the preventative maintenance inspections identified above, an inspection schedule of all potential pollutant sources. Tracking and follow-up procedures shall be described to ensure adequate corrective actions are taken and SWPPPs are made.

x. Quality Assurance

This includes the procedures to ensure that all elements of the SWPPP and Monitoring Program are adequately conducted.

b. Structural BMPs

Where non-structural BMPs as identified in Section A.8.a. above are not effective, structural BMPs shall be considered. Structural BMPs generally consist of structural devices that reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Below is a list of structural BMPs that should be considered:

i. Overhead Coverage

This includes structures that provide horizontal coverage of materials, chemicals, and pollutant sources from contact with storm water and authorized non-storm water discharges.

ii. Retention Ponds

This includes basins, ponds, surface impoundments, bermed areas, etc. that do not allow storm water to discharge from the facility.

iii. Control Devices

This includes berms or other devices that channel or route run-on and runoff away from pollutant sources.

iv. Secondary Containment Structures

This generally includes containment structures around storage tanks and other areas for the purpose of collecting any leaks or spills.

v. Treatment

This includes inlet controls, infiltration devices, oil/water separators, detention ponds, vegetative swales, etc. that reduce the pollutants in storm water discharges and authorized non-storm water discharges.

9. Annual Comprehensive Site Compliance Evaluation

The facility operator shall conduct one comprehensive site compliance evaluation (evaluation) in each reporting period (July 1-June 30). Evaluations shall be conducted within 8-16 months of each other. The SWPPP shall be revised, as appropriate, and the revisions implemented within 90 days of the evaluation. Evaluations shall include the following:

a. A review of all visual observation records, inspection records, and sampling and analysis results.

b. A visual inspection of all potential pollutant sources for evidence of, or the potential for, pollutants entering the drainage system.

c. A review and evaluation of all BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, shall be included.

d. An evaluation report that includes, (i) identification of personnel performing the evaluation, (ii) the date(s) of the evaluation, (iii) necessary SWPPP revisions, (iv) schedule, as required in Section A.10.e, for implementing SWPPP revisions, (v) any incidents of non-compliance and the corrective actions taken, and (vi) a certification that the facility operator is in compliance with this General Permit. If the above certification cannot be provided, explain in the evaluation report why the facility operator is not in compliance with this General Permit. The evaluation report shall be submitted as part of the annual report, retained for at least five years, and signed and certified in accordance with Standard Provisions 9. and 10. of Section C. of this General Permit.

10. *SWPPP General Requirements*

a. The SWPPP shall be retained on site and made available upon request of a representative of the Regional Water Board and/or local storm water management agency (local agency) which receives the storm water discharges.

b. The Regional Water Board and/or local agency may notify the facility operator when the SWPPP does not meet one or more of the minimum requirements of this Section. As requested by the Regional Water Board and/or local agency, the facility operator shall submit an SWPPP revision and implementation schedule that meets the minimum requirements of this section to the Regional Water Board and/or local agency that requested the SWPPP revisions. Within 14 days after implementing the required SWPPP revisions, the facility operator shall provide written certification to the Regional Water Board and/or local agency that the revisions have been implemented.

c. The SWPPP shall be revised, as appropriate, and implemented prior to changes in industrial activities which (i) may significantly increase the quantities of pollutants in storm water discharge, (ii) cause a new area of industrial activity at the facility to be exposed to storm water, or (iii) begin an industrial activity which would introduce a new pollutant source at the facility.

d. Other than as provided in Provisions B.11, B.12, and E.2 of the General Permit, the SWPPP shall be revised and implemented in a timely manner, but in no case more than 90 days after a facility operator determines that the SWPPP is in violation of any requirement(s) of this General Permit.

e. When any part of the SWPPP is infeasible to implement by the deadlines specified in Provision E.2 or Sections A.1, A.9, A.10.c, and A.10.d of this General Permit due to proposed significant structural changes, the facility operator shall submit a report to the Regional Water Board prior to the applicable deadline that (i) describes the portion of the SWPPP that is infeasible to implement by the deadline, (ii) provides justification for a time extension, (iii) provides a schedule for completing and implementing that portion of the SWPPP, and (iv) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. Such reports are subject to Regional Water Board approval and/or modifications. Facility operators shall provide written notification to the Regional Water Board within 14 days after the SWPPP revisions are implemented.

f. The SWPPP shall be provided, upon request, to the Regional Water Board. The SWPPP is considered a report that shall be available to the public by the Regional Water Board under Section 308(b) of the Clean Water Act.

SECTION B. MONITORING PROGRAM AND REPORTING REQUIREMENTS

1. *Implementation Schedule*

Each facility operator shall develop a written monitoring program for each facility covered by this General Permit in accordance with the following schedule:

a. Facility operators beginning industrial activities before October 1, 1992 shall develop and implement a monitoring program no later than October 1, 1992. Facility operators beginning operations after October 1, 1992 shall develop and implement a monitoring program when the industrial activities begin.

b. Facility operators that submitted a Notice Of Intent (NOI) pursuant to State Water Resources Control Board (State Water Board) Order No. 91-013-DWQ (as amended by Order No. 92-12) or San Francisco Bay Regional Water Quality Control Board (Regional Water Board) Order No. 92-11 (as amended by Order No. 92-116), shall continue to implement their existing monitoring program and implement any necessary revisions to their monitoring program in a timely manner, but in no case later than August 1, 1997. These facility operators may use the monitoring results conducted in accordance with those expired general permits to satisfy the pollutant/parameter reduction requirements in Section B.5.c., Sampling and Analysis Exemptions and Reduction certifications in Section B.12., and Group Monitoring Sampling credits in B.15.k. For facilities beginning industrial activities after the adoption of this General Permit, the monitoring program shall be developed and implemented when the facility begins the industrial activities.

2. *Objectives*

The objectives of the monitoring program are to:

a. Ensure that storm water discharges are in compliance with the Discharge Prohibitions, Effluent Limitations, and Receiving Water Limitations specified in this General Permit.

b. Ensure practices at the facility to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges are evaluated and revised to meet changing conditions.

c. Aid in the implementation and revision of the SWPPP required by Section A of this General Permit.

d. Measure the effectiveness of best management practices (BMPs) to prevent or reduce pollutants in storm water

discharges and authorized non-storm water discharges. Much of the information necessary to develop the monitoring program, such as discharge locations, drainage areas, pollutant sources, etc., should be found in the Storm Water Pollution Prevention Plan (SWPPP). The facility's monitoring program shall be a written, site-specific document that shall be revised whenever appropriate and be readily available for review by employees or Regional Water Board inspectors.

3. *Non-storm Water Discharge Visual Observations*

   a. Facility operators shall visually observe all drainage areas within their facilities for the presence of unauthorized non-storm water discharges;

   b. Facility operators shall visually observe the facility's authorized non-storm water discharges and their sources;

   c. The visual observations required above shall occur quarterly, during daylight hours, on days with no storm water discharges, and during scheduled facility operating hours[1]. Quarterly visual observations shall be conducted in each of the following periods: January-March, April-June, July-September, and October-December. Facility operators shall conduct quarterly visual observations within 6-18 weeks of each other.

   d. Visual observations shall document the presence of any discolorations, stains, odors, floating materials, etc., as well as the source of any discharge. Records shall be maintained of the visual observation dates, locations observed, observations, and response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Section A of this General Permit.

4. *Storm Water Discharge Visual Observations*

   a. With the exception of those facilities described in Section B.4.d. below, facility operators shall visually

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[1] "Scheduled facility operating hours" are the time periods when the facility is staffed to conduct any function related to industrial activity, but excluding time periods where only routine maintenance, emergency response, security, and/or janitorial services are performed.

observe storm water discharges from one storm event per month during the wet season (October 1-May 30). These visual observations shall occur during the first hour of discharge and at all discharge locations. Visual observations of stored or contained storm water shall occur at the time of release.

b. Visual observations are only required of storm water discharges that occur during daylight hours that are preceded by at least three (3) working days[2] without storm water discharges and that occur during scheduled facility operating hours.

c. Visual observations shall document the presence of any floating and suspended material, oil and grease, discolorations, turbidity, odor, and source of any pollutants. Records shall be maintained of observation dates, locations observed, observations, and response taken to reduce or prevent pollutants in storm water discharges. The SWPPP shall be revised, as necessary, and implemented in accordance with Section A of this General Permit.

d. Feedlots (subject to Federal effluent limitations guidelines in 40 Code of Federal Regulations [CFR] Part 412) that are in compliance with Sections 2560 to 2565, Article 6, Chapter 15, Title 23, California Code of Regulations, and facility operators with storm water containment facilities shall conduct monthly inspections of their containment areas to detect leaks and ensure maintenance of adequate freeboard. Records shall be maintained of the inspection dates, observations, and any response taken to eliminate leaks and to maintain adequate freeboard.

5. *Sampling and Analysis*

a. Facility operators shall collect storm water samples during the first hour of discharge from (1) the first storm event of the wet season, and (2) at least one other storm event in the wet season. All storm water discharge locations shall be sampled. Sampling of stored or contained storm water shall occur at the time the stored or contained storm water is released. Facility operators that do not collect samples from the first storm event of the wet season are still required to collect samples from two other storm events of the wet season and shall explain in the Annual Report why the first storm event was not sampled.

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[2] Three (3) working days may be separated by non-working days such as weekends and holidays provided that no storm water discharges occur during the three (3) working days and the non-working days.

b. Sample collection is only required of storm water discharges that occur during scheduled facility operating hours and that are preceded by at least (3) three working days without storm water discharge.

c. The samples shall be analyzed for:

i. Total suspended solids (TSS) pH, specific conductance, and total organic carbon (TOC). Oil and grease (O&G) may be substituted for TOC; and

ii. Toxic chemicals and other pollutants that are likely to be present in storm water discharges in significant quantities. If these pollutants are not detected in significant quantities after two consecutive sampling events, the facility operator may eliminate the pollutant from future sample analysis until the pollutant is likely to be present again; and

iii. Other analytical parameters as listed in Table D (located at the end of this Section). These parameters are dependent on the facility's standard industrial classification (SIC) code. Facility operators are not required to analyze a parameter listed in Table D when the parameter is not already required to be analyzed pursuant to Section B.5.c.i. and ii. or B.6 of this General Permit, and either of the two following conditions are met: (1) the parameter has not been detected in significant quantities from the last two consecutive sampling events, or (2) the parameter is not likely to be present in storm water discharges and authorized non-storm water discharges in significant quantities based upon the facility operator's evaluation of the facilities industrial activities, potential pollutant sources, and SWPPP. Facility operators that do not analyze for the applicable Table D parameters shall certify in the Annual Report that the above conditions have been satisfied.

iv. Other parameters as required by the Regional Water Board.

6. *Facilities Subject to Federal Storm Water Effluent Limitation Guidelines*

Facility operators with facilities subject to Federal storm water effluent limitation guidelines, in addition to the requirements in Section B.5. above, must complete the following:

a. Collect and analyze two samples for any pollutant specified in the appropriate category of 40 CFR Subchapter N. The sampling and analysis exemptions and reductions described in Section B.12. of this General Permit do not apply to these pollutants.

b. Estimate or calculate the volume of storm water discharges from each drainage area;

c. Estimate or calculate the mass of each regulated pollutant as defined in the appropriate category of 40 CFR Subchapter N; and

d. Identify the individual(s) performing the estimates or calculations in accordance with Subsections b. and c. above.

7. *Sample Storm Water Discharge Locations*

a. Facility operators shall visually observe and collect samples of storm water discharges from all drainage areas that represent the quality and quantity of the facility's storm water discharges from the storm event.

b. If the facility's storm water discharges are commingled with run-on from surrounding areas, the facility operator should identify other visual observation and sample collection locations that have not been commingled by run-on and that represent the quality and quantity of the facility's storm water discharges from the storm event.

c. If visual observation and sample collection locations are difficult to observe or sample (e.g., sheet flow, submerged outfalls), facility operators shall identify and collect samples from other locations that represent the quality and quantity of the facility's storm water discharges from the storm event.

d. Facility operators that determine that the industrial activities and BMPs within two or more drainage areas are substantially identical may either (i) collect samples from a reduced number of substantially identical drainage areas, or (ii) collect samples from each substantially identical drainage area and analyze a combined sample from each substantially identical drainage area. Facility operators must document such a determination in the annual report.

8. *Visual Observation and Sample Collection Exceptions*

Facility operators are required to be prepared to collect samples and conduct visual observations at the beginning of the wet season (October 1) and throughout the wet season

until the minimum requirements of Sections B.4. and B.5. are completed with the following exceptions:

a. A facility operator is not required to collect a sample and conduct visual observations in accordance with Section B.4 and Section B.5 due to dangerous weather conditions, such as flooding, electrical storm, etc., when storm water discharges begin after scheduled facility operating hours or when storm water discharges are not preceded by three working days without discharge. Visual observations are only required during daylight hours. Facility operators that do not collect the required samples or visual observations during a wet season due to these exceptions shall include an explanation in the Annual Report why the sampling or visual observations could not be conducted.

b. A facility operator may conduct visual observations and sample collection more than one hour after discharge begins if the facility operator determines that the objectives of this Section will be better satisfied. The facility operator shall include an explanation in the Annual Report why the visual observations and sample collection should be conducted after the first hour of discharge.

9. *Alternative Monitoring Procedures*

Facility operators may propose an alternative monitoring program that meets Section B.2 monitoring program objectives for approval by the Regional Water Board. Facility operators shall continue to comply with the monitoring requirements of this Section and may not implement an alternative monitoring plan until the alternative monitoring plan is approved by the Regional Water Board. Alternative monitoring plans are subject to modification by the Regional Water Boards.

10. *Monitoring Methods*

a. Facility operators shall explain how the facility's monitoring program will satisfy the monitoring program objectives of Section B.2. This shall include:

i. Rationale and description of the visual observation methods, location, and frequency.

ii. Rationale and description of the sampling methods, location, and frequency; and

iii. Identification of the analytical methods and corresponding method detection limits used to detect pollutants in storm water discharges. This shall include justification that the method detection limits are adequate to satisfy the objectives of the monitoring program.

b. All sampling and sample preservation shall be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a facility operator's own field instruments for measuring pH and Electro Conductivity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. All metals shall be reported as total metals. With the exception of analysis conducted by facility operators, all laboratory analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. Facility operators may conduct their own sample analyses if the facility operator has sufficient capability (qualified employees, laboratory equipment, etc.) to adequately perform the test procedures.

11. *Inactive Mining Operations*
Inactive mining operations are defined in Attachment 1 of this General Permit. Where comprehensive site compliance evaluations, non-storm water discharge visual observations, storm water discharge visual observations, and storm water sampling are impracticable, facility operators of inactive mining operations may instead obtain certification once every three years by a Registered Professional Engineer that an SWPPP has been prepared for the facility and is being implemented in accordance with the requirements of this General Permit. By means of these certifications, the Registered Professional Engineer having examined the facility and being familiar with the provisions of this General Permit shall attest that the SWPPP has been prepared in accordance with good engineering practices. Facility operators of mining operations who cannot obtain a certification because of noncompliance must notify the appropriate Regional Water Board and, upon request, the local agency which receives the storm water discharge.

12. *Sampling and Analysis* Exemptions and Reductions

A facility operator who qualifies for sampling and analysis exemptions, as described below in Section B.12.a.i., or who qualifies for reduced sampling and analysis, as described below in Section B.12.b., must submit the appropriate certifications and required documentation to the Regional Water Boards prior to the wet season (October 1) and recertify as part of the Annual Report submittal. A facility operator that qualifies for either the Regional Water Board or local agency certification programs, as described below in Section B.12.a.ii. and iii., shall submit certification and documentation in accordance with the requirements of those programs. Facility operators who provide certifications in accordance with this Section are still required to comply with all other monitoring program and reporting requirements. Facility operators shall prepare and submit their certifications using forms and instructions provided by the State Water Board, Regional Water Board, or local agency or shall submit their information on a form that contains equivalent information. Facility operators whose facility no longer meets the certification conditions must notify the Regional Water Boards (and local agency) within 30 days and immediately comply with the Section B.5. sampling and analysis requirements. Should a Regional Water Board (or local agency) determine that a certification does not meet the conditions set forth below, facility operators must immediately comply with the Section B.5. sampling and analysis requirements.

a. Sampling and Analysis Exemptions

A facility operator is not required to collect and analyze samples in accordance with Section B.5. if the facility operator meets all of the conditions of one of the following certification programs:

i. No Exposure Certification (NEC)

This exemption is designed primarily for those facilities where all industrial activities are conducted inside buildings and where all materials stored and handled are not exposed to storm water. To qualify for this exemption, facility operators must certify that their facilities meet all of the following conditions:

(1) All prohibited non-storm water discharges have been eliminated or otherwise permitted.

(2) All authorized non-storm water discharges have been identified and addressed in the SWPPP.

(3) All areas of past exposure have been inspected and cleaned, as appropriate.

(4) All significant materials related to industrial activity (including waste materials) are not exposed to storm water or authorized non-storm water discharges.

(5) All industrial activities and industrial equipment are not exposed to storm water or authorized non-storm water discharges.

(6) There is no exposure of storm water to significant materials associated with industrial activity through other direct or indirect pathways such as from industrial activities that generate dust and particulates.

(7) There is periodic re-evaluation of the facility to ensure conditions (1), (2), (4), (5), and (6) above are continuously met. At a minimum, re-evaluation shall be conducted once a year.

ii. Regional Water Board Certification Programs

The Regional Water Board may grant an exemption to the Section B.5. Sampling and Analysis Requirements if it determines a facility operator has met the conditions set forth in a Regional Water Board certification program. Regional Water Board certification programs may include conditions to (1) exempt facility operators whose facilities infrequently discharge storm water to waters of the United States, and (2) exempt facility operators

that demonstrate compliance with the terms and conditions of this General Permit.

iii. Local Agency Certifications

A local agency may develop a local agency certification program. Such programs must be approved by the Regional Water Board. An approved local agency program may either grant an exemption

from the Section B.5. Sampling and Analysis Requirements or reduce the frequency of sampling if it determines that a facility operator has demonstrated compliance with the terms and conditions of this General Permit.

b. Sampling and Analysis Reduction

i. A facility operator may reduce the number of sampling events required to be sampled for the remaining term of this General Permit if the facility operator provides certification that the following conditions have been met:

(1) The facility operator has collected and analyzed samples from a minimum of six storm events from all required drainage areas;

(2) All prohibited non-storm water discharges have been eliminated or otherwise permitted;

(3) The facility operator demonstrates compliance with the terms and conditions of the General Permit for the previous two years (i.e., completed Annual Reports, performed visual observations, implemented appropriate BMPs, etc.);

(4) The facility operator demonstrates that the facility's storm water discharges and authorized non-storm water discharges do not contain significant quantities of pollutants; and

(5) Conditions (2), (3), and (4) above are expected to remain in effect for a minimum of one year after filing the certification.

ii. Unless otherwise instructed by the Regional Water Board, facility operators shall collect and analyze samples from two additional storm events (or one additional storm event when certification filed for the wet season beginning October 1, 2001) during the remaining term of this General Permit in accordance with Table C below. Facility operators shall collect samples of the first

storm event of the wet season. Facility operators that do not collect samples from the first storm event of the wet season shall collect samples from another storm event during the same wet season. Facility operators that do not collect a sample in a required wet season shall collect the sample from another storm event in the next wet season. Facility operators shall explain in the Annual Report why the first storm event of a wet season was not sampled or a sample was not taken from any storm event in accordance with the Table C schedule.

Table C
REDUCED MONITORING SAMPLING SCHEDULE

Facility Operator Filing Sampling Reduction Certification By	Samples Shall be Collected and Analyzed in These Wet Seasons	
	Sample 1	Sample 2
Oct. 1, 1997	Oct. 1, 1997-May 31, 1998	Oct. 1, 1999-May 31, 2000
Oct. 1, 1998	Oct. 1, 1998-May 31, 1999	Oct. 1, 2000-May 31, 2001
Oct. 1, 1999	Oct. 1, 1999-May 31, 2000	Oct. 1, 2001-May 31, 2002
Oct. 1, 2000	Oct. 1, 2000-May 31, 2001	Oct. 1, 2001-May 31, 2002
Oct. 1, 2001	Oct. 1, 2001-May 31, 2002	-

13. *Records*

Records of all storm water monitoring information and copies of all reports (including the Annual Reports) required by this General Permit shall be retained for a period of at least five years. These records shall include:

a. The date, place, and time of site inspections, sampling, visual observations, and/or measurements;

b. The individual(s) who performed the site inspections, sampling, visual observations, and or measurements;

c. Flow measurements or estimates (if required by Section B.6);

d. The date and approximate time of analyses;

e. The individual(s) who performed the analyses;

f. Analytical results, method detection limits, and the analytical techniques or methods used;

g. Quality assurance/quality control records and results;

h. Non-storm water discharge inspections and visual observations and storm water discharge visual observation records (see Sections B.3. and 4.);

i. Visual observation and sample collection exception records (see Section B.5.a, 7.d, 8, and 12.b.ii.);

j. All calibration and maintenance records of on-site instruments used;

k. All Sampling and Analysis Exemption and Reduction certifications and supporting documentation (see Section B.12);

l. The records of any corrective actions and follow-up activities that resulted from the visual observations.

14. *Annual Report*

All facility operators shall submit an Annual Report by July 1 of each year to the Executive Officer of the Regional Water Board responsible for the area in which the facility is located and to the local agency (if requested).

The report shall include a summary of visual observations and sampling results, an evaluation of the visual observation and sampling and analysis results, laboratory reports, the Annual Comprehensive Site Compliance Evaluation Report required in Section A.9., an explanation of why a facility did not implement any activities required by the General Permit (if not already included in the Evaluation Report), and records specified in Section B.13.i. The method detection limit of each analytical parameter shall be included. Analytical results that are less than the method detection limit shall be reported as "less than the method detection limit." The Annual Report shall be signed and certified in accordance with Standard Provisions 9. and 10. of Section C of this General Permit. Facility operators shall prepare and submit their Annual Reports using the annual report forms provided by the State Water Board or Regional Water Board or shall submit their information on a form that contains equivalent information.

15. *Group Monitoring*

Facility operators may participate in group monitoring as described below. A facility operator that participates in group monitoring shall develop and implement a written site-specific SWPPP and monitoring program in accordance with the General Permit and must satisfy any group monitoring requirements. Group monitoring shall be subject to the following requirements:

a. A group monitoring plan (GMP) shall be developed and implemented by a group leader representing a group of

similar facility operators regulated by this General Permit or by a local agency which holds an NPDES permit (local agency permittee) for a municipal separate storm sewer system. GMPs with participants that discharge storm water within the boundaries of a single Regional Water Board shall be approved by that Regional Water Board. GMPs with participants that discharge storm water within the boundaries of multiple Regional Water Boards shall be approved by the State Water Board. The State Water Board and/or Regional Water Board(s) may disapprove a facility's participation in a GMP or require a GMP participant to conduct additional monitoring activities.

b. Each GMP participant shall collect and analyze samples from at least two storm events in accordance with Section B.5. over the five-year period of this General Permit. The two storm event minimum applies to new and existing members. The group leader or local agency permittee shall schedule sampling to meet the following conditions: (i) to evenly distribute the sample collection over the five-year term of this General Permit, and (ii) to collect samples from the two storm events at each participant's facility in different and non-consecutive wet seasons. New participants who join in Years 4 and 5 of this General Permit are not subject to Condition (ii) above. Group leaders shall explain in the annual Group Evaluation Report why any scheduled samples were not collected and reschedule the sampling so that all required samples are collected during the term of this General Permit.

c. The group leader or local agency permittee must have the appropriate resources to develop and implement the GMP. The group leader or local agency permittee must also have the authority to terminate any participant who is not complying with this General Permit and the GMP.

d. The group leader or local agency permittee is responsible for:

   i. Developing, implementing, and revising the GMP;

   ii. Developing and submitting an annual Group Evaluation Report to the State Water Board and/or Regional Water Board by August 1 of each year that includes:

      (1) An evaluation and summary of all group monitoring data,

      (2) An evaluation of the overall performance of the GMP participants in complying with this General Permit and the GMP,

(3) Recommended baseline and site-specific BMPs that should be considered by each participant based upon Items (1) and (2) above, and

(4) A copy of each evaluation report and recommended BMPs as required in Section B.15.d.v. below.

iii. Recommending appropriate BMPs to reduce or prevent pollutants associated with industrial activities in storm water discharges and authorized non-storm water discharges;

iv. Assisting each participant in completing their Annual Comprehensive Site Compliance Evaluation and Annual Report;

v. Conducting a minimum of two on-site inspections of each participant's facility (it is recommended that these inspections be scheduled during the Annual Comprehensive Site Compliance Evaluation) during the term of this General Permit to evaluate the participant's compliance with this General Permit and the GMP, and to recommend any additional BMPs necessary to achieve compliance with this General Permit. Participants that join in Years 4 and 5 shall be scheduled for one evaluation. A copy of the evaluation and recommended BMPs shall be provided to the participants;

vi. Submitting a GMP (or revisions, as necessary), to the appropriate Regional Water Board(s) and State Water Board no later than September 1, 1997 (or August 1 in subsequent years). Once approved, a group leader or local agency permittee shall submit a letter of intent by August 1 of each year to continue the approved GMP. The letter of intent must include a roster of participants, participant's Waste Discharge Identification number (WDID#), updated sampling schedules, and any other revisions to the GMP;

vii. Revising the GMP as instructed by the Regional Water Board or the State Water Board; and

viii. Providing the State Water Board and/or Regional Water Board with quarterly updates of any new or deleted participants and corresponding changes in the sampling and inspection schedule.

e. The GMP shall:

i. Identify the participants of the GMP by name, location, and WDID number;

ii. Include a narrative description summarizing the industrial activities of participants of the GMP and explain why the participants, as a whole, have sufficiently similar industrial activities and BMPs to be covered by a group monitoring plan;

iii. Include a list of typical potential pollutant sources associated with the group participant's facilities and recommended baseline BMPs to prevent or reduce pollutants associated with industrial activity in the storm water discharges and authorized non-storm water discharges;

iv. Provide a five-year sampling and inspection schedule in accordance with Subsections b. and d.v. above.

v. Identify the pollutants associated with industrial activity that shall be analyzed at each participant's facility in accordance with Section B.5. The selection of these pollutants shall be based upon an assessment of each facility's potential pollutant sources and likelihood that pollutants associated with industrial activity will be present in storm water discharges and authorized non-storm water discharges in significant quantities.

f. Sampling and analysis shall be conducted in accordance with the applicable requirements of this Section.

g. Unless otherwise instructed by the Regional Water Board or the State Water Board Executive Director, the GMPs shall be implemented at the beginning of the wet season (October 1).

h. All participants in an approved GMP that have not been selected to sample in a particular wet season are required to comply with all other monitoring program and reporting requirements of this Section including the submittal of an Annual Report by July 1 of each year to the appropriate Regional Water Board.

i. GMP participants subject to Federal storm water effluent limitation guidelines must perform the monitoring described in Section B.6. and submit the results of the monitoring to the appropriate Regional Water Board within the facility operator's Annual Report.

j. GMPs and Group Evaluation Reports should be prepared in accordance with State Water Board (or Regional Water Board) guidance.

k. GMP participants may receive Sampling and Analysis Reduction sampling credit in accordance with the following conditions:

i. Current or prior participants (group participants) of approved GMPs, who have not collected and analyzed samples from six storm events as required in Section B.7.b.i.(1), may substitute credit earned through participation in a GMP for up to four of the six required storm events. Credits for GMP participation shall be calculated as follows:

(1) Credit may only be earned in years of participation where the GMP participant was not scheduled to sample and the GMP was approved.

(2) One credit will be earned for each year of valid GMP participation.

(3) One additional credit may be earned for each year the overall GMP sample collection performance is greater than 75 percent.

ii. GMP participants substituting credit as calculated above shall provide proof of GMP participation and certification that all the conditions in Section B.12.b.i. have been met. GMP participants substituting credit in accordance with Section B.15.k.i.(3) shall also provide GMP sample collection performance documentation.

iii. GMP participants that qualify for Sampling and Analysis Reduction and have already sampled a storm event after October 1, 1997 shall only be required to sample one additional storm event during the remainder of this General Permit in accordance with the "Sample 2" schedule (or "Sample 1" schedule when certification filed for the wet season beginning October 1, 2001) in Table C of this Section.

n. Group leaders shall furnish, within 60 days of receiving a request from the State Water Board or Regional Water Board, any GMP information and documentation necessary to verify the Section B.15.k. sampling credits. Group leaders may also provide this information and documentation to the group participants.

16. *Watershed Monitoring Option*

Regional Water Boards may approve proposals to substitute watershed monitoring for some or all of the requirements of this Section if the Regional Water Board finds that the watershed monitoring will provide substantially similar monitoring information in evaluating facility operator compliance with the requirements of this General Permit.

TABLE D
ADDITIONAL ANALYTICAL PARAMETERS

Subsector	SIC	Activity Represented	Parameters
SECTOR A. TIMBER PRODUCTS			
A1	2421	General Sawmills and Planing Mills	**COD;TSS;Zn**
A2	2491	Wood Preserving	**As;Cu**
A3	2411	Log Storage and Handling	**TSS**
A4	2426	Hardwood Dimension and Flooring Mills	**COD;TSS**
A4	2429	Special Product Sawmills, Not Elsewhere Classified	**COD;TSS**
A4	243X	Millwork, Veneer, Plywood, and Structural Wood	**COD;TSS**
A4	(except 2434--Wood Kitchen Cabinet Manufacturers)		
A4	244X	Wood Containers	**COD;TSS**
A4	245X	Wood Buildings and Mobile Homes	**COD;TSS**
A4	2493	Reconstituted Wood Products	**COD;TSS**
A4	2499	Wood Products, Not Elsewhere Classified	
SECTOR B. PAPER AND ALLIED PRODUCTS MANUFACTURING			
B1	261X	Pulp Mills	
B2	262X	Paper Mills	
B3	263X	Paperboard Mills	**COD**
B4	265X	Paperboard Containers and Boxes	
B5	267X	Converted Paper and Paperboard Products, Except Containers and Boxes	
SECTOR C. CHEMICAL AND ALLIED PRODUCTS MANUFACTURING			
C1	281X	Industrial Inorganic Chemicals	**Al;Fe;N+N**
C2	282X	Plastics Materials and Synthetic Resins, Synthetic Rubber, Cellulosic, and Other Manmade Fibers Except Glass	**Zn**
C3	283X	Drugs	
C4	284X	Soaps, Detergents, and Cleaning Preparations; Perfumes, Cosmetics, and Other Toilet Preparations	**N+N;Zn**
C5	285X	Paints, Varnishes, Lacquers, Enamels, and Allied Products	
C6	286X	Industrial Organic Chemicals	
C7	287X	Nitrogenous and Phosphatic Basic Fertilizers, Mixed Fertilizer, Pesticides, and Other Agricultural Chemicals	**Fe;N+N;Pb;Zn;P**
C8	289X	Miscellaneous Chemical Products	
	3952	Inks and Paints, Including China Painting Enamels, India Ink, (limited to list) Drawing Ink, Platinum Paints for Burnt Wood or Leather Work, Paints for China Painting, Artist's Paints, and Artist's Watercolors	
SECTOR D. ASPHALT PAVING/ROOFING MATERIALS MANUFACTURERS AND LUBRICANT MANUFACTURERS			
D1	295X	Asphalt Paving and Roofing Materials	**TSS**
D2	2992	Lubricating Oils and Greases	

Parameter Names

Al - Aluminum	Cd - Cadmium	Cu - Copper	Mg - Magnesium	BOD - Biochemical Oxygen Demand
As - Arsenic	CN - Cyanide	Fe - Iron	Ag - Silver	N + N - Nitrate & Nitrite Nitrogen
NH_3- Ammonia	Hg - Mercury	P - Phosphorus	Se - Selenium	Pb - Lead
Zn - Zinc	TSS -Total Suspended Solids	COD - Chemical Oxygen Demand		

Subsector SIC Activity Represented Parameters

SECTOR E. GLASS, CLAY, CEMENT, CONCRETE, AND GYPSUM PRODUCT MANUFACTURING

E1	3211	Flat Glass	
E1	322X	Glass and Glassware, Pressed or Blown	
E1	323X	Glass Products Made of Purchased Glass	
E2	3241	Hydraulic Cement	
E3	325X	Structural Clay Products	**Al**
E3	326X	Pottery and Related Products	**Al**
E3	3297	Non-Clay Refractories	**Al**
E4	327X	Concrete, Gypsum, and Plaster Products (Except Lime) (except 3274).	**TSS;Fe**
E4	3295	Minerals and Earths, Ground, or Otherwise Treated	**TSS;Fe**

SECTOR F. PRIMARY METALS

F1	331X	Steel Works, Blast Furnaces, Rolling & Finishing Mill	**Al;Zn**
F2	332X	Iron and Steel Foundries	**Al;TSS;Cu;Fe;Zn**
F3	333X	Primary Smelting and Refining of Nonferrous Metals	
F4	334X	Secondary Smelting and Refining of Nonferrous Metals	
F5	335X	Rolling, Drawing, and Extruding of Nonferrous Metals	**Cu;Zn**
F6	336X	Nonferrous Foundries (Castings)	**Cu;Zn**
F7	339X	Miscellaneous Primary Metal Products	

SECTOR G. METAL MINING (ORE MINING AND DRESSING) EXCEPT INACTIVE METAL MINING ACTIVITIES ON FEDERAL LANDS WHERE AN OPERATOR CANNOT BE IDENTIFIED

G1	101X	Iron Ores	
G2	102X	Copper Ores	**TSS;COD;N+N**
G3	103X	Lead and Zinc Ores	
G4	104X	Gold and Silver Ores	
G5	106X	Ferroalloy Ores, Except Vanadium	
G6	108X	Metal Mining Services	
G7	109X	Miscellaneous Metal Ores	

SECTOR H. COAL MINES AND COAL MINING-RELATED FACILITIES

NA	12XX	Coal Mines and Coal Mining-Related Facilities	**TSS;Al;Fe**

SECTOR I. COAL MINES AND COAL MINING-RELATED FACILITIES

I1	131X	Crude Petroleum and Natural Gas	
I2	132X	Natural Gas Liquids	
I3	138X	Oil and Gas Field Services	

SECTOR J. MINERAL MINING AND DRESSING EXCEPT INACTIVE MINERAL MINING ACTIVITIES OCCURRING ON FEDERAL LANDS WHERE AN OPERATOR CANNOT BE IDENTIFIED

J1	141X	Dimension Stone	TSS
J1	142X	Crushed and Broken Stone, Including Rip Rap	TSS
J1	148X	Nonmetallic Minerals, Except Fuels	TSS
J2	144X	Sand and Gravel	**TSS;N+N**
J3	145X	Clay, Ceramic, and Refractory Materials	
J4	147X	Chemical and Fertilizer Mineral Mining	
J4	149X	Miscellaneous Nonmetallic Minerals, Except Fuels	

Subsector	SIC	Activity Represented	Parameters
SECTOR K. HAZARDOUS WASTE TREATMENT STORAGE OR DISPOSAL FACILITIES			
NA	4953	Hazardous Waste Treatment Storage or Disposal	**NH_3;Mg;COD;As Cd;CN;Pb Hg;Se;Ag**
SECTOR L. LANDFILLS AND LAND APPLICATION SITES			
NA	4953	Landfills and Land Application Sites That Receive or Have Received Industrial Wastes, Except Inactive Landfills or Land Applications Sites Occurring on Federal Lands Where an Operator Cannot be Identified	**TSS;Fe**
SECTOR M. AUTOMOBILE SALVAGE YARDS			
NA	5015	Facilities Engaged in Dismantling or Wrecking Used Motor Vehicles for Parts Recycling or Resale and for Scrap	**TSS;Fe;Pb;Al**
SECTOR N. SCRAP RECYCLING FACILITIES			
NA	5093	Processing, Reclaiming, and Wholesale Distribution of Scrap and Waste Materials	**TSS;Fe;Pb Al;Cu;Zn;COD**
SECTOR O. STEAM ELECTRIC GENERATING FACILITIES			
NA	4911	Steam Electric Power Generating Facilities	**Fe**
SECTOR P. LAND TRANSPORTATION FACILITIES THAT HAVE VEHICLE AND EQUIPMENT MAINTENANCE SHOPS AND/OR EQUIPMENT CLEANING OPERATIONS			
P1	40XX	Railroad Transportation	
P2	41XX	Local and Highway Passenger Transportation	
P3	42XX	Motor Freight Transportation and Warehousing	
P4	43XX	United States Postal Service	
P5	5171	Petroleum Bulk Stations and Terminals	
SECTOR Q. WATER TRANSPORTATION FACILITIES THAT HAVE VEHICLE (VESSEL) & EQUIPMENT MAINTENANCE SHOPS AND/OR EQUIPMENT CLEANING OPERATIONS			
NA	44XX	Water Transportation	**Al;Fe;Pb;Zn**
SECTOR R. SHIP AND BOAT BUILDING OR REPAIRING YARDS			
NA	373X	Ship and Boat Building or Repairing Yards	
SECTOR S. AIR TRANSPORTATION FACILITIES			
NA	45XX	Air Transportation Facilities That Have Vehicle Maintenance Ships, Material Handing Facilities, Equipment Cleaning Operations, or Airport and/or Aircraft Deicing/Anti-icing Operations	**BOD;COD;NH_3;pH**

Subsector	SIC	Activity Represented	Parameters
SECTOR T. TREATMENT WORKS			
NA	4952	Treatment Works Treating Domestic Sewage or Any Other Sewage Sludge or Wastewater Treatment Device or System Used in the Storage, treatment, recycling, or Reclamation of Municipal or Domestic Sewage with a Design Flow of 1.0 MGD or More or Required to Have an Approved Pretreatment Program	
SECTOR U. FOOD AND KINDRED PRODUCTS			
U1	201X	Meat Products	
U2	202X	Dairy Products	
U3	203X	Canned, Frozen and Preserved Fruits, Vegetables and Food Specialties	
U4	204X	Grain Mill Products	**TSS**
U5	205X	Bakery Products	
U6	206X	Sugar and Confectionery Products	
U7	207X	Fats and Oils	**BOD;COD;TSS;N+N**
U8	208X	Beverages	
U9	209X	Miscellaneous Food Preparations and Kindred Products	
NA	21XX	Tobacco Products	
SECTOR V. TEXTILE MILLS, APPAREL, AND OTHER FABRIC PRODUCT MANUFACTURING			
V1	22XX	Textile Mill Products	
V2	23XX	Apparel and Other Finished Products Made From Fabrics and Similar Materials	
SECTOR W. FURNITURE AND FIXTURES			
NA	25XX	Furniture and Fixtures	
NA	2434	Wood Kitchen Cabinets	
SECTOR X. PRINTING AND PUBLISHING			
NA	2732	Book Printing	
NA	2752	Commercial Printing, Lithographic	
NA	2754	Commercial Printing, Gravure	
NA	2759	Commercial Printing, Nor Elsewhere Classified	
NA	2796	Platemaking and Related Services	
SECTOR Y. RUBBER, MISCELLANEOUS PLASTIC PRODUCTS, AND MISC. MANUFACTURING INDUSTRIES			
Y1	301X	Tires and Inner Tubes	**Zn**
Y1	302X	Rubber and Plastics Footwear	**Zn**
Y1	305X	Gaskets, Packing, and Sealing Devices and Rubber and Plastics Hose and Belting	**Zn**
Y1	306X	Fabricated Rubber Products, Not Elsewhere Classified	**Zn**
Y2	308X	Miscellaneous Plastics Products	

Subsector	SIC	Activity Represented	Parameters
Y2	393X	Musical Instruments	
Y2	394X	Dolls, Toys, Games, and Sporting and Athletic Goods	
Y2	395X	Pens, Pencils, and Other Artists' Materials	
Y2	396X	Costume Jewelry, Costume Novelties, Buttons, and Miscellaneous Notions, Except Precious Metal	
Y2	399X	Miscellaneous Manufacturing Industries	
SECTOR Z. LEATHER TANNING AND FINISHING			
NA	311X	Leather Tanning and Finishing	
NA	NA	Facilities that Make Fertilizer Solely From Leather Scraps and Leather Dust	
SECTOR AA. FABRICATED METAL PRODUCTS			
AA1	3429	Hardware, Not Elsewhere Classified	**Zn;N+N;Fe;Al**
AA1	3441	Fabricated Structural Metal	**Zn;N+N;Fe;Al**
AA1	3442	Metal Doors, Sash, Frames, Molding, and Trim	**Zn;N+N;Fe;Al**
AA1	3443	Fabricated Plate Work (Boiler Shops)	**Zn;N+N;Fe;Al**
AA1	3444	Sheet Metal Work	**Zn;N+N;Fe;Al**
AA1	3451	Screw Machine Products	**Zn;N+N;Fe;Al**
AA1	3452	Bolts, Nuts, Screws, Rivets, and Washers	**Zn;N+N;Fe;Al**
AA1	3462	Iron and Steel Forgings	**Zn;N+N;Fe;Al**
AA1	3471	Electroplating, Plating, Polishing, Anodizing, and Coloring	**Zn;N+N;Fe;**
AA1	3494	Valves and Pipe Fittings, Not Elsewhere Classified	**Zn;N+N;Fe;Al**
AA1	3496	Miscellaneous Fabricated Wire Products	**Zn;N+N;Fe;Al**
AA1	3499	Fabricated Metal Products, Not Elsewhere Classified	**Zn;N+N;Fe;Al**
AA1	391X	Jewelry, Silverware, and Plated Ware	**Zn;N+N;Fe;Al**
AA2	3479	Coating, Engraving, and Allied Services	**Zn;N+N**
SECTOR AB. TRANSPORTATION EQUIPMENT, INDUSTRIAL OR COMMERCIAL MACHINERY			
NA	35XX	Industrial and Commercial Machinery (except 357X Computer and Office Equipment)	
NA	37XX	Transportation Equipment (except 373X Ship and Boat Building and Repairing	
SECTOR AC. ELECTRONIC, ELECTRICAL, PHOTOGRAPHIC, AND OPTICAL GOODS			
NA	36XX	Electronic and Other Electrical Equipment and Components, Except Computer Equipment	
NA	38XX	Measuring, Analyzing, and Controlling Instruments; Photographic, Medical, and Optical Goods; Watches and Clocks	
NA	357X	Computer and Office Equipment	

Section C: STANDARD PROVISIONS

1. Duty to Comply

The facility operator must comply with all of the conditions of this General Permit. Any General Permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for (a) enforcement action for (b) General Permit termination, revocation and reissuance, or modification or (c) denial of a General Permit renewal application.

The facility operator shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

2. General Permit Actions

This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the facility operator for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any General Permit condition.

If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition, and the facility operator so notified.

3. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a facility operator in an enforcement action that it would have been necessary to halt or reduce the general permitted activity in order to maintain compliance with the conditions of this General Permit.

4. Duty to Mitigate

The facility operator shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The facility operator at all times shall properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the facility operator to achieve compliance with the conditions of this General Permit and with the requirements of storm water pollution prevention plans (SWPPPs). Proper operation and maintenance also include adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a facility operator when necessary to achieve compliance with the conditions of this General Permit.

6. Property Rights

This General Permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

7. Duty to Provide Information

The facility operator shall furnish the Regional Water Quality Control Board (Regional Water Board), State Water Resources Control Board (State Water Board), U.S. Environmental Protection Agency (U.S. EPA), or local storm water management agency, within a reasonable time specified by the agencies, any requested information to determine compliance with this General Permit. The facility operator shall also furnish, upon request, copies of records required to be kept by this General Permit.

8. Inspection and Entry

The facility operator shall allow the Regional Water Board, State Water Board, U.S. EPA, and local storm water management agency, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the facility operator's premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this General Permit;

b. Have access to and copy at reasonable times any records that must be kept under the conditions of this General Permit;

c. Inspect at reasonable times any facilities or equipment (including monitoring and control equipment) that are related to or may impact storm water discharge or authorized non-storm water discharge; and

d. Conduct monitoring activities at reasonable times for the purpose of ensuring General Permit compliance.

9. Signatory Requirements

a. All Notices of Intent (NOIs) submitted to the State Water Board shall be signed as follows:

(1) For a corporation: by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (b) the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

(2) For a partnership or sole proprietorship: by a general partner or the proprietor, respectively; or

(3) For a municipality, State, Federal, or other public agency: by either a principal executive officer or ranking elected official. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA).

b. All reports, certifications, or other information required by the General Permit or requested by the Regional Water Board, State Water Board, U.S. EPA, or local storm water management agency shall be signed by a person described above or by a duly authorized representative. A person is a duly authorized representative only if:

(1) The authorization is made in writing by a person described above and retained as part of the SWPPP.

(2) The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility or an individual or position having overall responsibility for named position.)

(3) If an authorization is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be attached to the SWPPP prior to submittal of any reports, certifications, or information signed by the authorized representative.

10. Certification

Any person signing documents under Provision 9. above shall make the following certification:

"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 ensure 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 fine and imprisonment for knowing violations."

11. Reporting Requirements

a. Planned changes: The facility operator shall give advance notice to the Regional Water Board and local storm water management agency of any planned physical alteration or additions to the general permitted facility. Notice is required under this provision only when the alteration or addition could significantly change the nature or increase the quantity of pollutants discharged.

b. Anticipated noncompliance: The facility operator will give advance notice to the Regional Water Board and local storm water management agency of any planned changes at the permitted facility which may result in noncompliance with General Permit requirements.

c. Compliance schedules: Reports of compliance or noncompliance with or any progress reports on interim and final requirements contained in any compliance schedule of this General Permit shall be submitted no later than 14 days following each scheduled date.

d. Noncompliance reporting: The facility operator shall report any noncompliance at the time monitoring reports are submitted. The written submission shall contain (1) a description of the noncompliance and its cause; (2) the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and (3) steps taken or planned to reduce and prevent recurrence of the noncompliance.

12. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the facility operator from any responsibilities, liabilities, or penalties to which the facility operator is or may be subject under Section 311 of the CWA.

13. Severability

The provisions of this General Permit are severable; and if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

14. Reopener Clause

This General Permit may be modified, revoked, and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 CFR 122.62, 122.63, 122.64, and 124.5. This General Permit may be reopened to modify the provisions regarding authorized non-storm water discharges specified in Section D. Special Conditions.

15. Penalties for Violations of General Permit Conditions.

a. Section 309 of the CWA provides significant penalties for any person who violates a General Permit condition

implementing Sections 301, 302, 306, 307 308, 318, or 405 of the CWA, or any General Permit condition or limitation implementing any such section in a General Permit issued under Section 402. Any person who violates any General Permit condition of this General Permit is subject to a civil penalty not to exceed $25,000 per day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties in some cases greater than those under the CWA.

16. Availability

A copy of this General Permit shall be maintained at the facility and be available at all times to the appropriate facility personnel and to Regional Water Board and local agency inspectors.

17. Transfers

This General Permit is not transferable from one facility operator to another facility operator nor may it be transferred from one location to another location. A new facility operator of an existing facility must submit an NOI in accordance with the requirements of this General Permit to be authorized to discharge under this General Permit.

18. Continuation of Expired General Permit

This General Permit continues in force and effect until a new general permit is issued or the State Water Board rescinds the General Permit. Facility operators authorized to discharge under the expiring general permit are required to file an NOI to be covered by the reissued General Permit.

19. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall, upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years, or by both.

Attachment 1

FACILITIES COVERED BY THIS GENERAL PERMIT

Industrial facilities include Federal, State, municipally owned, and private facilities from the following categories:

1. FACILITIES SUBJECT TO STORM WATER EFFLUENT LIMITATIONS GUIDELINES, NEW SOURCE PERFORMANCE STANDARDS, OR TOXIC POLLUTANT EFFLUENT STANDARDS (40 Code of Federal Regulations (CFR) SUBCHAPTER N). Currently, categories of facilities subject to storm water effluent limitations guidelines are Cement Manufacturing (40 CFR Part 411), Feedlots (40 CFR Part 412), Fertilizer Manufacturing (40 CFR Part 418), Petroleum Refining (40 CFR Part 419), Phosphate Manufacturing (40 CFR Part 422), Steam Electric (40 CFR Part 423), Coal Mining (40 CFR Part 434), Mineral Mining and Processing (40 CFR Part 436), Ore Mining and Dressing (40 CFR Part 440), and Asphalt Emulsion (40 CFR Part 443).

2. MANUFACTURING FACILITIES: Standard Industrial Classifications (SICs) 24 (except 2434), 26 (except 265 and 267), 28 (except 283 and 285) 29, 311, 32 (except 323), 33, 3441, and 373.

3. OIL AND GAS/MINING FACILITIES: SICs 10 through 14 including active or inactive mining operations (except for areas of coal mining operations meeting the definition of a reclamation area under 40 CFR 434.11(l) because of performance bond issued to the facility by the appropriate Surface Mining Control and Reclamation Act (SMCRA) authority has been released, or except for area of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990); oil and gas exploration, production, processing, or treatment operations; or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with any overburden, raw material, intermediate products, finished products, by-products, or waste products located on the site of such operations. Inactive mining operations are mined sites that are not being actively mined but which have an identifiable facility operator. Inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined material; or sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim.

4. HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL FACILITIES: Includes those operating under interim status or a general permit under Subtitle C of the Federal Resource, Conservation, and Recovery Act (RCRA).

5. LANDFILLS, LAND APPLICATION SITES, AND OPEN DUMPS: Sites that receive or have received industrial waste from any of

the facilities covered by this General Permit, sites subject to regulation under Subtitle D of RCRA, and sites that have accepted wastes from construction activities (construction activities include any clearing, grading, or excavation that results in disturbance of five acres or more).

6. RECYCLING FACILITIES: SICs 5015 and 5093. These codes include metal scrapyards, battery reclaimers, salvage yards, motor vehicle dismantlers and wreckers, and recycling facilities that are engaged in assembling, breaking up, sorting, and wholesale distribution of scrap and waste material such as bottles, wastepaper, textile wastes, oil waste, etc.

7. STEAM ELECTRIC POWER GENERATING FACILITIES: Includes any facility that generates steam for electric power through the combustion of coal, oil, wood, etc.

8. TRANSPORTATION FACILITIES: SICs 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication) or other operations identified herein that are associated with industrial activity.

9. SEWAGE OR WASTEWATER TREATMENT WORKS: Facilities used in the storage, treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility with a design flow of one million gallons per day or more or required to have an approved pretreatment program under 40 CFR Part 403. Not included are farm lands, domestic gardens, or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with Section 405 of the Clean Water Act.

10. MANUFACTURING FACILITIES WHERE INDUSTRIAL MATERIALS, EQUIPMENT, OR ACTIVITIES ARE <u>EXPOSED</u> TO STORM WATER: SICs 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221-4225.

Attachment 2

STORM WATER CONTACTS FOR THE STATE AND REGIONAL WATER BOARDS

See Storm Water Contacts at:
http://www.waterboards.ca.gov/water_issues/programs/stormwater/contact.shtml

NOTICE OF INTENT (NOI) INSTRUCTIONS

TO COMPLY WITH STATE WATER RESOURCES CONTROL BOARD
WATER QUALITY ORDER NO. 97-03-DWQ
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT NO. CAS000001

Who Must Submit

The facility operator must submit an NOI for each industrial facility that is required by U.S. Environmental Protection Agency (U.S.EPA) regulations to obtain a storm water permit. The required industrial facilities are listed in Attachment 1 of the General Permit and are also listed in 40 Code of Federal Regulations Section 122.26(b)(14).

The facility operator is typically the owner of the business or operation where the industrial activities requiring a storm water permit occur. The facility operator is responsible for all permit related activities at the facility.

Where operations have discontinued and significant materials remain on site (such as at closed landfills), the landowner may be responsible for filing an NOI and complying with this General Permit. Landowners may also file an NOI for a facility if the landowner, rather than the facility operator, is responsible for compliance with this General Permit.

How and Where to Apply

The completed NOI form, a site map, and appropriate fee must be mailed to the State Water Resources Control Board (State Water Board) at the following address:

State Water Resources Control Board
Division of Water Quality
P.O. Box 1977
Sacramento, CA 95812-1977
Attn: Storm Water Permitting Unit

Please Note: Do not send the original or copies of the NOI submittal to the Regional Water Quality Control Board (Regional Water Board). The original NOI will be forwarded to the Regional Water Board after processing.

Do not send a copy of your Storm Water Pollution Prevention Plan (SWPPP) with your NOI submittal. Your SWPPP is to be kept on site and made available for review upon request.

When to Apply

Facility operators of existing facilities must file an NOI in accordance with these instructions by March 30, 1992. Facility

operators of new facilities (those beginning operations after March 30, 1992) must file an NOI in accordance with these instructions at least 14 days prior to the beginning of operations.

Once the completed NOI, site map, and appropriate fee have been submitted to the State Water Board, your NOI will be processed and you will be issued a receipt letter with a Waste Discharge Identification (WDID) Number. Please refer to this number when you contact either the State or Regional Water Boards.

Fees

The total annual fee is $1008.00. Checks should be made payable to: SWRCB

Change of Information

If the information provided on the NOI or site map changes, you should report the changes to the State Water Board using an NOI form. Section I of the line-by-line instructions includes information regarding changes to the NOI.

Questions

If you have any questions completing the NOI, please call the appropriate Regional Water Board (Attachment 2) or the State Water Board at (916) 341-5538.

NOI LINE-BY-LINE INSTRUCTIONS

Please type or print your responses on the NOI. Please complete the NOI form in its entirety and sign the certification.

Section I--NOI STATUS

Check box "A" if this is a new NOI registration.

Check box "B" if you are reporting changes to the NOI (e.g., new contact person, phone number, mailing address). Include the facility WDID #. Highlight all the information that has been changed.

Please note that a change of information **does not** apply to a change of facility operator or a change in the location of the facility. These changes require a Notice of Termination (NOT) and submittal of a new NOI and annual fee. Contact the State Water Board or Regional Water Boards for more information on the NOT Form and instructions.

Regardless of whether you are submitting a new or revised NOI, you must complete the NOI in its entirety and the NOI must be signed.

Section II--Facility Operator Information

Part A: The facility operator is the legal entity that is responsible for all permit related compliance activities at the facility. In most cases, the facility operator is the owner of the business or operation where the industrial activity occurs. Give the legal name and the address of the person, firm, public organization, or any other entity that is responsible for complying with the General Permit.

Part B: Check the box that indicates the type of operation.

Section III--Facility Site Information

Part A: Enter the facility's official or legal name and provide the address. Facilities that do not have a street address must provide cross-streets or parcel numbers. Do not include a P.O. Box address in Part A.

Part B: Enter the mailing address of the facility if different than Part A. This address may be a P.O. Box.

The contact person should be the plant or site manager who is familiar with the facility and responsible for overseeing compliance of the General Permit requirements.

Part C: Enter the total size of the facility in either acres or square feet. Also include the percentage of the site that is impervious (areas that water cannot soak into the ground, such as concrete, asphalt, and rooftops).

Part D: Determine the Standard Industrial Classification (SIC) code which best identifies the industrial activity that is taking place at the facility. This information can be obtained by referring to the Standard Industrial Classification Manual prepared by the Federal Office of Management and Budget which is available at public libraries. The code you determine should identify the industrial activity that requires you to submit the NOI. (For example, if the business is high school education and the activity is school bus maintenance, the code you choose would be bus maintenance, not education.) Most facilities have only one code; however, additional spaces are provided for those facilities that have more than one activity.

Part E: Identify the title of the industrial activity that requires you to submit the NOI (e.g., the title of SIC Code 2421 is Sawmills and Planing Mills, General). If you cannot identify the title, provide a description of the regulated activity(s).

Section IV--Address for Correspondence

Correspondence relative to the permit will be mailed occasionally. Check the box which indicates where you would like such correspondence delivered. If you want correspondence sent to another contact person or address different than indicated in Section II or Section III then include the information on an extra sheet of paper.

Section V--Billing Address Information

To continue coverage under the General Permit, the annual fee must be paid. Use this section to indicate where the annual fee invoices should be mailed. Enter the billing address if different than the address given in Sections II or III.

Section VI--Receiving Water Information

Provide the name of the receiving water where storm water discharge flows from your facility. A description of each option is included below.

1. Directly to waters of the United States: Storm water discharges directly from the facility to a river, creek, lake, ocean, etc. Enter the name of the receiving water (e.g., Boulder Creek).

2. Indirectly to waters of the United States: Storm water discharges over adjacent properties or right-of-ways prior to discharging to waters of the United States. Enter the name of the closest receiving water (e.g., Clear Creek).

Section VII--Implementation of Permit Requirements

Parts A and B: Check the boxes that best describe the status of the Storm Water Pollution Prevention Plan (SWPPP) and the Monitoring Program.

Part C: Check yes or no to questions 1 through 4. If you answer no to any question, you need to assign a person to these tasks immediately.

As a permit holder you are required to have an SWPPP and Monitoring Program in place prior to the beginning of facility operations. Failure to do so is in direct violation of the General Permit. Do not send a copy of your SWPPP with your NOI submittal.

Please refer to Sections A and B of the General Permit for additional information regarding the SWPPP and Monitoring Program.

Section VIII--Site Map

Provide a "to scale" drawing of the facility and its immediate surroundings. Include as much detail about the site as possible. At a minimum, indicate buildings, material handling and storage areas, roads, names of adjacent streets, storm water discharge points, sample collection points, and a north arrow. Whenever

possible limit the map to a standard size sheet of paper (8.5" x 11" or 11" x 17"). **Do not send blueprints** unless you are sending one page and it meets the size limits as defined above.

A location map may also be included, especially in cases where the facility is difficult to find, but are not to be submitted as a substitute for the site map. The location map can be created from local street maps and U.S. Geological Survey (USGS) quadrangle maps, etc.

A revised site map must be submitted whenever there is a significant change in the facility layout (e.g., new building, change in storage locations, boundary change, etc.).

Section IX--Certification

This section should be read by the facility operator. The certification provides assurances that the NOI and site map were completed by the facility operator in an accurate and complete fashion and with the knowledge that penalties exist for providing false information. It also requires the Responsible Party to certify that the provisions in the General Permit will be complied with.

The NOI must be signed by:

For a Corporation: a responsible corporate officer (or authorized individual).

For a Partnership or Sole Proprietorship: a general partner or the proprietor, respectively.

For a Municipality, State, or other non-Federal Public Agency: either a principal executive officer or ranking elected official.

For a Federal Agency: either the chief or senior executive officer of the agency.

State of California
State Water Resources Control Board

NOTICE OF INTENT

TO COMPLY WITH THE TERMS OF THE
GENERAL PERMIT TO DISCHARGE STORM WATER
ASSOCIATED WITH **INDUSTRIAL ACTIVITY** (WQ ORDER No. 97-03-DWQ)
(*Excluding Construction Activities*)

SECTION I. NOI STATUS (please check only one box)

A. [ ] New Permittee B. [ ] Change of Information WDID # |_____|

SECTION II. FACILITY OPERATOR INFORMATION (See instructions)

A. NAME:		Phone:
Mailing Address:		
City:	State:	Zip Code:
Contact Person:		
B. OPERATOR TYPE: (check one) 1.[ ] Private Individual 2.[ ]Business 3.[ ]Municipal 4.[ ]State 5.[ ]Federal 6.[ ]Other		

SECTION III. FACILITY SITE INFORMATION

A. FACILITY NAME		Phone:
Facility Location:		County:
City:	State: CA	Zip Code:
B. MAILING ADDRESS:		
City:	State:	Zip Code:
Contact Person:		
C. FACILITY INFORMATION Total Size of Site: _____ (check one) Acres [ ] Sq. Ft. [ ]		Percent of Site Impervious (*including rooftops*)

D. SIC CODE(S) OF REGULATED ACTIVITY: E. REGULATED ACTIVITY (*describe each SIC code*):

1. |_____| |_____|
2. |_____| |_____|
3. |_____| |_____|

FOR STATE USE ONLY:

14-1321

SECTION IV. ADDRESS FOR CORRESPONDENCE

|_| Facility Operator Mailing Address (Section II) |_| Facility Mailing Address (Section III, B.) |_| Both

SECTION V. BILLING ADDRESS INFORMATION

SEND BILL TO: [ ]Facility Operator Mailing Address (Section II) [ ]Facility Mailing Address (Section III, B.) [ ]Other (*enter information below*)

Name: |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

Phone: |_|_|_|-|_|_|_|-|_|_|_|_|

Mailing Address: |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

City: |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

State: |_|_|

Zip Code: |_|_|_|_|_|-|_|_|_|_|

Contact Person: |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|

SECTION VI. RECEIVING WATER INFORMATION

Your facility's storm water discharges flow: (*check one*) [ ] Directly OR [ ] Indirectly to waters of the United States.

Name of receiving water: |_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|_|
(river, lake, stream, ocean, etc.)

SECTION VII. IMPLEMENTATION OF PERMIT REQUIREMENTS

A. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) (*check one*)
[ ] A SWPPP has been prepared for this facility and is available for review.
[ ] A SWPPP will be prepared and ready for review by (enter date): ____/____/____.

B. MONITORING PROGRAM (check one)
[ ] A Monitoring Program has been prepared for this facility and is available for review.
[ ] A Monitoring Program will be prepared and ready for review by (enter date): ____/____/____.

C. PERMIT COMPLIANCE RESPONSIBILITY
Has a person been assigned responsibility for:

1. Inspecting the facility throughout the year to identify any potential pollution problems? ____YES ____NO
2. Collecting storm water samples and having them analyzed? ____YES ____NO
3. Preparing and submitting an annual report by July 1 of each year? ____YES ____NO
4. Eliminating discharges other than storm water (*such as equipment or vehicle wash-water*) into the storm drain? ____YES ____NO

SECTION VIII. SITE MAP

I HAVE ENCLOSED A SITE MAP YES[ ] A new NOI submitted without a site map will be rejected.

SECTION IX. CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction and 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 fine and imprisonment. In addition, I certify that I have read the entire General Permit, including all attachments, and agree to comply with and be bound by all of the provisions, requirements, and prohibitions of the permit, including the development and implementation of a Storm Water Pollution Pervention Plan and a Monitoring Program Plan will be complied with."

Printed Name: _____

Signature: _____ Date _____

Title: _____

DEFINITIONS

1. "Best Management Practices" ("BMPs") means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment measures, operating procedures, and practices to control facility site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may include any type of pollution prevention and pollution control measure necessary to achieve compliance with this General Permit.

2. Clean Water Act (CWA) means the Federal Water Pollution Control Act enacted by Public Law 92-500 as amended by Public Laws 95-217, 95-576, 96-483, and 97-117; 33 USC. 1251 et seq.

3. "Facility" is a collection of industrial processes discharging storm water associated with industrial activity within the property boundary or operational unit.

4. "Non-Storm Water Discharge" means any discharge to storm sewer systems that is not composed entirely of storm water.

5. "Significant Materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of Comprehensive Environmental Response, Compensation, and Liability Act (CERLCA); any chemical the facility is required to report pursuant to Section 313 of Title III of Superfund Amendments and Reauthorization Act (SARA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with storm water discharges.

6. "Significant Quantities" is the volume, concentrations, or mass of a pollutant that can cause or threaten to cause pollution, contamination, or nuisance; adversely impact human health or the environment; and/or cause or contribute to a violation of any applicable water quality standards for the receiving water.

7. "Significant Spills" includes, but is not limited to: releases of oil or hazardous substances in excess of reportable quantities under Section 311 of the CWA (see 40 CFR 110.10 and 117.21) or Section 102 of CERCLA (see 40 CFR 302.4).

8. "Storm water" means storm water runoff, snow melt runoff, and storm water surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

ACRONYM LIST

BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMPs	Best Management Practices
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (Federal Superfund)
CFR	Code of Federal Regulations
CWA	Clean Water Act
General Permit	General Industrial Activities Storm Water Permit
GMP	Group Monitoring Plan
NEC	No Exposure Certification
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
O&G	Oil and Grease
RCRA	Resource, Conservation, and Recovery Act
Regional Water Board	Regional Water Quality Control Board
RQ	Reportable Quantity
SARA	Superfund Amendments and Reauthorization Act of 1986
SIC	Standard Industrial Classification
SMCRA	Surface Mining Control and Reclamation Act
SPCC	Spill Prevention Control and Countermeasures
State Water Board	State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TOC	Total Organic Carbon
TSS	Total Suspended Solids
U.S. EPA	U.S. Environmental Protection Agency
WDID	Waste Discharger Identification
WDRs	Waste Discharge Requirements

9. "Storm Water Associated with Industrial Activity" means the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing, or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program. For the facilities identified in Categories 1 through 9 of Attachment 1 of this General Permit, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials; manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process wastewaters (as defined at 40 CFR Part 401); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and finished products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water.

   For the facilities identified in Category 10 of Attachment 1 of this General Permit, the term only includes storm water discharges from all areas listed in the previous sentence where material handling equipment or activities, raw materials, intermediate products, final products, waste materials, by-products, or industrial machinery <u>are exposed to storm water</u>.

   Material handling activities include the: storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, finished product, by-product, or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that meet the description of the facilities listed in this paragraph) include those facilities designated under 40 CFR 122.26(a)(1)(v).

Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

Division of Water Quality
1001 I Street • Sacramento, California 95814 • (916) 341-5455
Mailing Address: P.O. Box 100 • Sacramento, California • 95812-0100
Fax (916) 341-5463 • http://www.waterboards.ca.gov

Arnold Schwar[illegible]gger
Governor

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR
STORM WATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE
ACTIVITIES

ORDER NO. 2009-0009-DWQ
NPDES NO. **CAS000002**

This Order was adopted by the State Water Resources Control Board on:	**September 2, 2009**
This Order shall become effective on:	**July 1, 2010**
This Order shall expire on:	**September 2, 2014**

IT IS HEREBY ORDERED, that this Order supersedes Order No. 99-08-DWQ except for enforcement purposes. The Discharger shall comply with the requirements in this Order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on September 2, 2009.

AYE: Vice Chair Frances Spivy-Weber
Board Member Arthur G. Baggett, Jr.
Board Member Tam M. Doduc

NAY: Chairman Charles R. Hoppin

ABSENT: None

ABSTAIN: None

Jeanine Townsend
Clerk to the Board

List of Documents included in this single file saved in pdf format on September 22, 2009:

- Fact Sheet
- Order
- Attachment A – Linear Underground/Overhead Requirements
- Attachment A.1 – LUP Project Type Determination
- Attachment A.2 – LUP Permit Registration Documents
- Attachment B – Permit Registration Documents
- Attachment C – Risk Level 1 Requirements
- Attachment D – Risk Level 2 Requirements
- Attachment E – Risk Level 3 Requirements
- Attachment F – Active Treatment System Requirements
- Appendix 1 – Risk Determination Worksheet and Sediment-related 303d List
- Appendix 2 – Post-Construction Water Balance
- Appendix 2.1 – Post-Construction Water Balance Calculator
- Appendix 3 - Bioassessment Monitoring Guidelines
- Appendix 4 – Adopted/Implemented Sediment and Non-sediment TMDLs
- Appendix 5 – Glossary
- Appendix 6 - Acronym List
- Appendix 7 – State and Regional Water Board Contacts

2-2-12327

Linda S. Adams
Secretary for
Environmental Protection

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Arnold Schwarzenegger
Governor

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I. BACKGROUND

A. History

In 1972, the Federal Water Pollution Control Act (also referred to as the Clean Water Act [CWA]) was amended to provide that the discharge of pollutants to waters of the United States from any point source is unlawful unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA added Section 402(p), which establishes a framework for regulating municipal and industrial storm water discharges under the NPDES Program. On November 16, 1990, the U.S. Environmental Protection Agency (USEPA) published final regulations that established storm water permit application requirements for specified categories of industries. The regulations provide that discharges of storm water to waters of the United States from construction projects that encompass five or more acres of soil disturbance are effectively prohibited unless the discharge is in compliance with an NPDES Permit. Regulations (Phase II Rule) that became final on December 8, 1999 lowered the permitting threshold from five acres to one acre.

While federal regulations allow two permitting options for storm water discharges (Individual Permits and General Permits), the State Water Board has elected to adopt only one statewide General Permit at this time that will apply to most storm water discharges associated with construction activity.

On August 19, 1999, the State Water Board reissued the General Construction Storm Water Permit (Water Quality Order 99-08-DWQ). On December 8, 1999 the State Water Board amended Order 99-08-DWQ to apply to sites as small as one acre.

The General Permit accompanying this fact sheet regulates storm water runoff from construction sites. Regulating many storm water discharges under one permit will greatly reduce the administrative burden associated with permitting individual storm water discharges. To obtain coverage under this General Permit, dischargers shall electronically file the Permit Registration Documents (PRDs), which includes a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other compliance related documents required by this General Permit and mail the appropriate permit fee to the State Water Board. It is expected that as the storm water program develops, the Regional Water Quality Control Boards (Regional Water Boards) may issue General Permits or Individual Permits containing more specific permit provisions. When this occurs, this General Permit will no longer regulate those dischargers.

B. Legal Challenges and Court Decisions

1. Early Court Decisions

Shortly after the passage of the CWA, the USEPA promulgated regulations exempting most storm water discharges from the NPDES permit requirements. (See 40 C.F.R. § 125.4 (1975); see also *Natural Resources Defense Council v. Costle* (D.C. Cir. 1977) 568 F.2d 1369, 1372 (*Costle*); *Defenders of Wildlife v. Browner* (9th Cir. 1999) 191 F.3d 1159, 1163 (*Defenders of Wildlife*).) When environmental groups challenged this exemption in federal court, the District of Columbia Court of Appeals invalidated the regulation, holding that the USEPA "does not have authority to exempt categories of point sources from the permit requirements of [CWA] § 402." (*Costle*, 568 F.2d at 1377.) The *Costle* court rejected the USEPA's argument that effluent-based storm sewer regulation was administratively infeasible because of the variable nature of storm water pollution and the number of affected storm sewers throughout the country. (*Id.* at 1377-82.) Although the court acknowledged the practical problems relating to storm sewer regulation, the court found the USEPA had the flexibility under the CWA to design regulations that would overcome these problems. (*Id.* at 1379-83.) In particular, the court pointed to general permits and permits based on requiring best management practices (BMPs).

During the next 15 years, the USEPA made numerous attempts to reconcile the statutory requirement of point source regulation with the practical problem of regulating possibly millions of diverse point source discharges of storm water. (See *Defenders of Wildlife*, 191 F.3d at 1163; see also Gallagher, Clean Water Act in Environmental Law Handbook (Sullivan, edit., 2003)
p. 300 (Environmental Law Handbook); Eisen, *Toward a Sustainable Urbanism: Lessons from Federal Regulation of Urban Storm Water Runoff* (1995) 48 Wash. U.J. Urb. & Contemp. L.1, 40-41 [Regulation of Urban Storm Water Runoff].)

In 1987, Congress amended the CWA to require NPDES permits for storm water discharges. (See CWA § 402(p), 33 U.S.C. § 1342(p); *Defenders of Wildlife,* 191 F.3d at 1163; *Natural Resources Defense Council v. USEPA* (9th Cir. 1992) 966 F.2d 1292, 1296.) In these amendments, enacted as part of the Water Quality Act of 1987, Congress distinguished between industrial and municipal storm water discharges. With respect to industrial storm water discharges, Congress provided that NPDES permits "shall meet all applicable provisions of this section and section 1311 [requiring the USEPA to establish effluent limitations under specific timetables]." (CWA § 402(p)(3)(A), 33 U.S.C. § 1342(p)(3)(A); see also *Defenders of Wildlife,* 191 F.3d at 1163-64.)

In 1990, USEPA adopted regulations specifying what activities were considered "industrial" and thus required discharges of storm water associated with those activities to obtain coverage under NPDES permits. (55 Fed. Reg. 47,990 (1990); 40 C.F.R. § 122.26(b)(14).) Construction activities, deemed a subset of the industrial activities category, must also be regulated by an NPDES permit. (40 C.F.R. § 122.26(b)(14)(x)). In 1999, USEPA issued regulations for "Phase II" of storm water regulation, which required most small construction sites (1-5 acres) to be regulated under the NPDES program. (64 Fed. Reg. 68,722; 40 C.F.R. § 122.26(b)(15)(i).)

2. Court Decisions on Public Participation

Two recent federal court opinions have vacated USEPA rules that denied meaningful public review of NPDES permit conditions. On January 14, 2003, the Ninth Circuit Court of Appeals held that certain aspects of USEPA's Phase II regulations governing MS4s were invalid primarily because the general permit did not contain express requirements for public participation. (*Environmental Defense Center v. USEPA* (9th Cir. 2003) 344 F.3d 832.) Specifically, the court determined that applications for general permit coverage (including the Notice of Intent (NOI) and Storm Water Management Program (SWMP)) must be made available to the public, the applications must be reviewed and determined to meet the applicable standard by the permitting authority before coverage commences, and there must be a process to accommodate public hearings. (*Id.* at 852-54.) Similarly, on February 28, 2005, the Second Circuit Court of Appeals held that the USEPA's confined animal feeding operation (CAFO) rule violated the CWA because it allowed dischargers to write their own nutrient management plans without public review. (*Waterkeeper Alliance v. USEPA* (2d Cir. 2005) 399 F.3d 486.) Although neither decision involved the issuance of construction storm water permits, the State Water Board's Office of Chief Counsel has recommended that the new General Permit address the courts' rulings where feasible[1].

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[1] In *Texas Independent Producers and Royalty Owners Assn. v. USEPA* (7th Cir. 2005) 410 F.3d 964, the Seventh Circuit Court of Appeals held that the USEPA's construction general permit was not required to provide the public with the opportunity for a public hearing on the Notice of Intent or Storm Water Pollution Prevention Plan. The Seventh Circuit briefly discussed why it agreed with the Ninth Circuit's dissent in *Environmental Defense Center*, but generally did not discuss the substantive holdings in *Environmental Defense Center* and *Waterkeeper Alliance*, because neither court addressed the initial question of whether the plaintiffs had standing to challenge the permits at issue. However, notwithstanding the Seventh Circuit's decision, it is not binding or controlling on the State Water Board because California is located within the Ninth Circuit.

The CWA and the USEPA's regulations provide states with the discretion to formulate permit terms, including specifying best management practices (BMPs), to achieve strict compliance with federal technology-based and water quality-based standards. (*Natural Resources Defense Council v. USEPA* (9th Cir. 1992) 966 F.2d 1292, 1308.) Accordingly, this General Permit has developed specific BMPs as well as numeric action levels (NALs) and numeric effluent limitations (NELs) in order to achieve these minimum federal standards. In addition, the General Permit requires a SWPPP and REAP (another dynamic, site-specific plan) to be developed but has removed all language requiring the discharger to implement these plans – instead, the discharger is required to comply with specific requirements. By requiring the dischargers to implement these specific BMPs, NALs, and NELs, this General Permit ensures that the dischargers do not "write their own permits." As a result this General Permit does not require each discharger's SWPPP and REAP to be reviewed and approved by the Regional Water Boards.

This General Permit also requires dischargers to electronically file all permit-related compliance documents. These documents include, but are not limited to, NOIs, SWPPPs, annual reports, Notice of Terminations (NOTs), and numeric action level (NAL) exceedance reports. Electronically submitted compliance information is immediately available to the public, as well as the Regional Water Quality Control Board (Regional Water Board) offices, via the Internet. In addition, this General Permit enables public review and hearings on permit applications when appropriate. Under this General Permit, the public clearly has a meaningful opportunity to participate in the permitting process.

C. Blue Ribbon Panel of Experts and Feasibility of Numeric Effluent Limitations

In 2005 and 2006, the State Water Board convened an expert panel (panel) to address the feasibility of numeric effluent limitations (NELs) in California's storm water permits. Specifically, the panel was asked to address:

"Is it technically feasible to establish numeric effluent limitations, or some other quantifiable limit, for inclusion in storm water permits? How would such limitations or criteria be established, and what information and data would be required?"

"The answers should address industrial general permits, construction general permits, and area-wide municipal permits. The answers should also address both technology-based limitations or criteria and water quality-based limitations or criteria. In evaluating establishment of any objective criteria, the panel should address all of the following:

The ability of the State Water Board to establish appropriate objective limitations or criteria;

How compliance determinations would be made;

The ability of dischargers and inspectors to monitor for compliance; and

The technical and financial ability of dischargers to comply with the limitations or criteria."

Through a series of public participation processes (State Water Board meetings, State Water Board workshops, and the solicitation of written comments), a number of water quality, public process and overall program effectiveness problems were identified. Some of these problems are addressed through this General Permit.

D. Summary of Panel Findings on Construction Activities

The panel's final report can be downloaded and viewed through links at www.waterboards.ca.gov or by clicking here[2].

The panel made the following observations:

"Limited field studies indicate that traditional erosion and sediment controls are highly variable in performance, resulting in highly variable turbidity levels in the site discharge."

"Site-to-site variability in runoff turbidity from undeveloped sites can also be quite large in many areas of California, particularly in more arid regions with less natural vegetative cover and steep slopes."

"Active treatment technologies involving the use of polymers with relatively large storage systems now exist that can provide much more consistent and very low discharge turbidity. However, these technologies have as yet only been applied to larger construction sites, generally five acres or greater. Furthermore, toxicity has been observed at some locations, although at the vast majority of sites, toxicity has not occurred. There is also the potential for an accidental large release of such chemicals with their use."

"To date most of the construction permits have focused on TSS and turbidity, but have not addressed other, potentially significant pollutants such as phosphorus and an assortment of chemicals used at construction sites."

"Currently, there is no required training or certification program for contractors, preparers of soil erosion and sediment control Storm Water Pollution Prevention Plans, or field inspectors."

"The quality of storm water discharges from construction sites that effectively employ BMPs likely varies due to site conditions such as climate, soil, and topography."

"The States of Oregon and Washington have recently adopted similar concepts to the Action Levels described earlier."

In addition, the panel made the following conclusions:

"It is the consensus of the Panel that active treatment technologies make Numeric Limits technically feasible for pollutants commonly associated with storm water discharges from construction sites (e.g. TSS and turbidity) for larger construction sites. Technical practicalities and cost-effectiveness may make these technologies less feasible for smaller sites, including small drainages within a larger site, as these technologies have seen limited use at small construction sites. If chemical addition is not permitted, then Numeric Limits are not likely feasible."

"The Board should consider Numeric Limits or Action Levels for other pollutants of relevance to construction sites, but in particular pH. It is of particular concern where fresh concrete or wash water from cement mixers/equipment is exposed to storm water."

"The Board should consider the phased implementation of Numeric Limits and Action Levels, commensurate with the capacity of the dischargers and support industry to respond."

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[2] http://www.waterboards.ca.gov/stormwtr/docs/numeric/swpanel_final_report.pdf

E. How the Panel's Findings are Used in this General Permit

The State Water Board carefully considered the findings of the panel and related public comments. The State Water Board also reviewed and considered the comments regarding statewide storm water policy and the reissuance of the Industrial General Permit. From the input received the State Water Board identified some permit and program performance gaps that are addressed in this General Permit. The Summary of Significant Changes (below) in this General Permit are a direct result of this process.

F. Summary of Significant Changes in This General Permit

The State Water Board has significant changes to Order 99-08-DWQ. This General Permit differs from Order 99-08-DWQ in the following significant ways:

Rainfall Erosivity Waiver: this General Permit includes the option allowing a small construction site (>1 and <5 acres) to self-certify if the rainfall erosivity value (R value) for their site's given location and time frame compute to be less than or equal to 5.

Technology-Based Numeric Action Levels: this General Permit includes NALs for pH and turbidity.

Technology-Based Numeric Effluent Limitations: this General Permit contains daily average NELs for pH during any construction phase where there is a high risk of pH discharge and daily average NELs turbidity for all discharges in Risk Level 3. The daily average NEL for turbidity is set at 500 NTU to represent the minimum technology that sites need to employ (to meet the traditional Best Available Technology Economically Achievable (BAT)/ Best Conventional Pollutant Control Technology (BCT) standard) and the traditional, numeric receiving water limitations for turbidity.

Risk-Based Permitting Approach: this General Permit establishes three levels of risk possible for a construction site. Risk is calculated in two parts: 1) Project Sediment Risk, and 2) Receiving Water Risk.

Minimum Requirements Specified: this General Permit imposes more minimum BMPs and requirements that were previously only required as elements of the SWPPP or were suggested by guidance.

Project Site Soil Characteristics Monitoring and Reporting: this General Permit provides the option for dischargers to monitor and report the soil characteristics at their project location. The primary purpose of this requirement is to provide better risk determination and eventually better program evaluation.

Effluent Monitoring and Reporting: this General Permit requires effluent monitoring and reporting for pH and turbidity in storm water discharges. The purpose of this monitoring is to determine compliance with the NELs and evaluate whether NALs included in this General Permit are exceeded.

Receiving Water Monitoring and Reporting: this General Permit requires some Risk Level 3 dischargers to monitor receiving waters and conduct bioassessments.

Post-Construction Storm Water Performance Standards: this General Permit specifies runoff reduction requirements for all sites not covered by a Phase I or Phase II MS4 NPDES permit, to avoid, minimize and/or mitigate post-construction storm water runoff impacts.

Rain Event Action Plan: this General Permit requires certain sites to develop and implement a Rain Event Action Plan (REAP) that must be designed to protect all exposed portions of the site within 48 hours prior to any likely precipitation event.

Annual Reporting: this General Permit requires all projects that are enrolled for more than one continuous three-month period to submit information and annually certify that their site is in compliance

with these requirements. The primary purpose of this requirement is to provide information needed for overall program evaluation and pubic information.

Certification/Training Requirements for Key Project Personnel: this General Permit requires that key personnel (e.g., SWPPP preparers, inspectors, etc.) have specific training or certifications to ensure their level of knowledge and skills are adequate to ensure their ability to design and evaluate project specifications that will comply with General Permit requirements.

Linear Underground/Overhead Projects: this General Permit includes requirements for all Linear Underground/Overhead Projects (LUPs).

II. RATIONALE

A. General Permit Approach

A general permit for construction activities is an appropriate permitting approach for the following reasons:

1. A general permit is an efficient method to establish the essential regulatory requirements for a broad range of construction activities under differing site conditions;

2. A general permit is the most efficient method to handle the large number of construction storm water permit applications;

3. The application process for coverage under a general permit is far less onerous than that for individual permit and hence more cost effective;

4. A general permit is consistent with USEPA's four-tier permitting strategy, the purpose of which is to use the flexibility provided by the CWA in designing a workable and efficient permitting system; and

5. A general permit is designed to provide coverage for a group of related facilities or operations of a specific industry type or group of industries. It is appropriate when the discharge characteristics are sufficiently similar, and a standard set of permit requirements can effectively provide environmental protection and comply with water quality standards for discharges. In most cases, the general permit will provide sufficient and appropriate management requirements to protect the quality of receiving waters from discharges of storm water from construction sites.

There may be instances where a general permit is not appropriate for a specific construction project. A Regional Water Board may require any discharger otherwise covered under the General Permit to apply for and obtain an Individual Permit or apply for coverage under a more specific General Permit. The Regional Water Board must determine that this General Permit does not provide adequate assurance that water quality will be protected, or that there is a site-specific reason why an individual permit should be required.

B. Construction Activities Covered

1. **Construction activity subject to this General Permit:**

Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre.

Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or sale of one or more acres of disturbed land surface.

Construction activity related to residential, commercial, or industrial development on lands currently used for agriculture including, but not limited to, the construction of buildings related to agriculture that are considered industrial pursuant to USEPA regulations, such as dairy barns or food processing facilities.

Construction activity associated with LUPs including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete

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and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.[3]

Storm water discharges from dredge spoil placement that occur outside of U.S. Army Corps of Engineers jurisdiction[4] (upland sites) and that disturb one or more acres of land surface from construction activity are covered by this General Permit. Construction projects that intend to disturb one or more acres of land within the jurisdictional boundaries of a CWA § 404 permit should contact the appropriate Regional Water Board to determine whether this permit applies to the project.

2. Linear Underground/Overhead Projects (LUPs) subject to this General Permit:

Underground/overhead facilities typically constructed as LUPs include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water, wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

Water Quality Order 2003-0007-DWQ regulated construction activities associated with small LUPs that resulted in land disturbances greater than one acre, but less than five acres. These projects were considered non-traditional construction projects. Attachment A of this Order now regulates all construction activities from LUPs resulting in land disturbances greater than one acre.

3. Common Plan of Development or Sale

USEPA regulations include the term "common plan of development or sale" to ensure that acreage within a common project does not artificially escape the permit requirements because construction activities are phased, split among smaller parcels, or completed by different owners/developers. In the absence of an exact definition of "common plan of development or sale," the State Water Board is required to exercise its regulatory discretion in providing a common sense interpretation of the term as it applies to construction projects and permit coverage. An overbroad interpretation of the term would render meaningless the clear "one acre" federal permitting threshold and would potentially trigger permitting of

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[3] Pursuant to the Ninth Circuit Court of Appeals' decision in *NRDC v. EPA* (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the USEPA's petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

[4] A construction site that includes a dredge and/or fill discharge to any water of the United States (e.g., wetland, channel, pond, or marine water) requires a CWA Section 404 permit from the U.S. Army Corps of Engineers and a CWA Section 401 Water Quality Certification from the Regional Water Board or State Water Board.

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almost any construction activity that occurs within an area that had previously received area-wide utility or road improvements.

Construction projects generally receive grading and/or building permits (Local Permits) from local authorities prior to initiating construction activity. These Local Permits spell out the scope of the project, the parcels involved, the type of construction approved, etc. Referring to the Local Permit helps define "common plan of development or sale." In cases such as tract home development, a Local Permit will include all phases of the construction project including rough grading, utility and road installation, and vertical construction. All construction activities approved in the Local Permit are part of the common plan and must remain under the General Permit until construction is completed. For custom home construction, Local Permits typically only approve vertical construction as the rough grading, utilities, and road improvements were already independently completed under the a previous Local Permit. In the case of a custom home site, the homeowner must submit plans and obtain a distinct and separate Local Permit from the local authority in order to proceed. It is not the intent of the State Water Board to require permitting for an individual homeowner building a custom home on a private lot of less than one acre if it is subject to a separate Local Permit. Similarly, the installation of a swimming pool, deck, or landscaping that disturbs less than one acre that was not part of any previous Local Permit are not required to be permitted.

The following are several examples of construction activity of less than one acre that would require permit coverage:

a. A landowner receives a building permit(s) to build tract homes on a 100-acre site split into 200 one-third acre parcels, (the remaining acreage consists of streets and parkways) which are sold to individual homeowners as they are completed. The landowner completes and sells all the parcels except for two. Although the remaining two parcels combined are less than one acre, the landowner must continue permit coverage for the two parcels.

b. One of the parcels discussed above is sold to another owner who intends to complete the construction as already approved in the Local Permit. The new landowner must file Permit Registration Documents (PRDs) to complete the construction even if the new landowner is required to obtain a separate Local Permit.

c. Landowner in (1) above purchases 50 additional one half-acre parcels adjacent to the original 200-acre project. The landowner seeks a Local Permit (or amendment to existing Local permit) to build on 20 parcels while leaving the remaining 30 parcels for future development. The landowner must amend PRDs to include the 20 parcels 14 days prior to commencement of construction activity on those parcels.

C. Construction Activities Not Covered

1. Traditional Construction Projects Not Covered

This General Permit does not apply to the following construction activity:

a. Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

b. Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.

c. Discharges of storm water from areas on tribal lands; construction on tribal lands is regulated by a federal permit.

d. Discharges of storm water within the Lake Tahoe Hydrologic Unit. The Lahontan Regional Water Board has adopted its own permit to regulate storm water discharges from construction activity in the Lake Tahoe Hydrologic Unit (Regional Water Board 6SLT). Owners of construction projects in this watershed must apply for the Lahontan Regional Water Board permit rather than the statewide Construction General Permit. Construction projects within the Lahontan region must also comply with the Lahontan Region Project Guideline for Erosion Control (R6T-2005-0007 Section), which can be found at http://www.waterboards.ca.gov/lahontan/Adopted_Orders/2005/r6t_2005_0007.pdf

e. Construction activity that disturbs less than one acre of land surface, unless part of a larger common plan of development or the sale of one or more acres of disturbed land surface.

f. Construction activity covered by an individual NPDES Permit for storm water discharges.

g. Landfill construction activity that is subject to the Industrial General Permit.

h. Construction activity that discharges to Combined Sewer Systems.

i. Conveyances that discharge storm water runoff combined with municipal sewage.

j. Discharges of storm water identified in CWA § 402(*l*)(2), 33 U.S.C. § 1342(*l*)(2).

2. **Linear Projects Not Covered**

a. LUP construction activity does not include linear routine maintenance projects. Routine maintenance projects are projects associated with operations and maintenance activities that are conducted on existing lines and facilities and within existing right-of-way, easements, franchise agreements, or other legally binding agreements of the discharger. Routine maintenance projects include, but are not limited to projects that are conducted to:

i. Maintain the original purpose of the facility or hydraulic capacity.

ii. Update existing lines[5] and facilities to comply with applicable codes, standards, and regulations regardless if such projects result in increased capacity.

iii. Repairing leaks.

Routine maintenance does not include construction of new[6] lines or facilities resulting from compliance with applicable codes, standards, and regulations.

Routine maintenance projects do not include those areas of maintenance projects that are outside of an existing right-of-way, franchise, easements, or agreements. When a project must secure new areas,

[5]Update existing lines includes replacing existing lines with new materials or pipes.
[6]New lines are those that are not associated with existing facilities and are not part of a project to update or replace existing lines.

those areas may be subject to this General Permit based on the area of disturbed land outside the original right-of-way, easement, or agreement.

b. LUP construction activity does not include field activities associated with the planning and design of a project (e.g., activities associated with route selection).

c. Tie-ins conducted immediately adjacent to "energized" or "pressurized" facilities by the discharger are not considered construction activities where all other LUP construction activities associated with the tie-in are covered by an NOI and SWPPP of a third party or municipal agency.

3. **EPA's Small Construction Rainfall Erosivity Waiver**

EPA's Storm Water Phase II Final Rule provides the option for a Small Construction Rainfall Erosivity Waiver. This waiver applies to small construction sites between 1 and 5 acres, and allows permitting authorities to waive those sites that do not have adverse water quality impacts.

Dischargers eligible for this waiver are exempt from Construction General Permit Coverage. In order to obtain the waiver, the discharger must certify to the State Water Board that small construction activity will occur only when the rainfall erosivity factor is less than 5 ("R" in the Revised Universal Soil Loss Equation). The period of construction activity begins at initial earth disturbance and ends with final stabilization. Where vegetation will be used for final stabilization, the date of installation of a practice that provides interim non-vegetative stabilization can be used for the end of the construction period. The operator must agree (as a condition waiver eligibility) to periodically inspect and properly maintain the area until the criteria for final stabilization as defined in the General Permit have been met. If use of this interim stabilization eligibility condition was relied on to qualify for the waiver, signature on the waiver with a certification statement constitutes acceptance of and commitment to complete the final stabilization process. The discharger must submit a waiver certification to the State Board prior to commencing construction activities.

USEPA funded a cooperative agreement with Texas A&M University to develop an online rainfall erosivity calculator. Dischargers can access the calculator from EPA's website at: www.epa.gov/npdes/stormwater/cgp. Use of the calculator allows the discharger to determine potential eligibility for the rainfall erosivity waiver. It may also be useful in determining the time periods during which construction activity could be waived from permit coverage.

D. Obtaining and Terminating Permit Coverage

The Legally Responsible Person (LRP) must obtain coverage under this General Permit, except in two limited circumstances. First, where the construction of pipelines, utility lines, fiber-optic cables, or other linear underground/overhead projects will occur across several properties, the utility company, municipality, or other public or private company or agency that owns or operates the linear underground/overhead project is responsible for obtaining coverage under the General Permit. Second, where there is a lease of a mineral estate (oil, gas, geothermal, aggregate, precious metals, and/or industrial metals), the lessee is responsible for obtaining coverage under the General Permit. To obtain coverage, the LRP or other entity described above must file Permit Registration Documents (PRDs) prior to the commencement of construction activity. Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the CWA and the California Water Code.

To obtain coverage under this General Permit; LRPs must electronically file the PRDs, which include a Notice of Intent (NOI), Storm Water Pollution Prevention Plan (SWPPP), and other documents required by this General Permit, and mail the appropriate permit fee to the State Water Board. It is expected that as the storm water program develops, the Regional Water Boards may issue General Permits or

Individual Permits that contain more specific permit provisions. When this occurs, this General Permit will no longer regulate those dischargers that obtain coverage under Individual Permits.

Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

The application requirements of the General Permit establish a mechanism to clearly identify the responsible parties, locations, and scope of operations of dischargers covered by the General Permit and to document the discharger's knowledge of the General Permit's requirements.

This General Permit provides a grandfathering exception to existing dischargers subject to Water Quality Order No. 99-08-DWQ. Construction projects covered under Water Quality Order No. 99-08-DWQ shall obtain permit coverage at Risk Level 1. LUP projects covered under Water Quality Order No. 2003-0007-DWQ shall obtain permit coverage at LUP Type 1. The Regional Water Boards have the authority to require Risk Determination to be performed on projects currently covered under Water Quality Order No. 99-08-DWQ and 2003-0007-DWQ where they deem necessary.

LRPs must file a Notice of Termination (NOT) with the Regional Water Board when construction is complete and final stabilization has been reached or ownership has been transferred. The discharger must certify that all State and local requirements have been met in accordance with this General Permit. In order for construction to be found complete, the discharger must install post-construction storm water management measures and establish a long-term maintenance plan. This requirement is intended to ensure that the post-construction conditions at the project site do not cause or contribute to direct or indirect water quality impacts (i.e., pollution and/or hydromodification) upstream and downstream. Specifically, the discharger must demonstrate compliance with the post-construction standards set forth in this General Permit (Section XIII). The discharger is responsible for all compliance issues including all annual fees until the NOT has been filed and approved by the local Regional Water Board.

E. Discharge Prohibitions

This General Permit authorizes the discharge of storm water to surface waters from construction activities that result in the disturbance of one or more acres of land, provided that the discharger satisfies all permit conditions set forth in the Order. This General Permit prohibits the discharge of pollutants other than storm water and non-storm water discharges authorized by this General Permit or another NPDES permit. This General Permit also prohibits all discharges which contain a hazardous substance in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges. In addition, this General Permit incorporates discharge prohibitions contained in water quality control plans, as implemented by the nine Regional Water Boards. Discharges to Areas of Special Biological Significance (ASBS) are prohibited unless covered by an exception that the State Water Board has approved.

Non-storm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Non-storm water discharges may contribute significant pollutant loads to receiving waters. Measures to control spills, leakage, and dumping, and to prevent illicit connections during construction must be addressed through structural as well as non-structural BMPs. The State Water Board recognizes, however, that certain non-storm water discharges may be necessary for the completion of construction projects. Authorized non-storm water discharges may include those from de-chlorinated potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, uncontaminated ground water dewatering, and other discharges not subject to a separate general NPDES permit adopted by a region. Therefore this General Permit authorizes such discharges provided they meet the following conditions.

These authorized non-storm water discharges must:

1. be infeasible to eliminate;
2. comply with BMPs as described in the SWPPP;
3. filter or treat, using appropriate technology, all dewatering discharges from sedimentation basins;
4. meet the NELs and NALs for pH and turbidity; and
5. not cause or contribute to a violation of water quality standards.

Additionally, authorized non-storm water discharges must not be used to clean up failed or inadequate construction or post-construction BMPs designed to keep materials onsite. Authorized non-storm water dewatering discharges may require a permit because some Regional Water Boards have adopted General Permits for dewatering discharges.

This General Permit prohibits the discharge of storm water that causes or threatens to cause pollution, contamination, or nuisance.

F. Effluent Standards for All Types of Discharges

1. Technology-Based Effluent Limitations

Permits for storm water discharges associated with construction activity must meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize best available technology economically achievable (BAT) for toxic pollutants and non conventional pollutants and best conventional pollutant control technology (BCT) for conventional pollutants. Additionally, these provisions require controls of pollutant discharges to reduce pollutants and any more stringent controls necessary to meet water quality standards. The USEPA has already established such limitations, known as effluent limitation guidelines (ELGs), for some industrial categories. This is not the case with construction discharges. In instances where there are no ELGs the permit writer is to use best professional judgment (BPJ) to establish requirements that the discharger must meet using BAT/BCT technology. This General Permit contains both narrative effluent limitations and new numeric effluent limitations for pH and turbidity, set using the best professional judgment (BPJ) equivalent to BAT and BCT (respectively).

BAT/BCT technologies not only include passive systems such as conventional runoff and sediment control, but also treatment systems such as coagulation/flocculation using sand filtration, when appropriate. Such technologies allow for effective treatment of soil particles less 0.02 mm (medium silt) in diameter. The discharger must install structural controls, as necessary, such as erosion and sediment controls that meet BAT and BCT to achieve compliance with water quality standards. The narrative effluent limitations constitute compliance with the requirements of the CWA.

The numeric effluent limitations for pH and turbidity are based upon BPJ, which authorizes the State Water Board to issue a permit containing "such conditions as the Administrator determines are necessary to carry out the provisions of this Chapter" (CWA § 402(a)(1), 33 U.S.C. § 1342(a)(1).) Because the USEPA has not yet issued an effluent limit guideline for storm water, the State Water Board must use BPJ to consider the appropriate technology for the category or class of point sources, based upon all available information and any unique factors relating to the sources. In addition, the permitting authority must consider a number of factors including the cost of achieving effluent reductions in relation to the effluent reduction benefits, the age of the equipment and facilities, the processes employed and any required process changes, engineering aspects of the control technologies, non-water quality environmental impacts (including energy requirements), and other such other factors as the State Water Board deems appropriate (CWA 304(b)(1)(B)).

Because the permit is an NPDES permit, there is no legal requirement to address the factors set forth in Water Code sections 13241 and 13263, unless the permit is more stringent than what federal law requires. (See *City of Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 618, 627.) None of the requirements in this permit are more stringent than the minimum federal requirements, which include technology-based requirements achieving BAT/BCT and strict compliance with water quality standards. The inclusion of numeric effluent limitations (NELs) in the permit do not cause the permit to be more stringent than current federal law. NELs and best management practices are simply two different methods of achieving the same federal requirement: strict compliance with state water quality standards. Federal law authorizes both narrative and numeric effluent limitations to meet state water quality standards. The use of NELs to achieve compliance with water quality standards is not a more stringent requirement than the use of BMPs. (State Water Board Order No. WQ 2006-0012 (*Boeing*).) Accordingly, the State Water Board does not need to take into account the factors in Water Code sections 13241 and 13263.

The State Water Board has concluded that the establishment of BAT/BCT will not create or aggravate other environmental problems through increases in air pollution, solid waste generation, or energy consumption. While there may be a slight increase in non-water quality impacts due to the implementation of additional monitoring or the construction of additional BMPs, these impacts will be negligible in comparison with the construction activities taking place on site and would be justified by the water quality benefits associated with compliance.

Considerations related to the processes employed and the changes necessitated by the adoption of the BAT/BCT effluent limits have been assessed throughout the stakeholder process (e.g., the Blue Ribbon Panel and the March 2007 preliminary draft) and are discussed in detail in Section I.C of this Fact Sheet. The following sections set forth the engineering aspects of the control technologies and the rationale for the determination of the numeric effluents for pH and turbidity.

In consideration of the costs for the establishment of BAT and BCT limits for pH and turbidity, existing requirements for the control of storm water pollution from construction sites have been established by USEPA and the previous Construction General Permit (State Water Board Order No. 99-08-DWQ) issued by the State Water Board. The General Permit establishes one, consistent set of performance standards for all levels and types of discharges (i.e., risk, linear utility, and ATS).The only difference is that for each level or type of discharge there may be more or less specific effluent limitations (e.g., the addition of numeric effluent limitations for turbidity applies to level/type 3 discharges). And the numeric effluent limitations themselves represent a minimum technology standard. In other words, the additional numeric effluent limitations, compared to the existing permit's narrative effluent limitations, do not increase compliance requirements; rather, they simply represent a point where one can quantitatively measure compliance with the lower end of the range of required technologies. Therefore, the compliance costs associated with the BAT/BCT numeric effluent limitations in this permit only differ by the costs required to measure compliance with the NELs when compared to the baseline compliance costs to comply with the limitations already established through EPA regulations and the existing Construction General Permit.

The State Water Board estimates these measurement costs to be approximately $1000 per construction site for the duration of the project. This represents the estimated cost of purchasing (or renting) monitoring equipment, in this case a turbidimeter (~$600) and a pH meter (~$400). In some cases the costs may be higher or lower. Costs could be lower if the discharger chooses to design and implement the project in a manner where effluent monitoring is likely to be avoided (e.g., no exposure during wet weather seasons, no discharge due to containment, etc.). Costs could be more if the project is subject to many effluent monitoring events or if the discharger exceeds NALs and/or NELs, resulting in additional monitoring requirements.

i. ***pH NEL***

Given the potential contaminants, the minimum standard method for control of pH in runoff requires the use of preventive measures such as avoiding concrete pours during rainy weather, covering concrete and directing flow away from fresh concrete if a pour occurs during rain, covering scrap drywall and stucco

materials when stored outside and potentially exposed to rain, and other housekeeping measures. If necessary, pH-impaired storm water from construction sites can be treated in a filter or settling pond or basin, with additional natural or chemical treatment required to meet pH limits set forth in this permit. The basin or pond acts as a collection point and holds storm water for a sufficient period for the contaminants to be settled out, either naturally or artificially, and allows any additional treatment to take place. The State Water Board considers these techniques to be equivalent to BCT. In determining the pH concentration limit for discharges, the State Water Board used BPJ to set these limitations.

The chosen limits were established by calculating three standard deviations above and below the mean pH of runoff from highway construction sites[7] in California. Proper implementation of BMPs should result in discharges that are within the range of 6.0 to 9.0 pH Units.

ii. ***Turbidity NEL***

The Turbidity NEL of 500 NTU is a technology-based numeric effluent limitation and was developed using three different analyses aimed at finding the appropriate threshold to set the technology-based limit to ensure environmental protection, effluent quality and cost-effectiveness. The analyses fell into three, main types: (1) an ecoregion-specific dataset developed by Simon et. al. (2004) [8]; (2) Statewide Regional Water Quality Control Board enforcement data; and (3) published, peer-reviewed studies and reports on in-situ performance of best management practices in terms of erosion and sediment control on active construction sites.

A 1:3 relationship between turbidity (expressed as NTU) and suspended sediment concentration (expressed as mg/L) is assumed based on a review of suspended sediment and turbidity data from three gages used in the USGS National Water Quality Assessment Program:

USGS 11074000 SANTA ANA R BL PRADO DAM CA
USGS 11447650 SACRAMENTO R A FREEPORT CA
USGS 11303500 SAN JOAQUIN R NR VERNALIS CA

The turbidity NEL represents a feasible and cost effective performance standard that is demonstrated to be achievable. Although data has been collected to demonstrate that lower effluent levels may be achievable at some sites, staff cannot conclude at this time that a lower NEL is achievable within all the ecoregions of the state. The NEL represents staff determination that the NEL is the most practicable based on available data. The turbidity NEL represents a bridge between the narrative effluent limitations and receiving water limitations. The NEL limit may be considered an interim performance standard as additional data becomes available for evaluation during the next permit cycle. To support this NEL, State Water Board staff analyzed construction site discharge information (monitoring data, estimates) and receiving water monitoring information.

Since the turbidity NEL represents an appropriate threshold level expected at a site, compliance with this value does not necessarily represent compliance with either the narrative effluent limitations (as enforced through the BAT/BCT standard) or the receiving water limitations. In the San Diego region, some inland surface waters have a receiving water objective for turbidity equal to 20 NTU. Obviously a discharge up to, but not exceeding, the turbidity NEL of 500 NTU may still cause or contribute to the exceedance of the 20 NTU standard. Most of the waters of the State are protected by turbidity objectives based on background conditions.

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[7] Caltrans Construction Sites Runoff Characterization Study, 2002. Available at: http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-02-055.pdf.

[8] Simon, A., W.D. Dickerson, and A. Heins. 2004. Suspended-sediment transport rates at the 1.5-year recurrence interval for ecoregions of the United States: transport conditions at the bankfull and effective discharge. Geomorphology 58: pp. 243-262.

Table 1 - Regional Water Board Basin Plans, Water Quality Objectives for Turbidity

REGIONAL WATER BOARD	WQ Objective	Background/Natural Turbidity	Maximum Increase
1 Based	on background	All levels	20%
2 Based	on background	> 50 NTU	10%
3 Based	on background	0-50 JTU 50-100 JTU > 100 JTU	20% 10 NTU 10%
4 Based	on background	0-50 NTU > 50 NTU	20% 10%
5 Based	on background	0-5 NTU 5-50 NTU 50-100 NTU >100 NTU	1 NTU 20% 10 NTU 10%
6 Based	on background	All levels	10%
7 Based	on background	N/A N/A	
8 Based	on background	0-50 NTU 50-100 NTU >100 NTU	20% 10 NTU 10%
9 Inland	Surface Waters, 20 NTU All others, based on background	 0-50 NTU 50-100 NTU >100 NTU	 20% 10 NTU 10%

Table 2 shows the suspended sediment concentrations at the 1.5 year flow recurrence interval for the 12 ecoregions in California from Simon et. al (2004).

Table 2 - Results of Ecoregion Analysis

Ecoregion	Percent of California Land Area	Median Suspended Sediment Concentration (mg/L)
1 9.1		874
4 0.2		120
5 8.8		35.6
6 20.7		1530
7 7.7		122
8 3.0		47.4
9 9.4		284
13 5.2		143
14 21.7		5150
78 8.1		581
80 2.4		199
81 3.7		503
Area-weighted average		1633

14-1345

If a 1:3 relationship between turbidity and suspended sediment is assumed, the median turbidity is 544 NTU.

The following table is composed of turbidity readings measured in NTUs from administrative civil liberty (ACL) actions for construction sites from 2003 - 2009. This data was derived from the complete listing of construction-related ACLs for the six year period. All ACLs were reviewed and those that included turbidimeter readings at the point of storm water discharge were selected for this dataset.

Table 3 – ACL Sampling Data taken by Regional Water Board Staff

WDID# Regi	on	Discharger	Turbidity (NTU)
5S34C331884	5S Brad	shaw Interceptor Section 6B	1800
5S05C325110	5S Bridal	wood Subdivision	1670
5S48C336297	5S Cheye	nne at Browns Valley	1629
5R32C314271	5R Gri	zzly Ranch Construction	1400
6A090406008	6T	El Dorado County Department of Transportation, Angora Creek	97.4
5S03C346861	5S	TML Development, LLC	1600
6A31C325917	6T	Northstar Village	See Subdata Set

Subdata Set - Turbidity for point of storm water runoff discharge at Northstar Village

Date Turbi	dity (NTU)	Location
10/5/2006	900	Middle Martis Creek
11/2/2006	190	Middle Martis Creek
01/04/2007	36	West Fork, West Martis Creek
02/08/2007	180	Middle Martis Creek
02/09/2007	130	Middle Martis Creek
02/09/2007	290	Middle Martis Creek
02/09/2007	100	West Fork, West Martis Creek
02/10/2007	28	Middle Martis Creek
02/10/2007	23	Middle Martis Creek
02/10/2007	32	Middle Martis Creek
02/10/2007	12	Middle Martis Creek
02/10/2007	60	West Fork, West Martis Creek
02/10/2007	34	West Fork, West Martis Creek

A 95% confidence interval for mean turbidity in an ACL order was constructed. The data set used was a small sample size, so the 500 NTU (the value derived as the NEL for this General Permit) needed to be verified as a possible population mean. In this case, the population refers to a hypothetical population of turbidity measurements of which our sample of 20 represents. A t-distribution was assumed due to the small sample size:

Mean: 512.23 NTU
Standard Deviation: 686.85
Margin of Error: 321.45
Confidence Interval: 190.78 NTU (Low)
833.68 NTU (High)

Based on a constructed 95% confidence interval, an ACL order turbidity measurement will be between 190.78 – 833.68 NTU. 500 NTU falls within this range. Using the same data set, a small-sample hypothesis test was also performed to test if the ACL turbidity data set contains enough information to cast doubt on choosing a 500 NTU as a mean. 500 NTU was again chosen due to its proposed use as an acceptable NEL value. The test was carried out using a 95% confidence interval. Results indicated that the ACL turbidity data set *does not* contain significant sample evidence to reject the claim of 500 NTU as an acceptable mean for the ACL turbidity population.

There are not many published, peer-reviewed studies and reports on in-situ performance of best management practices in terms of erosion and sediment control on active construction sites. The most often cited study is a report titled, "Improving the Cost Effectiveness of Highway Construction Site Erosion and Pollution Control" (Horner, Guedry, and Kortenhof 1990, http://www.wsdot.wa.gov/Research/Reports/200/200.1.htm). In a comment letter summarizing this report sent to the State Water Board, the primary author, Dr. Horner, states:

"The most effective erosion control product was wood fiber mulch applied at two different rates along with a bonding agent and grass seed in sufficient time before the tests to achieve germination. Plots treated in this way reduced influent turbidity by more than 97 percent and discharged effluent exhibiting mean and maximum turbidity values of 21 and 73 NTU, respectively. Some other mulch and blanket materials performed nearly as well. These tests demonstrated the control ability of widely available BMPs over a very broad range of erosion potential."

Other technologies studied in this report produced effluent quality at or near 100 NTU. It is the BPJ of the State Water Board staff that erosion control, while preferred, is not always an option on construction sites and that technology performance in a controlled study showing effluent quality directly leaving a BMP is always easier and cheaper to control than effluent being discharged from the project (edge of property, etc.). As a result, it is the BPJ of the State Water Board staff that it is not cost effective or feasible, at this time, for all risk level and type 3 sites in California to achieve effluent discharges with turbidity values that are less than 100 NTU.

To summarize, the analysis showed that: (1) results of the Simon et. al dataset reveals turbidity values in background receiving water in California's ecoregions range from 16 NTU to 1716 NTU (with a mean of 544 NTU); (2) based on a constructed 95% confidence interval, construction sites will be subject to administrative civil liability (ACL) when their turbidity measurement falls between 190.78 – 833.68 NTU; and (3) sites with highly controlled discharges employing and maintaining good erosion control practices can discharge effluent from the BMP with turbidity values less than 100 NTU. Therefore, the appropriate threshold to set the technology-based limit to ensure environmental protection, effluent quality, and cost-effectiveness ranges from 100 NTU to over 1700 NTU. To keep this parameter and the costs of compliance as low as possible, State Water Board staff has determined, using its BPJ, that it is most cost effective to set the numeric effluent limitation for turbidity at 500 NTU.

a. Compliance Storm Event

In response to public comments on the last draft and the recommendations of the expert panel, this General Permit contains "compliance storm event" exceptions from the technology-based NELs. The rationale is that technology-based requirements are developed assuming a certain design storm (defined as the storm producing a rainfall amount for a specified BMPs capacity). Compliance thresholds are needed for storm events above and beyond the design storms assumed to determine the technology-based NELs. For Risk Level 3 project sites applicable to NELs, this General Permit establishes a compliance storm event as the equivalent rainfall in a 5-year, 24-hour storm. This compliance storm was

chosen due to its relative infrequent occurrence and the fact that the runoff volume associated with it is not as large as a 10-year, 24-hour storm event. The discharger shall determine this value using Western Regional Climate Center Precipitation Frequency Maps[9] for 5-year 24-hour storm events in Northern and Southern California (note that these are expressed in tenths of inches – divide by 10 to get inches).

b. TMDLs and Waste Load Allocations

Dischargers located within the watershed of a CWA § 303(d) impaired water body, for which a TMDL for sediment has been adopted by the Regional Water Board or USEPA, must comply with the approved TMDL if it identifies "construction activity" or land disturbance as a source of sediment. If it does, the TMDL should include a specific waste load allocation for this activity/source. The discharger, in this case, may be required by a separate Regional Water Board order to implement additional BMPs, conduct additional monitoring activities, and/or comply with an applicable waste load allocation and implementation schedule. If a specific waste load allocation has been established that would apply to a specific discharge, the Regional Water Board may adopt an order requiring specific implementation actions necessary to meet that allocation. In the instance where an approved TMDL has specified a general waste load allocation to construction storm water discharges, but no specific requirements for construction sites have been identified in the TMDL, dischargers must consult with the state TMDL authority[10] to confirm that adherence to a SWPPP that meets the requirements of the General Permit will be consistent with the approved TMDL.

2. Determining Compliance with Effluent Standards

a. Technology-Based Numeric Action Levels (NALs)

This General Permit contains technology-based NALs for pH and turbidity, and requirements for effluent monitoring at all Risk level 2 & 3, and LUP Type 2 & 3 sites. Numeric action levels are essentially numeric benchmark values for certain parameters that, if exceeded in effluent sampling, trigger the discharger to take actions. Exceedance of an NAL does not itself constitute a violation of the General Permit. If the discharger fails to take the corrective action required by the General Permit, though, that may consititute a violation.

The primary purpose of NALs is to assist dischargers in evaluating the effectiveness of their on-site measures. Construction sites need to employ many different systems that must work together to achieve compliance with the permit's requirements. The NALs chosen should indicate whether the systems are working as intended.

Another purpose of NALs is to provide information regarding construction activities and water quality impacts. This data will provide the State and Regional Water Boards and the rest of the storm water community with more information about levels and types of pollutants present in runoff and how effective the dischargers BMPs are at reducing pollutants in effluent. The State Water Board also hopes to learn more about the linkage between effluent and receiving water quality. In addition, these requirements will provide information on the mechanics needed to establish compliance monitoring programs at construction sites in future permit deliberations.

i. *pH*

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[9] http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif & http://www.wrcc.dri.edu/pcpnfreq/sca5y24.gif .
[10] http://www.waterboards.ca.gov/tmdl/tmdl.html.

The chosen limits were established by calculating one standard deviation above and below the mean pH of runoff from highway construction sites[11] in California. Proper implementation of BMPs should result in discharges that are within the range of 6.5 to 8.5 pH Units.

The Caltrans study included 33 highway construction sites throughout California over a period of four years, which included 120 storm events. All of these sites had BMPs in place that would be generally implemented at all types of construction sites in California.

ii. ***Turbidity***

BPJ was used to develop an NAL that can be used as a learning tool to help dischargers improve their site controls, and to provide meaningful information on the effectiveness of storm water controls. A statewide turbidity NAL has been set at 250 NTU.

G. Receiving Water Limitations

Construction-related activities that cause or contribute to an exceedance of water quality standards must be addressed. The dynamic nature of construction activity gives the discharger the ability to quickly identify and monitor the source of the exceedances. This is because when storm water mobilizes sediment, it provides visual cues as to where corrective actions should take place and how effective they are once implemented.

This General Permit requires that storm water discharges and authorized non-storm water discharges must not contain pollutants that cause or contribute to an exceedance of any applicable water quality objective or water quality standards. The monitoring requirements in this General Permit for sampling and analysis procedures will help determine whether BMPs installed and maintained are preventing pollutants in discharges from the construction site that may cause or contribute to an exceedance of water quality standards.

Water quality standards consist of designated beneficial uses of surface waters and the adoption of ambient criteria necessary to protect those uses. When adopted by the State Water Board or a Regional Water Board, the ambient criteria are termed "water quality objectives." If storm water runoff from construction sites contains pollutants, there is a risk that those pollutants could enter surface waters and cause or contribute to an exceedance of water quality standards. For that reason, dischargers should be aware of the applicable water quality standards in their receiving waters. (The best method to ensure compliance with receiving water limitations is to implement BMPs that prevent pollutants from contact with storm water or from leaving the construction site in runoff.)

In California, water quality standards are published in the Basin Plans adopted by each Regional Water Board, the California Toxics Rule (CTR), the National Toxics Rule (NTR), and the Ocean Plan.

Dischargers can determine the applicable water quality standards by contacting Regional Water Board staff or by consulting one of the following sources. The actual Basin Plans that contain the water quality standards can be viewed at the website of the appropriate Regional Water Board. (http://www.waterboards.ca.gov/regions.html), the State Water Board site for statewide plans (http://www.waterboards.ca.gov/plnspols/index.html), or the USEPA regulations for the NTR and CTR (40 C.F.R. §§ 131.36-38). Basin Plans and statewide plans are also available by mail from the appropriate Regional Water Board or the State Water Board. The USEPA regulations are available at http://www.epa.gov/. Additional information concerning water quality standards can be accessed through http://www.waterboards.ca.gov/stormwtr/gen_const.html.

[11] Caltrans Construction Sites Runoff Characterization Study, 2002. Available at: http://www.dot.ca.gov/hq/env/stormwater/pdf/CTSW-RT-02-055.pdf.

H. Training Qualifications and Requirements

The Blue Ribbon Panel (BRP) made the following observation about the lack of industry-specific training requirements:

"Currently, there is no required training or certification program for contractors, preparers of soil erosion and sediment control Storm Water Pollution Prevention Plans, or field inspectors."

Order 99-08-DWQ required that all dischargers train their employees on how to comply with the permit, but it did not specificy a curriculum or certification program. This has resulted in inconsistent implementation by all affected parties - the dischargers, the local governments where the construction activity occurs, and the regulators required to enforce 99-08-DWQ. This General Permit requires Qualified SWPPP Developers and practitioners to obtain appropriate training, and makes this curriculum mandatory two years after adoption, to allow time for course completion. The State and Regional Water Board are working with many stakeholders to develop the curriculum and mechanisms needed to develop and deliver the courses.

To ensure that the preparation, implementation, and oversight of the SWPPP is sufficient for effective pollution prevention, the Qualified SWPPP Developer and Qualified SWPPP Practitioners responsible for creating, revising, overseeing, and implementing the SWPPP must attend a State Water Board-sponsored or approved Qualified SWPPP Developer and Qualified SWPPP Practitioner training course.

I. Sampling, Monitoring, Reporting and Record Keeping

1. Traditional Construction Monitoring Requirements

This General Permit requires visual monitoring at all sites, and effluent water quality at all Risk Level 2 & 3 sites. It requires receiving water monitoring at some Risk Level 3 sites. All sites are required to submit annual reports, which contain various types of information, depending on the site characteristics and events. A summary of the monitoring and reporting requirements is found in Table 4.

Table 4 - Required Monitoring Elements for Risk Levels

	Visual	Non-visible Pollutant	Effluent	Receiving Water
Risk Level 1	three types required for all Risk Levels: non-storm water, pre-rain and post-rain	As needed for all Risk Levels (see below)	where applicable	not required
Risk Level 2			pH, turbidity	not required
Risk Level 3			(if NEL exceeded) pH, turbidity and SSC	(if NEL exceeded) pH, turbidity and SSC. Bioassessment for sites 30 acres or larger.

a. Visual

All dischargers are required to conduct quarterly, non-storm water visual inspections. For these inspections, the discharger must visually observe each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources. For storm-related inspections, dischargers must visually observe storm water discharges at all discharge locations within two business days after a qualifying event. For this requirement, a qualifying rain event is one producing precipitation of ½ inch or more of discharge. Dischargers must conduct a post-storm event inspection to

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(1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify any additional BMPs necessary and revise the SWPPP accordingly. Dischargers must maintain on-site records of all visual observations, personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

b. Non-Visible Pollutant Monitoring

This General Permit requires that all dischargers develop a sampling and analysis strategy for monitoring pollutants that are not visually detectable in storm water. Monitoring for non-visible pollutants must be required at any construction site when the exposure of construction materials occurs and where a discharge can cause or contribute to an exceedance of a water quality objective.

Of significant concern for construction discharges are the pollutants found in materials used in large quantities at construction sites throughout California and exposed throughout the rainy season, such as cement, flyash, and other recycled materials or by-products of combustion. The water quality standards that apply to these materials will depend on their composition. Some of the more common storm water pollutants from construction activity are not CTR pollutants. Examples of non-visible pollutants include glyphosate (herbicides), diazinon and chlorpyrifos (pesticides), nutrients (fertilizers), and molybdenum (lubricants). The use of diazinon and chlorpyrifos is a common practice among landscaping professionals and may trigger sampling and analysis requirements if these materials come into contact with storm water. High pH values from cement and gypsum, high pH and SSC from wash waters, and chemical/fecal contamination from portable toilets, also are not CTR pollutants. Although some of these constituents do have numeric water quality objectives in individual Basin Plans, many do not and are subject only to narrative water quality standards (i.e. not causing toxicity). Dischargers are encouraged to discuss these issues with Regional Water Board staff and other storm water quality professionals.

The most effective way to avoid the sampling and analysis requirements, and to ensure permit compliance, is to avoid the exposure of construction materials to precipitation and storm water runoff. Materials that are not exposed do not have the potential to enter storm water runoff, and therefore receiving waters sampling is not required. Preventing contact between storm water and construction materials is one of the most important BMPs at any construction site.

Preventing or eliminating the exposure of pollutants at construction sites is not always possible. Some materials, such as soil amendments, are designed to be used in a manner that will result in exposure to storm water. In these cases, it is important to make sure that these materials are applied according to the manufacturer's instructions and at a time when they are unlikely to be washed away. Other construction materials can be exposed when storage, waste disposal or the application of the material is done in a manner not protective of water quality. For these situations, sampling is required unless there is capture and containment of all storm water that has been exposed. In cases where construction materials may be exposed to storm water, but the storm water is contained and is not allowed to run off the site, sampling will only be required when inspections show that the containment failed or is breached, resulting in potential exposure or discharge to receiving waters.

The discharger must develop a list of potential pollutants based on a review of potential sources, which will include construction materials soil amendments, soil treatments, and historic contamination at the site. The discharger must review existing environmental and real estate documentation to determine the potential for pollutants that could be present on the construction site as a result of past land use activities.

Good sources of information on previously existing pollution and past land uses include:

i. Environmental Assessments;

ii. Initial Studies;

iii. Phase 1 Assessments prepared for property transfers; and

iv. Environmental Impact Reports or Environmental Impact Statements prepared under the requirements of the National Environmental Policy Act or the California Environmental Quality Act.

In some instances, the results of soil chemical analyses may be available and can provide additional information on potential contamination.

The potential pollutant list must include all non-visible pollutants that are known or should be known to occur on the construction site including, but not limited to, materials that:

i. are being used in construction activities;

ii. are stored on the construction site;

iii. were spilled during construction operations and not cleaned up;

iv. were stored (or used) in a manner that created the potential for a release of the materials during past land use activities;

v. were spilled during previous land use activities and not cleaned up; or

vi. were applied to the soil as part of past land use activities.

c. **Effluent Monitoring**

Federal regulations[12] require effluent monitoring for discharges subject to NALs and NELs. Subsequently, all Risk Level 2 and 3 dischargers must perform sampling and analysis of effluent discharges to characterize discharges associated with construction activity from the entire area disturbed by the project. Dischargers must collect samples of stored or contained storm water that is discharged subsequent to a storm event producing precipitation of ½ inch or more at the time of discharge.

Table 5 - Storm Water Effluent Monitoring Requirements by Risk Level

	Frequency	Effluent Monitoring (Section E. below)
Risk Level 1	when applicable	non-visible pollutant parameters (if applicable)
Risk Level 2	Minimum of 3 samples per day during qualifying rain event characterizing discharges associated with construction activity from the entire project disturbed area.	pH, turbidity, and non-visible pollutant parameters (if applicable)
Risk Level 3	Minimum of 3 samples per day during qualifying rain event characterizing discharges associated with construction activity from the entire project disturbed area.	If NEL exceeded: pH, turbidity and suspended sediment concentration (SSC)., Plus non-visible pollutant parameters if applicable

Risk Level 1 dischargers must analyze samples for:

[12] 40 C.F.R. § 122.44.

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i. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment C contained in the General Permit.

Risk Level 2 dischargers must analyze samples for:

i. pH and turbidity;

ii. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment D contained in the General Permit, and

iii. any additional parameters for which monitoring is required by the Regional Water Board.

Risk Level 3 dischargers must analyze samples for:

i. pH, turbidity and SSC;

ii. any parameters indicating the presence of pollutants identified in the pollutant source assessment required in Attachment E contained in the General Permit, and

iii. any additional parameters for which monitoring is required by the Regional Water Board.

2. Linear Monitoring and Sampling Requirements

Attachment A, establishes minimum monitoring and reporting requirements for all LUPs. It establishes different monitoring requirements depending on project complexity and risk to water quality. The monitoring requirements for Type 1 LUPs are less than Type 2 & 3 projects because Type 1 projects have a lower potential to impact water quality.

A discharger shall prepare a monitoring program prior to the start of construction and immediately implement the program at the start of construction for LUPs. The monitoring program must be implemented at the appropriate level to protect water quality at all times throughout the life of the project.

a. Type 1 LUP Monitoring Requirements

A discharger must conduct daily visual inspections of Type 1 LUPs during working hours while construction activities are occurring. Inspections are to be conducted by qualified personnel and can be conducted in conjunction with other daily activities. Inspections will be conducted to ensure the BMPs are adequate, maintained, and in place at the end of the construction day. The discharger will revise the SWPPP, as appropriate, based on the results of the daily inspections. Inspections can be discontinued in non-active construction areas where soil disturbing activities have been completed and final stabilization has been achieved (e.g., trench has been paved, substructures have been installed, and successful final vegetative cover or other stabilization criteria have been met).

A discharger shall implement the monitoring program for inspecting Type 1 LUPs. This program requires temporary and permanent stabilization BMPs after active construction is completed. Inspection activities will continue until adequate permanent stabilization has been established and will continue in areas where re-vegetation is chosen until minimum vegetative coverage has been established. Photographs shall be taken during site inspections and submitted to the State Water Board.

b. Type 2 & 3 LUP Monitoring Requirements

A discharger must conduct daily visual inspections of Type 2 & 3 LUPs during working hours while construction activities are occurring. Inspections are to be conducted by qualified personnel and can be in conjunction with other daily activities.

All dischargers of Type 2 & 3 LUPs are required to conduct inspections by qualified personnel of the construction site during normal working hours prior to all anticipated storm events and after actual storm events. During extended storm events, the discharger shall conduct inspections during normal working hours for each 24-hour period. Inspections can be discontinued in non-active construction areas where soil disturbing activities have been completed and final stabilization has been achieved (e.g., trench has been paved, substructures installed, and successful vegetative cover or other stabilization criteria have been met).

The goals of these inspections are (1) to identify areas contributing to a storm water discharge; (2) to evaluate whether measures to reduce pollutant loadings identified in the SWPPP are adequate and properly installed and functioning in accordance with the terms of the General Permit; and (3) to determine whether additional control practices or corrective maintenance activities are needed. Equipment, materials, and workers must be available for rapid response to failures and emergencies. All corrective maintenance to BMPs shall be performed as soon as possible, depending upon worker safety.

All dischargers shall develop and implement a monitoring program for inspecting Type 2 & 3 LUPs that require temporary and permanent stabilization BMPs after active construction is completed. Inspections will be conducted to ensure the BMPs are adequate and maintained. Inspection activities will continue until adequate permanent stabilization has been established and will continue in areas where revegetation is chosen until minimum vegetative coverage has been established.

A log of inspections conducted before, during, and after the storm events must be maintained in the SWPPP. The log will provide the date and time of the inspection and who conducted the inspection. Photographs must be taken during site inspections and submitted to the State Water Board.

c. Sampling Requirements for all LUP Project Types

LUPs are also subject to sampling and analysis requirements for visible pollutants (i.e., sedimentation/siltation, turbidity) and for non-visible pollutants.

Sampling for visible pollutants is required for Type 2 & 3 LUPs.

Non-visible pollutant monitoring is required for pollutants associated with construction sites and activities that (1) are not visually detectable in storm water discharges, and (2) are known or should be known to occur on the construction site, and (3) could cause or contribute to an exceedance of water quality objectives in the receiving waters. Sample collection for non-visible pollutants must only be required (1) during a storm event when pollutants associated with construction activities may be discharged with storm water runoff due to a spill, or in the event there was a breach, malfunction, failure, and/or leak of any BMP, and (2) when the discharger has failed to adequately clean the area of material and pollutants. Failure to implement appropriate BMPs will trigger the same sampling requirements as those required for a breach, malfunction and/or leak, or when the discharger has failed to implement appropriate BMPs prior to the next storm event.

Additional monitoring parameters may be required by the Regional Water Boards.

It is not anticipated that many LUPs will be required to collect samples for pollutants not visually detected in runoff due to the nature and character of the construction site and activities as previously described in this fact sheet. Most LUPs are constructed in urban areas with public access (e.g., existing roadways, road shoulders, parking areas, etc.). This raises a concern regarding the potential contribution of pollutants from vehicle use and/or from normal activities of the public (e.g., vehicle washing, landscape fertilization, pest spraying, etc.) in runoff from the project site. Since the dischargers are not the land

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owners of the project area and are not able to control the presence of these pollutants in the storm water that runs through their projects, it is not the intent of this General Permit to require dischargers to sample for these pollutants. This General Permit does not require the discharger to sample for these types of pollutants except where the discharger has brought materials onsite that contain these pollutants and when a condition (e.g., breach, failure, etc.) described above occurs.

3. Receiving Water Monitoring

In order to ensure that receiving water limitations are met, discharges subject to numeric effluent limitations (i.e., Risk Level 3, LUP Type 3, and ATS with direct discharges into receiving waters) must also monitor the downstream receiving water(s) for turbidity, SSC, and pH (if applicable) when an NEL is exceeded.

a. Bioassessment Monitoring

This General Permit requires a bioassessment of receiving waters for dischargers of Risk Level 3 or LUP Type 3 construction projects equal to or larger than 30 acres with direct discharges into receiving waters. Benthic macroinvertebrate samples will be taken upstream and downstream of the site's discharge point in the receiving water. Bioassessments measure the quality of the stream by analyzing the aquatic life present. Higher levels of appropriate aquatic species tend to indicate a healthy stream; whereas low levels of organisms can indicate stream degradation. Active construction sites have the potential to discharge large amounts of sediment and pollutants into receiving waters. Requiring a bioassessment for large project sites, with the most potential to impact water quality, provides a snapshot of the health of the receiving water prior to initiation of construction activities. This snapshot can be used in comparison to the health of the receiving water after construction has commenced.

Each ecoregion (biologically and geographically related area) in the State has a specific yearly peak time where stream biota is in a stable and abundant state. This time of year is called an Index Period. The bioassessment requirements in this General Permit, requires benthic macroinvertebrate sampling within a sites index period. The State Water Board has developed a map designating index periods for the ecoregions in the State (see State Water Board Website).

This General Permit requires the bioassessment methods to be in accordance with the Surface Water Ambient Monitoring Program (SWAMP) in order to provide data consistency within the state as well as generate useable biological stream data.

Table 6 - Receiving Water Monitoring Requirements

	Receiving Water Monitoring Parameters
Risk Level 1 /LUP Type 1	not required
Risk Level 2 / LUP Type 2	not required
Risk Level 3 / LUP Type 3	If NEL exceeded: pH (if applicable), turbidity, and SSC. Bioassessment for sites 30 acres or larger.

4. Reporting Requirements

a. NEL Violation Report

All Risk Level 3 and LUP Type 3 dischargers must electronically submit all storm event sampling results to the State and Regional Water Boards, via SMARTS, no later than 5 days after the conclusion of the storm event. The purpose of the electronic filing of the NEL Violation Report is to 1) inform stakeholder agencies and organizations and the general public, and 2) notify the State and Regional Water Boards of

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the exceedance so that they can determine whether any follow-up (e.g., inspection, enforcement, etc.) is necessary to bring the site into compliance.

In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event, Risk level 3/LUP Type 3 dischargers shall report the on-site rain gauge reading and nearby governmental rain gauge readings for verification. Specifically, the NEL Exceedance Report is required to contain:

- the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit are to be reported as "less than the method detection limit or <MDL");
- the date, place, and time of sampling;
- any visual observation (inspections);
- any measurements, including precipitation; and
- a description of the current BMPs associated with the effluent sample that exceeded the NEL and any proposed corrective actions taken.

b. **NAL Exceedance Report**

All Risk Level 3 and LUP Type 3 dischargers must electronically submit all storm event sampling results to the State and Regional Water Boards, via the electronic data system, no later than 5 days after the conclusion of the storm event. In the event that any effluent sample exceeds an applicable NAL, all Risk Level 2 and LUP Type 2 dischargers must electronically submit all storm event sampling results to the State and Regional Water Boards no later than 10 days after the conclusion of the storm event. The Regional Water Boards have the authority to require the submittal of an NAL Exceedance Report.

Specifically, the NAL Exceedance Report is required to contain:

- the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit are to be reported as "less than the method detection limit or <MDL");
- the date, place, and time of sampling;
- any visual observation (inspections);
- any measurements, including precipitation; and
- a description of the current BMPs associated with the effluent sample that exceeded the NAL and any proposed corrective actions taken.

c. **Annual Report**

All dischargers must prepare and electronically submit an annual report no later than September 1 of each year using the Storm water Multi-Application Reporting and Tracking System (SMARTS). The Annual Report must include a summary and evaluation of all sampling and analysis results, original laboratory reports, chain of custody forms, a summary of all corrective actions taken during the compliance year, and identification of any compliance activities or corrective actions that were not implemented.

5. Record Keeping

According to 40 C.F.R. Parts 122.21(p) and 122.41(j), the discharger is required to retain paper or electronic copies of all records required by this General Permit for a period of at least three years from the date generated or the date submitted to the State Water Board or Regional Water Boards. A discharger must retain records for a period beyond three years as directed by Regional Water Board.

J. Risk Determination

1. Traditional Projects

a. Overall Risk Determination

There are two major requirements related to site planning and risk determination in this General Permit. The project's overall risk is broken up into two elements – (1) project sediment risk (the relative amount of sediment that can be discharged, given the project and location details) and (2) receiving water risk (the risk sediment discharges pose to the receiving waters).

Project Sediment Risk:
Project Sediment Risk is determined by multiplying the R, K, and LS factors from the Revised Universal Soil Loss Equation (RUSLE) to obtain an estimate of project-related bare ground soil loss expressed in tons/acre. The RUSLE equation is as follows:

$A = (R)(K)(LS)(C)(P)$

Where: A = the rate of sheet and rill erosion
R = rainfall-runoff erosivity factor
K = soil erodibility factor
LS = length-slope factor
C = cover factor (erosion controls)
P = management operations and support practices (sediment controls)

The C and P factors are given values of 1.0 to simulate bare ground conditions.

There is a map option and a manual calculation option for determining soil loss. For the map option, the R factor for the project is calculated using the online calculator at http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm. The product of K and LS are shown on Figure 1. To determine soil loss in tons per acre, the discharger multiplies the R factor times the value for K times LS from the map.

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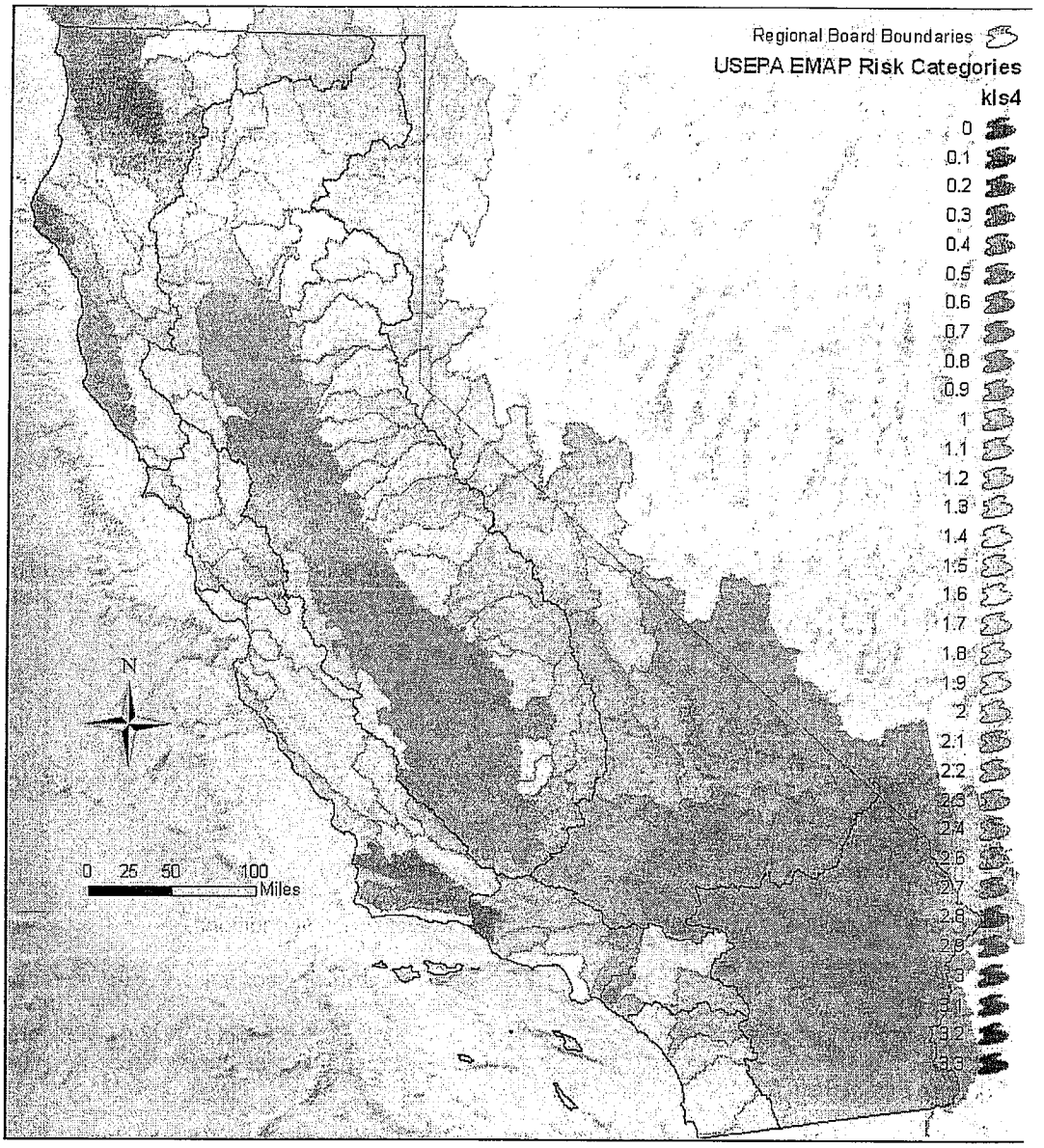

Figure 1 -Statewide Map of K * LS

For the manual calculation option, the R factor for the project is calculated using the online calculator at http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm. The K and LS factors are determined using Appendix 1.

Soil loss of less than 15 tons/acre is considered **low** sediment risk.
Soil loss between 15 and 75 tons/acre is **medium** sediment risk.
Soil loss over 75 tons/acre is considered **high** sediment risk.

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The soil loss values and risk categories were obtained from mean and standard deviation RKLS values from the USEPA EMAP program. High risk is the mean RKLS value plus two standard deviations. Low risk is the mean RKLS value minus two standard deviations.

Receiving Water Risk:
Receiving water risk is based on whether a project drains to a sediment-sensitive waterbody. A sediment-sensitive waterbody is either

on the most recent 303d list for waterbodies impaired for sediment;
has a USEPA-approved Total Maximum Daily Load implementation plan for sediment; **or**
has the beneficial uses of COLD, SPAWN, and MIGRATORY.

A project that meets at least one of the three criteria has a high receiving water risk. A list of sediment-sensitive waterbodies will be posted on the State Water Board's website. It is anticipated that an interactive map of sediment sensitive water bodies in California will be available in the future.

The Risk Levels have been altered by eliminating the possibility of a Risk Level 4, and expanding the constraints for Risk Levels 1, 2, and 3. Therefore, projects with high receiving water risk and high sediment risk will be considered a Risk Level 3 risk to water quality.

In response to public comments, the Risk Level requirements have also been changed such that Risk Level 1 projects will be subject to minimum BMP and visual monitoring requirements, Risk Level 2 projects will be subject to NALs and some additional monitoring requirements, and Risk Level 3 projects will be subject to NELs, and more rigorous monitoring requirements such as receiving water monitoring and in some cases bioassessment.

Table 7 - Combined Risk Level Matrix

Combined Risk Level Matrix				
		Sediment Risk		
		Low Medium		High
Receiving Water Risk	Low	Level 1	Level 2	
	High	Level 2		Level 3

b. Effluent Standards

All dischargers are subject to the narrative effluent limitations specified in the General Permit. The narrative effluent limitations require storm water discharges associated with construction activity to meet all applicable provisions of Sections 301 and 402 of the CWA. These provisions require controls of pollutant discharges that utilize BAT and BCT to reduce pollutants and any more stringent controls necessary to meet water quality standards.

Risk Level 2, and 3 dischargers are subject to numeric effluent standards comparable to the project's risk to water quality. Risk Level 2 dischargers that pose a medium risk to water quality are subject to technology-based NALs for pH and turbidity. Risk Level 3 dischargers that pose a high risk to water quality are subject to technology-based NALs and technology-based NELs for pH and turbidity.

c. Good Housekeeping

Proper handling and managing of construction materials can help minimize threats to water quality. The discharger must consider good housekeeping measures for: construction materials, waste management, vehicle storage & maintenance, landscape materials, and potential pollutant sources. Examples include; conducting an inventory of products used, implementing proper storage & containment, and properly cleaning all leaks from equipment and vehicles.

d. Non-Storm Water Management

Non-storm water discharges directly connected to receiving waters or the storm drain system have the potential to negatively impact water quality. The discharger must implement measures to control all non-storm water discharges during construction, and from dewatering activities associated with construction. Examples include; properly washing vehicles in contained areas, cleaning streets, and minimizing irrigation runoff.

e. Erosion Control

The best way to minimize the risk of creating erosion and sedimentation problems during construction is to disturb as little of the land surface as possible by fitting the development to the terrain. When development is tailored to the natural contours of the land, little grading is necessary and, consequently, erosion potential is lower.[14] Other effective erosion control measures include: preserving existing vegetation where feasible, limiting disturbance, and stabilizing and re-vegetating disturbed areas as soon as possible after grading or construction activities. Particular attention must be paid to large, mass-graded sites where the potential for soil exposure to the erosive effects of rainfall and wind is great and where there is potential for significant sediment discharge from the site to surface waters. Until permanent vegetation is established, soil cover is the most cost-effective and expeditious method to protect soil particles from detachment and transport by rainfall. Temporary soil stabilization can be the single most important factor in reducing erosion at construction sites. The discharger is required to consider measures such as: covering disturbed areas with mulch, temporary seeding, soil stabilizers, binders, fiber rolls or blankets, temporary vegetation, and permanent seeding. These erosion control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed. Erosion control BMPs should be the primary means of preventing storm water contamination, and sediment control techniques should be used to capture any soil that becomes eroded.[13]

Risk Level 3 dischargers pose a higher risk to water quality and are therefore additionally required to ensure that post-construction soil loss is equivalent to or less than the pre-construction levels.

f. Sediment Control

Sediment control BMPs should be the secondary means of preventing storm water contamination. When erosion control techniques are ineffective, sediment control techniques should be used to capture any soil that becomes eroded. The discharger is required to consider perimeter control measures such as: installing silt fences or placing straw wattles below slopes. These sediment control measures are only examples of what should be considered and should not preclude new or innovative approaches currently available or being developed.

Because Risk Level 2 and 3 dischargers pose a higher risk to water quality, additional requirements for the application of sediment controls are imposed on these projects. This General Permit also authorizes the Regional Water Boards to require Risk Level 3 dischargers to implement additional site-specific

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[13] U.S. Environmental Protection Agency. 2007. Developing Your Storm Water Pollution Prevention Plan: A Guide for Construction Sites.

sediment control requirements if the implementation of other erosion or sediment controls are not adequately protecting the receiving waters.

g. Run-on and Runoff Control

Inappropriate management of run-on and runoff can result in excessive physical impacts to receiving waters from sediment and increased flows. The discharger is required to manage all run-on and runoff from a project site. Examples include: installing berms and other temporary run-on and runoff diversions.

Risk Level 1 dischargers with lower risks to impact water quality are not subject to the run-on and runoff control requirements unless an evaluation deems them necessary or visual inspections show that such controls are required.

h. Inspection, Maintenance and Repair

All measures must be periodically inspected, maintained and repaired to ensure that receiving water quality is protected. Frequent inspections coupled with thorough documentation and timely repair is necessary to ensure that all measures are functioning as intended.

i. Rain Event Action Plan (REAP)

A Rain Event Action Plan (REAP) is a written document, specific for each rain event. A REAP should be designed that when implemented it protects all exposed portions of the site within 48 hours of any likely precipitation event forecast of 50% or greater probability.

This General Permit requires Risk Level 2 and 3 dischargers to develop and implement a REAP designed to protect all exposed portions of their sites within 48 hours prior to any likely precipitation event. The REAP requirement is designed to ensure that the discharger has adequate materials, staff, and time to implement erosion and sediment control measures that are intended to reduce the amount of sediment and other pollutants generated from the active site. A REAP must be developed when there is likely a forecast of 50% or greater probability of precipitation in the project area. (The National Oceanic and Atmospheric Administration (NOAA) defines a chance of precipitation as a probability of precipitation of 30% to 50% chance of producing precipitation in the project area.[14] NOAA defines the probability of precipitation (PoP) as the likelihood of occurrence (expressed as a percent) of a measurable amount (0.01 inch or more) of liquid precipitation (or the water equivalent of frozen precipitation) during a specified period of time at any given point in the forecast area.) Forecasts are normally issued for 12-hour time periods. Descriptive terms for uncertainty and aerial coverage are used as follows:

Table 8 -National Oceanic and Atmospheric Administration (NOAA) Definition of Probability of Precipitation (PoP)

PoP	Expressions of Uncertainty	Aerial Coverage
0%	none used	none used
10%	none used	isolated
20%	slight chance	isolated
30-50%	chance	scattered

[14] http://www.crh.noaa.gov/lot/severe/wxterms.php.

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60-70%	likely	numerous
80-100%	none used	none used

The discharger must obtain the precipitation forecast information from the National Weather Service Forecast Office (http://www.srh.noaa.gov/).

2. **Linear Projects**

a. **Linear Risk Determination**

LUPs vary in complexity and water quality concerns based on the type of project. This General Permit has varying application requirements based on the project's risk to water quality. Factors that lead to the characterization of the project include location, sediment risk, and receiving water risk.

Based on the location and complexity of a project area or project section area, LUPs are separated into project types. As described below, LUPs have been categorized into three project types.

i. ***Type 1 LUPs***

Type 1 LUPs are those construction projects where:

(1) 70 percent or more of the construction activity occurs on a paved surface and where areas disturbed during construction will be returned to preconstruction conditions or equivalent protection established at the end of the construction activities for the day, or

(2) greater than 30 percent of construction activities occur within the non-paved shoulders or land immediately adjacent to paved surfaces, or where construction occurs on unpaved improved roads, including their shoulders or land immediately adjacent to them where:

Areas disturbed during construction will be returned to pre-construction conditions or equivalent protection established at the end of the construction activities for the day to minimize the potential for erosion and sediment deposition, and

Areas where established vegetation was disturbed during construction will be stabilized and re-vegetated by the end of project. When required, adequate temporary stabilization Best Management Practices (BMPs) will be installed and maintained until vegetation is established to meet minimum cover requirements established in this General Permit for final stabilization.

Type 1 LUPs typically do not have a high potential to impact storm water quality because (1) these construction activities are not typically conducted during a rain event, (2) these projects are normally constructed over a short period of time[15], minimizing the duration that pollutants could potentially be exposed to rainfall; and (3) disturbed soils such as those from trench excavation are required to be hauled away, backfilled into the trench, and/or covered (e.g., metal plates, pavement, plastic covers over spoil piles) at the end of the construction day.

[15] Short period of time refers to a project duration of weeks to months, but typically less than one year in duration.

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Type 1 LUPs are determined during the risk assessment found in Attachment A.1 to be 1) low sediment risk and low receiving water risk; 2) low sediment risk and medium receiving water risk; and 3) medium sediment risk and low receiving water risk.

This General Permit requires the discharger to ensure a SWPPP is developed for these construction activities that is specific to project type, location and characteristics.

ii. ***Type 2 LUPs:***

Type 2 projects are determined to have a combination of High, Medium, and Low project sediment risk along with High, Medium, and Low receiving water risk. Like Type 1 projects, Type 2 projects are typically constructed over a short period of time. However, these projects have a higher potential to impact water quality because they:

(1) typically occur outside the more urban/developed areas;

(2) have larger areas of soil disturbance that are not closed or restored at the end of the day;

(3) may have onsite stockpiles of soil, spoil and other materials;

(4) cross or occur in close proximity to a wide variety of sensitive resources that may include, but are not limited to, steep topography and/or water bodies; and

(5) have larger areas of disturbed soils that may be exposed for a longer time interval before final stabilization, cleanup and/or reclamation occurs.

This General Permit requires the discharger to develop and implement a SWPPP for these construction activities that are specific for project type, location and characteristics.

iii. ***Type 3 LUPs:***

Type 3 projects are determined to have a combination of High and Medium project sediment risk along with High and Medium receiving water risk. Similar to Type 2 projects, Type 3 projects have a higher potential to impact water quality because they:

(1) typically occur outside of the more urban/developed areas;

(2) have larger areas of soil disturbance that are not closed or restored at the end of the day;

(3) may have onsite stockpiles of soil, spoil and other materials;

(4) cross or occur in close proximity to a wide variety of sensitive resources that may include, but are not limited to, steep topography and/or water bodies; and

(5) have larger areas of disturbed soils that may be exposed for a longer time interval before final stabilization, cleanup and/or reclamation occurs.

This General Permit requires the discharger to develop and implement a SWPPP for these construction activities that are specific for project type, location, and characteristics.

b. **Linear Effluent Standards**

All LUPs are subject to the narrative effluent limitations specified in the General Permit.

Type 2 and 3 LUPs are subject to NELs comparable to the project type's risk to water quality. Type 2 projects that pose an intermediate risk to water quality are subject to technology-based NALs for pH and turbidity. Type 3 projects posing a high risk to water quality are subject to technology-based NALs and NELs for pH and turbidity.

c. **Linear Good Housekeeping**

Improper use and handling of construction materials could potentially cause a threat to water quality. In order to ensure proper site management of these construction materials, all LUP dischargers must comply with a minimum set of Good Housekeeping measures specified in Attachment A of this General Permit.

d. **Linear Non-Storm Water Management**

In order to ensure control of all non-storm water discharges during construction, all LUP dischargers must comply with the Non-Storm Water Management measures specified in Attachment A of this General Permit.

e. **Linear Erosion Control**

This General Permit requires all LUP dischargers to implement effective wind erosion control measures, and soil cover for inactive areas. Type 3 LUPs posing a higher risk to water quality are additionally required to ensure the post-construction soil loss is equivalent to or less than the pre-construction levels.

f. **Linear Sediment Control**

In order to ensure control and containment of all sediment discharges, all LUP dischargers must comply with the general Sediment Control measures specified in Attachment A or this General Permit. Additional requirements for sediment controls are imposed on Type 2 & 3 LUPs due to their higher risk to water quality.

g. **Linear Run-on and Runoff Control**

Discharges originating outside of a project's perimeter and flowing onto the property can adversely affect the quantity and quality of discharges originating from a project site. In order to ensure proper management of run-on and runoff, all LUPs must comply.with the run-on and runoff control measures specified in Attachment A of this General Permit. Due to the lower risk of impacting water quality, Type 1 LUPs are not required to implement run-on and runoff controls unless deemed necessary by the discharger.

h. **Linear Inspection, Maintenance and Repair**

Proper inspection, maintenance, and repair activities are important to ensure the effectiveness of on-site measures to control water quality. In order to ensure that inspection, maintenance, and repair activities are adequately performed, the all LUP dischargers a re required to comply with the Inspection, Maintenance, and Repair requirements specified in Attachment A of this General Permit.

14-1364

K. ATS[16] Requirements

There are instances on construction sites where traditional erosion and sediment controls do not effectively control accelerated erosion. Under such circumstances, or under circumstances where storm water discharges leaving the site may cause or contribute to an exceedance of a water quality standard, the use of an Active Treatment System (ATS) may be necessary. Additionally, it may be appropriate to use an ATS when site constraints inhibit the ability to construct a correctly sized sediment basin, when clay and/or highly erosive soils are present, or when the site has very steep or long slope lengths.[17]

Although treatment systems have been in use in some form since the mid-1990s, the ATS industry in California is relatively young, and detailed regulatory standards have not yet been developed. Many developers are using these systems to treat storm water discharges from their construction sites. The new ATS requirements set forth in this General Permit are based on those in place for small wastewater treatment systems, ATS regulations from the Central Valley Regional Water Quality Control Board (September 2005 memorandum "2005/2006 Rainy Season – Monitoring Requirements for Storm Water Treatment Systems that Utilize Chemical Additives to Enhance Sedimentation"), the Construction Storm Water Program at the State of Washington's Department of Ecology, as well as recent advances in technology and knowledge of coagulant performance and aquatic safety.

The effective design of an ATS requires a detailed survey and analysis of site conditions. With proper planning, ATS performance can provide exceptional water quality discharge and prevent significant impacts to surface water quality, even under extreme environmental conditions.

These systems can be very effective in reducing the sediment in storm water runoff, but the systems that use additives/polymers to enhance sedimentation also pose a potential risk to water quality (e.g., operational failure, equipment failure, additive/polymer release, etc.). The State Water Board is concerned about the potential acute and chronic impacts that the polymers and other chemical additives may have on fish and aquatic organisms if released in sufficient quantities or concentrations. In addition to anecdotal evidence of polymer releases causing aquatic toxicity in California, the literature supports this concern.[18] For example, cationic polymers have been shown to bind with the negatively charged gills of fish, resulting in mechanical suffocation.[19] Due to the potential toxicity impacts, which may be caused by the release of additives/polymers into receiving waters, this General Permit establishes residual polymer monitoring and toxicity testing requirements have been established in this General Permit for discharges from construction sites that utilize an ATS in order to protect receiving water quality and beneficial uses.

The primary treatment process in an ATS is coagulation/flocculation. ATS's operate on the principle that the added coagulant is bound to suspended sediment, forming floc, which is gravitationally settled in tanks or a basin, or removed by sand filters. A typical installation utilizes an injection pump upstream from the clarifier tank, basin, or sand filters, which is electronically metered to both flow rate and suspended solids level of the influent, assuring a constant dose. The coagulant mixes and reacts with the influent, forming a dense floc. The floc may be removed by gravitational setting in a clarifier tank or basin, or by filtration. Water from the clarifier tank, basin, or sand filters may be routed through cartridge(s) and/or bag filters for final polishing. Vendor-specific systems use various methods of dose control, sediment/floc removal, filtration, etc., that are detailed in project-specific documentation. The

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[16] An ATS is a treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation in order to reduce turbidity caused by fine suspended sediment.

[17] Pitt, R., S. Clark, and D. Lake. 2006. Construction Site Erosion and Sediment Controls: Planning, Design, and Performance. DEStech Publications. Lancaster, PA. 370pp.

[18] RomØen, K., B. Thu, and Ø. Evensen. 2002. Immersion delivery of plasmid DNA II. A study of the potentials of a chitosan based delivery system in rainbow trout (*Oncorhynchus mykiss*) fry. *Journal of Controlled Release* **85**: 215-225.

[19] Bullock, G., V. Blazer, S. Tsukuda, and S. Summerfelt. 2000. Toxicity of acidified chitosan for cultured rainbow trout (*Oncorhynchus mykiss*). *Aquaculture* **185**:273-280.

particular coagulant/flocculant to be used for a given project is determined based on the water chemistry of the site because the coagulants are specific in their reactions with various types of sediments. Appropriate selection of dosage must be carefully matched to the characteristics of each site.

ATS's are operated in two differing modes, either Batch or Flow-Through. Batch treatment can be defined as Pump-Treat-Hold-Test-Release. In Batch treatment, water is held in a basin or tank, and is not discharged until treatment is complete. Batch treatment involves holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full. In Flow-Through treatment, water is pumped into the ATS directly from the runoff collection system or storm water holding pond, where it is treated and filtered as it flows through the system, and is then directly discharged. "Flow-Through Treatment" is also referred to as "Continuous Treatment."

1. **Effluent Standards**

This General Permit establishes NELs for discharges from construction sites that utilize an ATS. These systems lend themselves to NELs for turbidity and pH because of their known reliable treatment. Advanced systems have been in use in some form since the mid-1990s. An ATS is considered reliable, can consistently produce a discharge of less than 10 NTU, and has been used successfully at many sites in several states since 1995 to reduce turbidity to very low levels.[20]

This General Permit contains "compliance storm event" exceptions from the technology-based NELs for ATS discharges. The rationale is that technology-based requirements are developed assuming a certain design storm. In the case of ATS the industry-standard design storm is 10-year, 24-hour (as stated in Attachment F of this General Permit), so the compliance storm event has been established as the 10-year 24-hour event as well to provide consistency.

2. **Training**

Operator training is critical to the safe and efficient operation and maintenance of the ATS, and to ensure that all State Water Board monitoring and sampling requirements are met. The General Permit requires that all ATS operators have training specific to using ATS's liquid coagulants.

L. Post-Construction Requirements

Under past practices, new and redevelopment construction activities have resulted in modified natural watershed and stream processes. This is caused by altering the terrain, modifying the vegetation and soil characteristics, introducing impervious surfaces such as pavement and buildings, increasing drainage density through pipes and channels, and altering the condition of stream channels through straightening, deepening, and armoring. These changes result in a drainage system where sediment transport capacity is increased and sediment supply is decreased. A receiving channel's response is dependent on dominant channel materials and its stage of adjustment.

Construction activity can lead to impairment of beneficial uses in two main ways. First, during the actual construction process, storm water discharges can negatively affect the chemical, biological, and physical properties of downstream receiving waters. Due to the disturbance of the landscape, the most likely pollutant is sediment, however pH and other non-visible pollutants are also of great concern. Second, after most construction activities are completed at a construction site, the finished project may result in significant modification of the site's response to precipitation. New development and redevelopment

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[20] Currier, B., G. Minton, R. Pitt, L. Roesner, K. Schiff, M. Stenstrom, E. Strassler, and E. Strecker. 2006. The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities.

projects have almost always resulted in permanent post-construction water quality impacts because more precipitation ends up as runoff and less precipitation is intercepted, evapotranspired, and infiltrated.

General Permit 99-08-DWQ required the SWPPP to include a description of all post-construction BMPs on a site and a maintenance schedule. An effective storm water management strategy must address the full suite of storm events (water quality, channel protection, overbank flood protection, extreme flood protection) (Figure 2).

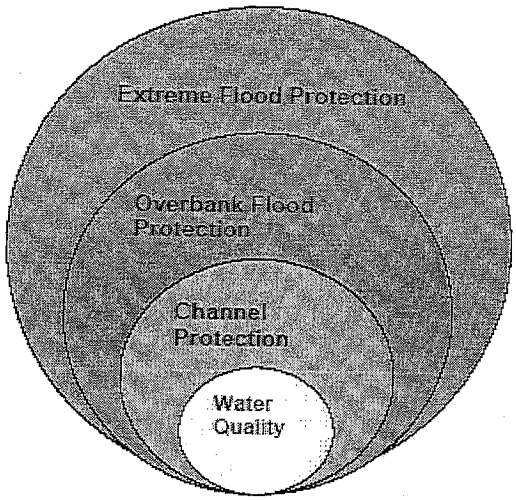


Figure 2 - Suite of Storm Events

The post-construction storm water performance standards in this General Permit specifically address water quality and channel protection events. Overbank flood protection and extreme flood protection events are traditionally dealt with in local drainage and flood protection ordinances. However, measures in this General Permit to address water quality and channel protection also reduce overbank and extreme flooding impacts. This General Permit aims to match post-construction runoff to pre-construction runoff for the 85th percentile storm event, which not only reduces the risk of impact to the receiving water's channel morphology but also provides some protection of water quality.

This General Permit clarifies that its runoff reduction requirements only apply to projects that lie outside of jurisdictions covered by a Standard Urban Storm water Management Plan (SUSMP) (or other more protective) post-construction requirements in either Phase I or Phase II permits.

Figures 3 and 4, below, show the General Permit enrollees (to Order 99-08-DWQ, as of March 10, 2008) overlaid upon a map with SUSMP (or more protective) areas in blue and purple. Areas without blue or purple indicate where the General Permit's runoff reduction requirements would actually apply.

14-1357

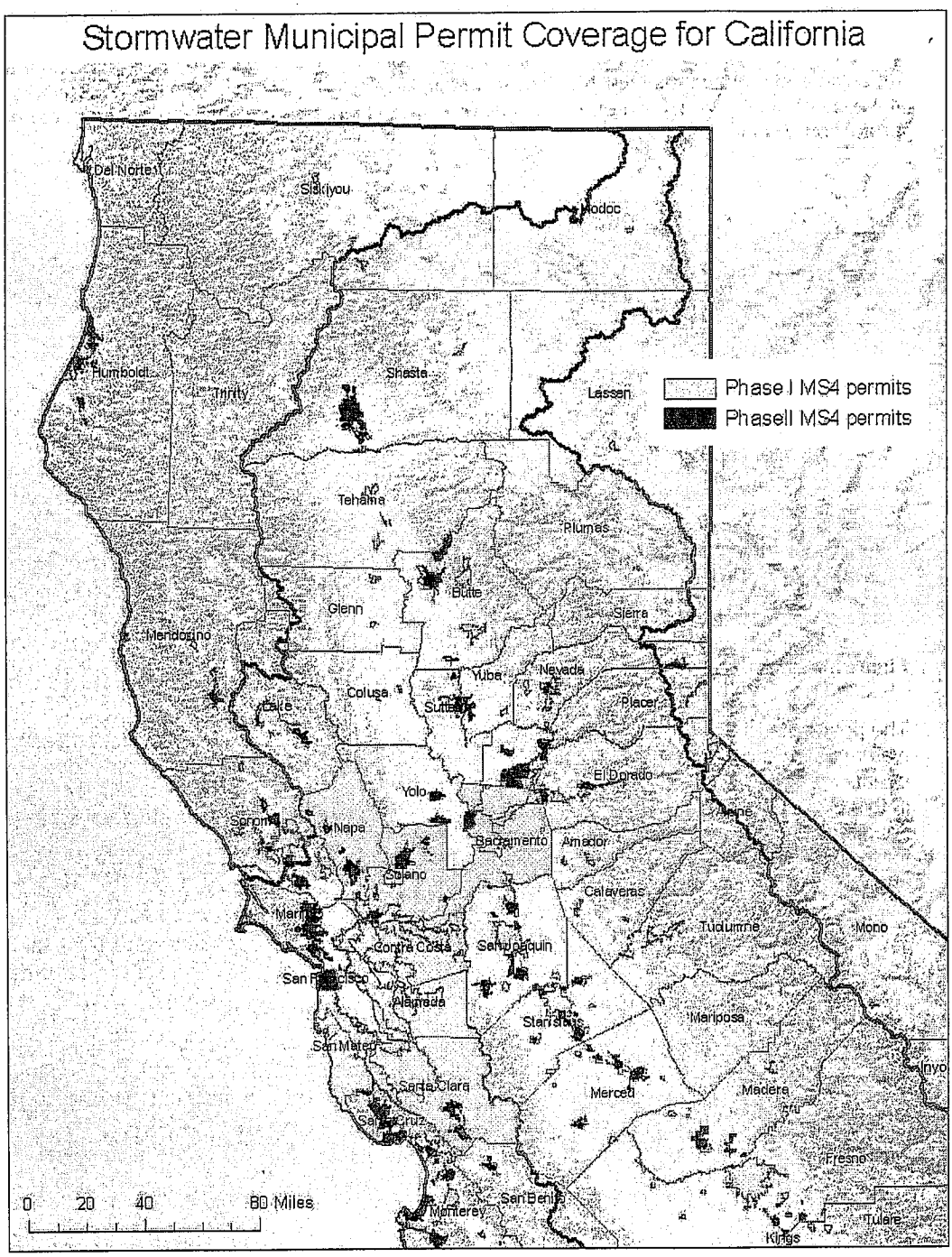
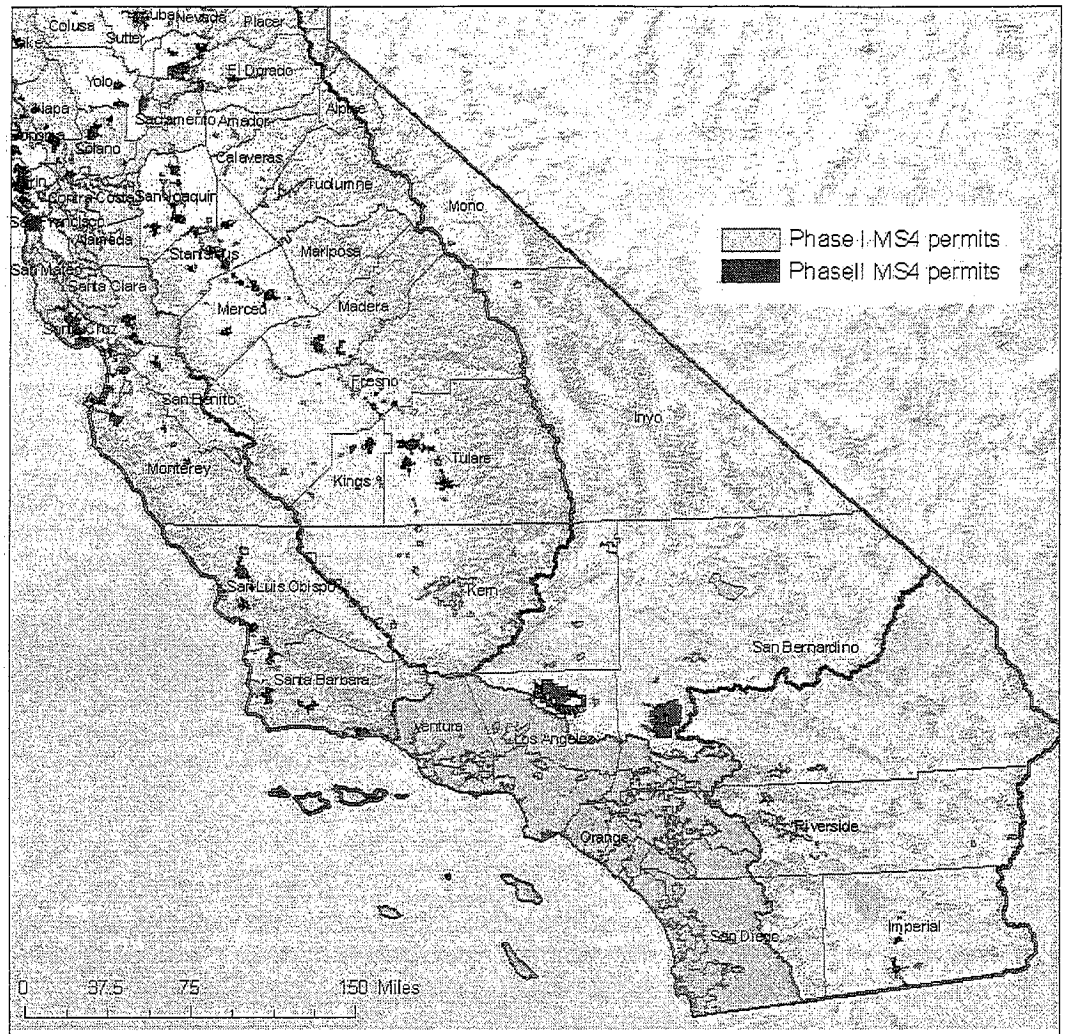


Figure 3 - Northern CA (2009) Counties / Cities With SUSMP-Plus Coverage

14-1368



Stormwater Municipal Permit Coverage for California

Figure 4 - Southern CA (2009) Counties / Cities With SUSMP-Plus Coverage

14-1369

Water Quality:
This General Permit requires dischargers to replicate the pre-project runoff water balance (defined as the amount of rainfall that ends up as runoff) for the smallest storms up to the 85th percentile storm event, or the smallest storm event that generates runoff, whichever is larger. Contemporary storm water management generally routes these flows directly to the drainage system, increasing pollutant loads and potentially causing adverse effects on receiving waters. These smaller water quality events happen much more frequently than larger events and generate much higher pollutant loads on an annual basis. There are other adverse hydrological impacts that result from not designing according to the site's pre-construction water balance. In Maryland, Klein[21] noted that baseflow decreases as the extent of urbanization increases. Ferguson and Suckling[22] noted a similar relation in watersheds in Georgia. On Long Island, Spinello and Simmons[23] noted substantial decreases in base flow in intensely urbanized watersheds.

The permit emphasizes runoff reduction through on-site storm water reuse, interception, evapo-transpiration and infiltration through non-structural controls and conservation design measures (e.g., downspout disconnection, soil quality preservation/enhancement, interceptor trees). Employing these measures close to the source of runoff generation is the easiest and most cost-effective way to comply with the pre-construction water balance standard. Using low-tech runoff reduction techniques close to the source is consistent with a number of recommendations in the literature.[24] In many cases, BMPs implemented close to the source of runoff generation cost less than end-of the pipe measures.[25] Dischargers are given the option of using Appendix 2 to calculate the required runoff volume or a watershed process-based, continuous simulation model such as the EPA's Storm Water Management Model (SWMMM) or Hydrologic Simulation Program Fortran (HSPF). Such methods used by the discharger will be reviewed by the Regional Water Board upon NOT application.

Channel Protection:
In order to address channel protection, a basic understanding of fluvial geomorphic concepts is necessary. A dominant paradigm in fluvial geomorphology holds that streams adjust their channel dimensions (width and depth) in response to long-term changes in sediment supply and bankfull discharge (1.5 to 2 year recurrence interval). The bankfull stage corresponds to the discharge at which channel maintenance is the most effective, that is, the discharge at which the moving sediment, forming or removing bars, forming or changing bends and meanders, and generally doing work that results in the average morphologic characteristics of channels.[26] Lane (1955 as cited in Rosgen 1996[27]) showed the generalized relationship between sediment load, sediment size, stream discharge and stream slope in Figure 5. A change in any one of these variables sets up a series of mutual adjustments in the companion variables with a resulting direct change in the physical characteristics of the stream channel.

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[21] Klein 1979 as cited in Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.
[22] Ferguson and Suckling 1990 as cited Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.
[23] Center for Watershed Protection (CWP). 2000. The Practice of Watershed Protection: Techniques for protecting our nation's streams, lakes, rivers, and estuaries. Ellicott City, MD. 741 pp.
[24] Bay Area Storm Water Management Agencies Association (BASMAA). 1997. Start at the Source: Residential Site Planning and Design Guidance Manual for Storm Water Quality Protection. Palo Alto, CA;
McCuen, R.H. 2003 Smart Growth: hydrologic perspective. Journal of Professional Issues in Engineering Education and Practice. Vol (129), pp.151-154;
Moglen, G.E. and S. Kim. 2007. Impervious imperviousness-are threshold based policies a good idea? Journal of the American Planning Association, Vol 73 No. 2. pp 161-171.
[25] Delaware Department of natural Resources (DDNR). 2004. Green technology: The Delaware urban Runoff Management Approcah. Dover, DE. 117 pp.
[26] Dunne, T and L.B. Leopold. 1978. Water in Environmental Planning. San Francisco W.H. Freeman and Company
[27] Rosgen. D.L. 1996. Applied River Morphology. Pagosa Springs. Wildland Hydrology

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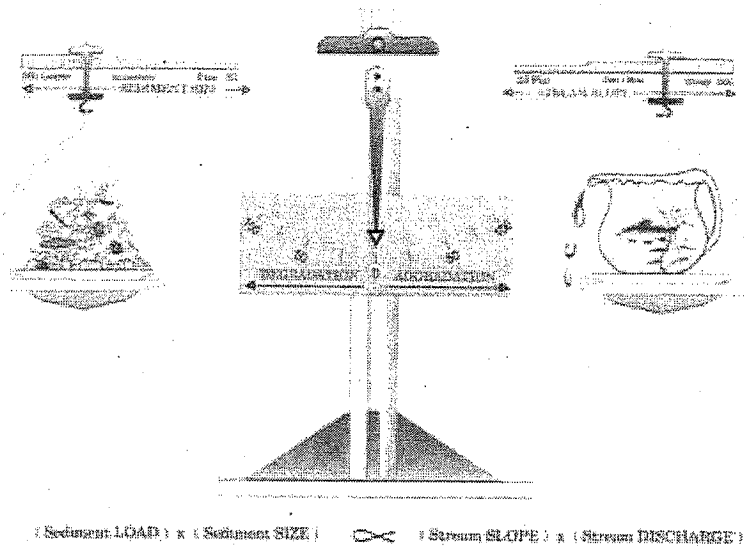

Figure 5 - Schematic of the Lane Relationship

After Lane (1955) as cited in Rosgen (1996)

Stream slope multiplied by stream discharge (the right side of the scale) is essentially an approximation of stream power, a unifying concept in fluvial geomorphology (Bledsoe 1999). Urbanization generally increases stream power and affects the resisting forces in a channel (sediment load and sediment size represented on the left side of the scale).

During construction, sediment loads can increase from 2 to 40,000 times over pre-construction levels.[28] Most of this sediment is delivered to stream channels during large, episodic rain events.[29] This increased sediment load leads to an initial aggradation phase where stream depths may decrease as sediment fills the channel, leading to a decrease in channel capacity and increase in flooding and overbank deposition. A degradation phase initiates after construction is completed.

Schumm et. al (1984) developed a channel evolution model that describes the series of adjustments from initial downcutting, to widening, to establishing new floodplains at lower elevations (Figure 6).

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[28] Goldman S.J., K. Jackson, and T.A. Bursztynsky. 1986. Erosion and Sediment Control Handbook. McGraw Hill. San Francisco.

[29] Wolman 1967 as cited in Paul, M.P. and J.L. Meyer. 2001. Streams in the Urban Landscape. *Annu. Rev.Ecol. Syst.* 32: 333-365.

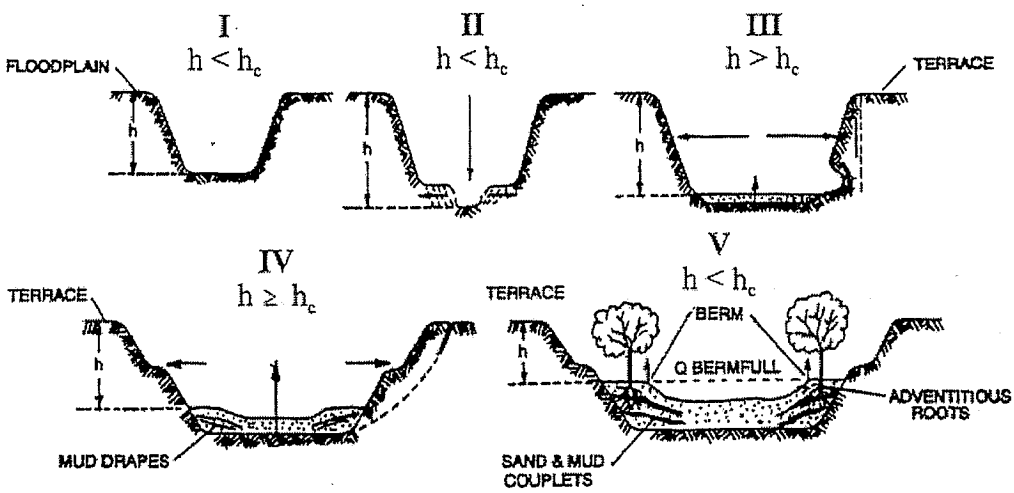

Figure 6 - Channel Changes Associated with Urbanization

After Incised Channel Evolution Sequence in Schumm et. al 1984

Channel incision (Stage II) and widening (Stages III and to a lesser degree, Stage IV) are due to a number of fundamental changes on the landscape. Connected impervious area and compaction of pervious surfaces increase the frequency and volume of bankfull discharges.[30] Increased drainage density (miles of stream length per square mile of watershed) also negatively impacts receiving stream channels.[31] Increased drainage density and hydraulic efficiency leads to an increase in the frequency and volume of bankfull discharges because the time of concentration is shortened. Flows from engineered pipes and channels are also often "sediment starved" and seek to replenish their sediment supply from the channel.

Encroachment of stream channels can also lead to an increase in stream slope, which leads to an increase in stream power. In addition, watershed sediment loads and sediment size (with size generally represented as the median bed and bank particle size, or d_{50}) decrease during urbanization.[32] This means that even if pre- and post-development stream power are the same, more erosion will occur in the post-development stage because the smaller particles are less resistant (provided they are non-cohesive).

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[30] Booth, D. B. and C. R. Jackson. 1997. Urbanization of Aquatic Systems: Degradation Thresholds, Storm Water Detection, and the Limits of Mitigation. Journal of the American Water Resources Association Vol. 33, No.5, pp. 1077-1089.

[31] May, C.W. 1998. Cumulative effects of urbanization on small streams in the Puget Sound Lowland ecoregion. Conference proceedings from Puget Sound Research '98 held March 12, 13 1998 in Seattle, WA;
Santa Clara Valley Urban Runoff Pollution Prevention Program. 2002. Hydromodification Management Plan Literature Review. 80 pp.

[32] Finkenbine, J.K., D.S. Atwater, and D.S. Mavinic. 2000. Stream health after urbanization. *J. Am. Water Resour. Assoc.* 36:1149-60;
Pizzuto, J.E. W.S. Hession, and M. McBride. 2000. Comparing gravel-bed rivers in paired urban and rural catchments of southeastern Pennsylvania. *Geology* 28:79-82.

14-1372

As shown in Stages II and III, the channel deepens and widens to accommodate the increased stream power [33]and decrease in sediment load and sediment size. Channels may actually narrow as entrained sediment from incision is deposited laterally in the channel. After incised channels begin to migrate laterally (Stage III), bank erosion begins, which leads to general channel widening.[34] At this point, a majority of the sediment that leaves a drainage area comes from within the channel, as opposed to the background and construction related hillslope contribution. Stage IV is characterized by more aggradation and localized bank instability. Stage V represents a new quasi-equilibrium channel morphology in balance with the new flow and sediment supply regime. In other words, stream power is in balance with sediment load and sediment size.

The magnitude of the channel morphology changes discussed above varies along a stream network as well as with the age of development, slope, geology (sand-bedded channels may cycle through the evolution sequence in a matter of decades whereas clay-dominated channels may take much longer), watershed sediment load and size, type of urbanization, and land use history. It is also dependent on a channel's stage in the channel evolution sequence when urbanization occurs. Management strategies must take into account a channel's stage of adjustment and account for future changes in the evolution of channel form (Stein and Zaleski 2005).[35]

Traditional structural water quality BMPs (e.g. detention basins and other devices used to store volumes of runoff) unless they are highly engineered to provide adequate flow duration control, do not adequately protect receiving waters from accelerated channel bed and bank erosion, do not address post-development increases in runoff volume, and do not mitigate the decline in benthic macroinvertebrate communities in the receiving waters[36] suggest that structural BMPs are not as effective in protecting aquatic communities as a continuous riparian buffer of native vegetation. This is supported by the findings of Zucker and White[37], where instream biological metrics were correlated with the extent of forested buffers.

This General Permit requires dischargers to maintain pre-development drainage densities and times of concentration in order to protect channels and encourages dischargers to implement setbacks to reduce channel slope and velocity changes that can lead to aquatic habitat degradation.

There are a number of other approaches for modeling fluvial systems, including statistical and physical models and simpler stream power models.[38] The use of these models in California is described in Stein and Zaleski (2005).[39] Rather than prescribe a specific one-size-fits-all modeling method in this permit, the State Water Board intends to develop a stream power and channel evolution model-based framework to assess channels and develop a hierarchy of suitable analysis methods and management strategies. In time, this framework may become a State Water Board water quality control policy.

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[33] Hammer 1973 as cited in Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp;
Booth, D.B. 1990. Stream Channel Incision Following Drainage Basin Urbanization. *Water Resour. Bull.* 26:407-417.

[34] Trimble, S.W. 1997. Contribution of Stream Channel Erosion to Sediment Yield from an Urbanizing Watershed. *Science*: Vol. 278 (21), pp. 1442-1444.

[35] Stein, E.S. and S. Zaleski. 2005.Managing runoff to protect natural stream: the latest developments on investigation and management of hydromodification in California. Southern California Coastal Water Research Project Technical Report 475. 26 pp.

[36] Horner, R.R. 2006. Investigation of the Feasibility and Benefits of Low-Impact Site Design Practices (LID) for the San Diego Region. Available at: http://www.projectcleanwater.org/pdf/permit/case-study_lid.pdf.

[37] Delaware Department of Natural Resources (DDNR). 2004. Green Technology: The Delaware Urban Runoff Management Approach. Dover, DE. 117 pp.

[38] Finlayson, D.P. and D.R. Montgomery. 2003. Modeling large-scale fluvial erosion in geographic information systems. Geomorphology (53), pp. 147-164).

[39] Stein, E.S. and S. Zaleski. 2005.Managing runoff to protect natural stream: the latest developments on investigation and management of hydromodification in California. Southern California Coastal Water Research Project Technical Report 475. 26 pp.

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Permit Linkage to Overbank and Extreme Flood Protection
Site design BMPs (e.g. rooftop and impervious disconnection, vegetated swales, setbacks and buffers) filter and settle out pollutants and provide for more infiltration than is possible for traditional centralized structural BMPs placed at the lowest point in a site. They provide source control for runoff and lead to a reduction in pollutant loads. When implemented, they also help reduce the magnitude and volume of larger, less frequent storm events (e.g., 10-yr, 24-hour storm and larger), thereby reducing the need for expensive flood control infrastructure. Nonstructural BMPs can also be a landscape amenity, instead of a large isolated structure requiring substantial area for ancillary access, buffering, screening and maintenance facilities.[25] The multiple benefits of using non-structural benefits will be critically important as the state's population increases and imposes strains upon our existing water resources.

Maintaining predevelopment drainage densities and times of concentration will help reduce post-development peak flows and volumes in areas not covered under a municipal permit. The most effective way to preserve drainage areas and maximize time of concentration is to implement landform grading, incorporate site design BMPs and implement distributed structural BMPs (e.g., bioretention cells, rain gardens, rain cisterns).

M. Storm Water Pollution Prevention Plans

USEPA's Construction General Permit requires that qualified personnel conduct inspections. USEPA defines qualified personnel as "a person knowledgeable in the principles and practice of erosion and sediment controls who possesses the skills to assess conditions at the construction site that could impact storm water quality and to assess the effectiveness of any sediment and erosion control measures selected to control the quality of storm water discharges from the construction activity."[40] USEPA also suggests that qualified personnel prepare SWPPPs and points to numerous states that require certified professionals to be on construction sites at all times. States that currently have certification programs are Washington, Georgia, Florida, Delaware, Maryland, and New Jersey. The Permit 99-08-DWQ did not require that qualified personnel prepare SWPPPs or conduct inspections. However, to ensure that water quality is being protected, this General Permit requires that all SWPPPs be written, amended, and certified by a Qualified SWPPP Developer. A Qualified SWPPP Developer must possess one of the eight certifications and or registrations specified in this General Permit and effective two years after the adoption date of this General Permit, must have attended a State Water Board-sponsored or approved Qualified SWPPP Developer training course. Table 9 provides an overview of the criteria used in determining qualified certification titles for a QSD and QSP.

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40 US Environmental Protection Agency. Stormwater Pollution Prevention Plans for Construction Activities. <http://cfpub.epa.gov/npdes/stormwater/swppp.cfm> and <http://www.epa.gov/npdes/pubs/sw_swppp_guide.pdf>.

Table 9 - Qualified SWPPP Developer/ Qualified SWPPP Practitioner Certification Criteria

Certification/ Title	Registered By	QSD/QSP	Certification Criteria
Professional Civil Engineer	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Professional Geologist or Engineering Geologist	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Landscape Architect	California	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Professional Hydrologist	American Institute of Hydrology	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites
Certified Professional in Erosion and Sediment Control™ (CPESC)	Enviro Cert International Inc.	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Inspector of Sediment and Erosion Control™ (CISEC)	Certified Inspector of Sediment and Erosion Control, Inc.	QSP	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Erosion, Sediment and Storm Water Inspector™ (CESSWI)	Enviro Cert International Inc.	QSP	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education
Certified Professional in Storm Water Quality™ (CPSWQ)	Enviro Cert International Inc.	Both	1. Approval Process 2. Code of Ethics 3. Accountability 4. Pre-requisites 5. Continuing Education

14-1375

The previous versions of the General Permit required development and implementation of a SWPPP as the primary compliance mechanism. The SWPPP has two major objectives: (1) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges; and (2) to describe and ensure the implementation of BMPs to reduce or eliminate sediment and other pollutants in storm water and non-storm water discharges. The SWPPP must include BMPs that address source control, BMPs that address pollutant control, and BMPs that address treatment control.

This General Permit shifts some of the measures that were covered by this general requirement to specific permit requirements, each individually enforceable as a permit term. This General Permit emphasizes the use of appropriately selected, correctly installed and maintained pollution reduction BMPs. This approach provides the flexibility necessary to establish BMPs that can effectively address source control of pollutants during changing construction activities. These specific requirements also improve both the clarity and the enforceability of the General Permit so that the dischargers understand, and the public can determine whether the discharges are in compliance with, permit requirements.

The SWPPP must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. The SWPPP must remain on the site during construction activities, commencing with the initial mobilization and ending with the termination of coverage under the General Permit. For LUPs the discharger shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio or telephone. Once construction activities are complete, until stabilization is achieved, the SWPPP shall be available from the SWPPP contact listed in the PRDs

A SWPPP must be appropriate for the type and complexity of a project and will be developed and implemented to address project specific conditions. Some projects may have similarities or complexities, yet each project is unique in its progressive state that requires specific description and selection of BMPs needed to address all possible generated pollutants

N. Regional Water Board Authorities

Because this General Permit will be issued to thousands of construction sites across the State, the Regional Water Boards retain discretionary authority over certain issues that may arise from the discharges in their respective regions. This General Permit does not grant the Regional Water Boards any authority they do not otherwise have; rather, it merely emphasizes that the Regional Water Boards can take specific actions related to this General Permit. For example, the Regional Water Boards will be enforcing this General Permit and may need to adjust some requirements for a discharger based on the discharger's compliance history.

14-1376

Linda S. Adams
Secretary for
Environmental Protection

State Water Resources Control Board

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Arnold Schwarzenegger
Governor

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR
STORM WATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION AND LAND DISTURBANCE
ACTIVITIES

ORDER NO. 2009-0009-DWQ
NPDES NO. **CAS000002**

This Order was adopted by the State Water Resources Control Board on:	**September 2, 2009**
This Order shall become effective on:	**July 1, 2010**
This Order shall expire on:	**September 2, 2014**

IT IS HEREBY ORDERED, that this Order supersedes Order No. 99-08-DWQ except for enforcement purposes. The Discharger shall comply with the requirements in this Order to meet the provisions contained in Division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act and regulations and guidelines adopted thereunder.

I, Jeanine Townsend, Clerk to the Board, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the State Water Resources Control Board, on September 2, 2009.

AYE: Vice Chair Frances Spivy-Weber
Board Member Arthur G. Baggett, Jr.
Board Member Tam M. Doduc

NAY: Chairman Charles R. Hoppin

ABSENT: None

ABSTAIN: None

Jeanine Townsend

Jeanine Townsend
Clerk to the Board

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STATE WATER RESOURCES CONTROL BOARD
ORDER NO. 2009-0009-DWQ
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
GENERAL PERMIT NO. CAS000002

WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES OF STORM WATER RUNOFF ASSOCIATED WITH
CONSTRUCTION AND LAND DISTURBANCE ACTIVITIES

I. FINDINGS

A. General Findings

The State Water Resources Control Board (State Water Board) finds that:

1. The federal Clean Water Act (CWA) prohibits certain discharges of storm water containing pollutants except in compliance with a National Pollutant Discharge Elimination System (NPDES) permit (Title 33 United States Code (U.S.C.) §§ 1311 and 1342(p); also referred to as Clean Water Act (CWA) §§ 301 and 402(p)). The U.S. Environmental Protection Agency (U.S. EPA) promulgates federal regulations to implement the CWA's mandate to control pollutants in storm water runoff discharges. (Title 40 Code of Federal Regulations (C.F.R.) Parts 122, 123, and 124). The federal statutes and regulations require discharges to surface waters comprised of storm water associated with construction activity, including demolition, clearing, grading, and excavation, and other land disturbance activities (except operations that result in disturbance of less than one acre of total land area and which are not part of a larger common plan of development or sale), to obtain coverage under an NPDES permit. The NPDES permit must require implementation of Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to reduce or eliminate pollutants in storm water runoff. The NPDES permit must also include additional requirements necessary to implement applicable water quality standards.

2. This General Permit authorizes discharges of storm water associated with construction activity so long as the dischargers comply with all requirements, provisions, limitations and prohibitions in the permit. In addition, this General Permit regulates the discharges of storm water associated with construction activities from all Linear Underground/Overhead Projects resulting in the disturbance of greater than or equal to one acre (Attachment A).

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3. This General Permit regulates discharges of pollutants in storm water associated with construction activity (storm water discharges) to waters of the United States from construction sites that disturb one or more acres of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface.

4. This General Permit does not preempt or supersede the authority of local storm water management agencies to prohibit, restrict, or control storm water discharges to municipal separate storm sewer systems or other watercourses within their jurisdictions.

5. This action to adopt a general NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21100, et seq.), pursuant to Section 13389 of the California Water Code.

6. Pursuant to 40 C.F.R. § 131.12 and State Water Board Resolution No. 68-16,[1] which incorporates the requirements of § 131.12 where applicable, the State Water Board finds that discharges in compliance with this General Permit will not result in the lowering of water quality standards, and are therefore consistent with those provisions. Compliance with this General Permit will result in improvements in water quality.

7. This General Permit serves as an NPDES permit in compliance with CWA § 402 and will take effect on July 1, 2010 by the State Water Board provided the Regional Administrator of the U.S. EPA has no objection. If the U.S. EPA Regional Administrator objects to its issuance, the General Permit will not become effective until such objection is withdrawn.

8. Following adoption and upon the effective date of this General Permit, the Regional Water Quality Control Boards (Regional Water Boards) shall enforce the provisions herein.

9. Regional Water Boards establish water quality standards in Basin Plans. The State Water Board establishes water quality standards in various statewide plans, including the California Ocean Plan. U.S. EPA establishes water quality standards in the National Toxic Rule (NTR) and the California Toxic Rule (CTR).

[1] Resolution No. 68-16 generally requires that existing water quality be maintained unless degradation is justified based on specific findings.

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10. This General Permit does not authorize discharges of fill or dredged material regulated by the U.S. Army Corps of Engineers under CWA § 404 and does not constitute a waiver of water quality certification under CWA § 401.

11. The primary storm water pollutant at construction sites is excess sediment. Excess sediment can cloud the water, which reduces the amount of sunlight reaching aquatic plants, clog fish gills, smother aquatic habitat and spawning areas, and impede navigation in our waterways. Sediment also transports other pollutants such as nutrients, metals, and oils and greases.

12. Construction activities can impact a construction site's runoff sediment supply and transport characteristics. These modifications, which can occur both during and after the construction phase, are a significant cause of degradation of the beneficial uses established for water bodies in California. Dischargers can avoid these effects through better construction site design and activity practices.

13. This General Permit recognizes four distinct phases of construction activities. The phases are Grading and Land Development Phase, Streets and Utilities Phase, Vertical Construction Phase, and Final Landscaping and Site Stabilization Phase. Each phase has activities that can result in different water quality effects from different water quality pollutants. This General Permit also recognizes inactive construction as a category of construction site type.

14. Compliance with any specific limits or requirements contained in this General Permit does not constitute compliance with any other applicable requirements.

15. Following public notice in accordance with State and Federal laws and regulations, the State Water Board heard and considered all comments and testimony in a public hearing on 06/03/2009. The State Water Board has prepared written responses to all significant comments.

16. Construction activities obtaining coverage under the General Permit may have multiple discharges subject to requirements that are specific to general, linear, and/or active treatment system discharge types.

17. The State Water Board may reopen the permit if the U.S. EPA adopts a final effluent limitation guideline for construction activities.

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B. Activities Covered Under the General Permit

18. Any construction or demolition activity, including, but not limited to, clearing, grading, grubbing, or excavation, or any other activity that results in a land disturbance of equal to or greater than one acre.

19. Construction activity that results in land surface disturbances of less than one acre if the construction activity is part of a larger common plan of development or the sale of one or more acres of disturbed land surface.

20. Construction activity related to residential, commercial, or industrial development on lands currently used for agriculture including, but not limited to, the construction of buildings related to agriculture that are considered industrial pursuant to U.S. EPA regulations, such as dairy barns or food processing facilities.

21. Construction activity associated with Linear Underground/Overhead Utility Projects (LUPs) including, but not limited to, those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/borrow locations.

22. Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities.[2]

23. Storm water discharges from dredge spoil placement that occur outside of U.S. Army Corps of Engineers jurisdiction (upland sites) and that disturb one or more acres of land surface from construction activity are covered by this General Permit. Construction sites that intend to disturb one or more acres of land within the jurisdictional boundaries of a CWA § 404 permit should contact the appropriate Regional Water Board to determine whether this permit applies to the site.

[2] Pursuant to the Ninth Circuit Court of Appeals' decision in *NRDC v. EPA* (9th Cir. 2008) 526 F.3d 591, and subsequent denial of the U.S. EPA's petition for reconsideration in November 2008, oil and gas construction activities discharging storm water contaminated only with sediment are no longer exempt from the NPDES program.

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C. Activities Not Covered Under the General Permit

24. Routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility.

25. Disturbances to land surfaces solely related to agricultural operations such as disking, harrowing, terracing and leveling, and soil preparation.

26. Discharges of storm water from areas on tribal lands; construction on tribal lands is regulated by a federal permit.

27. Construction activity and land disturbance involving discharges of storm water within the Lake Tahoe Hydrologic Unit. The Lahontan Regional Water Board has adopted its own permit to regulate storm water discharges from construction activity in the Lake Tahoe Hydrologic Unit (Regional Water Board 6SLT). Owners of construction sites in this watershed must apply for the Lahontan Regional Water Board permit rather than the statewide Construction General Permit.

28. Construction activity that disturbs less than one acre of land surface, and that is not part of a larger common plan of development or the sale of one or more acres of disturbed land surface.

29. Construction activity covered by an individual NPDES Permit for storm water discharges.

30. Discharges from small (1 to 5 acre) construction activities with an approved Rainfall Erosivity Waiver authorized by U.S. EPA Phase II regulations certifying to the State Board that small construction activity will occur only when the Rainfall Erosivity Factor is less than 5 ("R" in the Revised Universal Soil Loss Equation).

31. Landfill construction activity that is subject to the Industrial General Permit.

32. Construction activity that discharges to Combined Sewer Systems.

33. Conveyances that discharge storm water runoff combined with municipal sewage.

34. Discharges of storm water identified in CWA § 402(*l*)(2), 33 U.S.C. § 1342(*l*)(2).

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35. Discharges occurring in basins that are not tributary or hydrologically connected to waters of the United States (for more information contact your Regional Water Board).

D. Obtaining and Modifying General Permit Coverage

36. This General Permit requires all dischargers to electronically file all Permit Registration Documents (PRDs), Notices of Termination (NOT), changes of information, annual reporting, and other compliance documents required by this General Permit through the State Water Board's Storm water Multi-Application and Report Tracking System (SMARTS) website.

37. Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

38. This General Permit grants an exception from the Risk Determination requirements for existing sites covered under Water Quality Orders No. 99-08-DWQ, and No. 2003-0007-DWQ. For certain sites, adding additional requirements may not be cost effective. Construction sites covered under Water Quality Order No. 99-08-DWQ shall obtain permit coverage at the Risk Level 1. LUPs covered under Water Quality Order No. 2003-0007-DWQ shall obtain permit coverage as a Type 1 LUP. The Regional Water Boards have the authority to require Risk Determination to be performed on sites currently covered under Water Quality Orders No. 99-08-DWQ and No. 2003-0007-DWQ where they deem it necessary. The State Water Board finds that there are two circumstances when it may be appropriate for the Regional Water Boards to require a discharger that had filed an NOI under State Water Board Order No. 99-08-DWQ to recalculate the site's risk level. These circumstances are: (1) when the discharger has a demonstrated history of noncompliance with State Water Board Order No. 99-08-DWQ or; (2) when the discharger's site poses a significant risk of causing or contributing to an exceedance of a water quality standard without the implementation of the additional Risk Level 2 or 3 requirements.

E. Prohibitions

39. All discharges are prohibited except for the storm water and non-storm water discharges specifically authorized by this General Permit or another NPDES permit. Non-storm water discharges include a wide variety of sources, including improper dumping, spills, or leakage from storage tanks or transfer areas. Non-storm water discharges may

contribute significant pollutant loads to receiving waters. Measures to control spills, leakage, and dumping, and to prevent illicit connections during construction must be addressed through structural as well as non-structural Best Management Practices (BMPs)[3]. The State Water Board recognizes, however, that certain non-storm water discharges may be necessary for the completion of construction.

40. This General Permit prohibits all discharges which contain a hazardous substance in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

41. This General Permit incorporates discharge prohibitions contained in water quality control plans, as implemented by the State Water Board and the nine Regional Water Boards.

42. Pursuant to the Ocean Plan, discharges to Areas of Special Biological Significance (ASBS) are prohibited unless covered by an exception that the State Water Board has approved.

43. This General Permit prohibits the discharge of any debris[4] from construction sites. Plastic and other trash materials can cause negative impacts to receiving water beneficial uses. The State Water Board encourages the use of more environmentally safe, biodegradable materials on construction sites to minimize the potential risk to water quality.

F. Training

44. In order to improve compliance with and to maintain consistent enforcement of this General Permit, all dischargers are required to appoint two positions - the Qualified SWPPP Developer (QSD) and the Qualified SWPPP Practitioner (QSP) - who must obtain appropriate training. Together with the key stakeholders, the State and Regional Water Boards are leading the development of this curriculum through a collaborative organization called The Construction General Permit (CGP) Training Team.

45. The Professional Engineers Act (Bus. & Prof. Code section 6700, et seq.) requires that all engineering work must be performed by a California licensed engineer.

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[3] BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants to waters of the United States. BMPs also include treatment requirements, operating procedures, and practice to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

[4] Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

G. Determining and Reducing Risk

46. The risk of accelerated erosion and sedimentation from wind and water depends on a number of factors, including proximity to receiving water bodies, climate, topography, and soil type.

47. This General Permit requires dischargers to assess the risk level of a site based on both sediment transport and receiving water risk. This General Permit contains requirements for Risk Levels 1, 2 and 3, and LUP Risk Type 1, 2, and 3 (Attachment A). Risk levels are established by determining two factors: first, calculating the site's sediment risk; and second, receiving water risk during periods of soil exposure (i.e. grading and site stabilization). Both factors are used to determine the site-specific Risk Level(s). LUPs can be determined to be Type 1 based on the flowchart in Attachment A.1.

48. Although this General Permit does not mandate specific setback distances, dischargers are encouraged to set back their construction activities from streams and wetlands whenever feasible to reduce the risk of impacting water quality (e.g., natural stream stability and habitat function). Because there is a reduced risk to receiving waters when setbacks are used, this General Permit gives credit to setbacks in the risk determination and post-construction storm water performance standards. The risk calculation and runoff reduction mechanisms in this General Permit are expected to facilitate compliance with any Regional Water Board and local agency setback requirements, and to encourage voluntary setbacks wherever practicable.

49. Rain events can occur at any time of the year in California. Therefore, a Rain Event Action Plan (REAP) is necessary for Risk Level 2 and 3 traditional construction projects (LUPs exempt) to ensure that active construction sites have adequate erosion and sediment controls implemented prior to the onset of a storm event, even if construction is planned only during the dry season.

50. Soil particles smaller than 0.02 millimeters (mm) (i.e., finer than medium silt) do not settle easily using conventional measures for sediment control (i.e., sediment basins). Given their long settling time, dislodging these soils results in a significant risk that fine particles will be released into surface waters and cause unacceptable downstream impacts. If operated correctly, an Active Treatment System (ATS[5]) can prevent or reduce the release of fine particles from construction sites.

[5] An ATS is a treatment system that employs chemical coagulation, chemical flocculation, or electro coagulation in order to reduce turbidity caused by fine suspended sediment.

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Use of an ATS can effectively reduce a site's risk of impacting receiving waters.

51. Dischargers located in a watershed area where a Total Maximum Daily Load (TMDL) has been adopted or approved by the Regional Water Board or U.S. EPA may be required by a separate Regional Water Board action to implement additional BMPs, conduct additional monitoring activities, and/or comply with an applicable waste load allocation and implementation schedule. Such dischargers may also be required to obtain an individual Regional Water Board permit specific to the area.

H. Effluent Standards

52. The State Water Board convened a blue ribbon panel of storm water experts that submitted a report entitled, "The Feasibility of Numeric Effluent Limits Applicable to Discharges of Storm Water Associated with Municipal, Industrial and Construction Activities," dated June 19, 2006. The panel concluded that numeric limits or action levels are technically feasible to control construction storm water discharges, provided that certain conditions are considered. The panel also concluded that numeric effluent limitations (NELs) are feasible for discharges from construction sites that utilize an ATS. The State Water Board has incorporated the expert panel's suggestions into this General Permit, which includes both numeric action levels (NALs) and NELs for pH and turbidity, and special numeric limits for ATS discharges.

Numeric Effluent Limitations

53. Discharges of storm water from construction activities may become contaminated from alkaline construction materials resulting in high pH (greater than pH 7). Alkaline construction materials include, but are not limited to, hydrated lime, concrete, mortar, cement kiln dust (CKD), Portland cement treated base (CTB), fly ash, recycled concrete, and masonry work. This General Permit includes an NEL for pH (6.0-9.0) that applies only at sites that exhibit a "high risk of high pH discharge." A "high risk of high pH discharge" can occur during the complete utilities phase, the complete vertical build phase, and any portion of any phase where significant amounts of materials are placed directly on the land at the site in a manner that could result in significant alterations to the background pH of any discharges.

54. For Risk Level 3 discharges, this General Permit establishes technology-based, numeric effluent limitations (NELs) for turbidity of 500 NTU. Exceedances of the turbidity NEL constitutes a violation of this General Permit.

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55. This General Permit establishes a 5 year, 24 hour (expressed in inches of rainfall) Compliance Storm Event exemption from the technology-based NELs for Risk Level 3 dischargers.

Determining Compliance with Numeric Limitations

56. This General Permit sets a pH NAL of 6.5 to 8.5, and a turbidity NAL of 250 NTU. The purpose of the NAL and its associated monitoring requirement is to provide operational information regarding the performance of the measures used at the site to minimize the discharge of pollutants and to protect beneficial uses and receiving waters from the adverse effects of construction-related storm water discharges. The NALs in this General Permit for pH and turbidity are not directly enforceable and do not constitute NELs.

57. This General Permit requires dischargers with NAL exceedances to immediately implement additional BMPs and revise their Storm Water Pollution Prevention Plans (SWPPPs) accordingly to either prevent pollutants and authorized non-storm water discharges from contaminating storm water, or to substantially reduce the pollutants to levels consistently below the NALs. NAL exceedances are reported in the State Water Boards SMARTS system, and the discharger is required to provide an NAL Exceedance Report when requested by a Regional Water Board.

58. If run-on is caused by a forest fire or any other natural disaster, then NELs do not apply.

59. Exceedances of the NELs are a violation of this Permit. This General Permit requires dischargers with NEL exceedances to implement additional monitoring, BMPs, and revise their SWPPPs accordingly. Dischargers are required to notify the State and Regional Water Boards of the violation through the State Water Boards SMARTs system, and provide an NEL Violation Report sharing additional information concerning the NEL exceedance.

I. Receiving Water Limitations

60. This General Permit requires all enrolled dischargers to determine the receiving waters potentially affected by their discharges and to comply with all applicable water quality standards, including any more stringent standards applicable to a water body.

J. Sampling, Monitoring, Reporting and Record Keeping

61. Visual monitoring of storm water and non-storm water discharges is required for all sites subject to this General Permit.

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62. Records of all visual monitoring inspections are required to remain on-site during the construction period and for a minimum of three years.

63. For all Risk Level 3 and Risk Level 2 sites, this General Permit requires effluent monitoring for pH and turbidity. Sampling, analysis and monitoring requirements for effluent monitoring for pH and turbidity are contained in this General Permit.

64. Risk Level 3 sites in violation of the Numeric Effluent Limitations contained in this General Permit and with direct discharges to receiving water are required to conduct receiving water monitoring.

65. For Risk Level 3 sites larger than 30 acres and with direct discharges to receiving waters, this General Permit requires bioassessment sampling before and after site completion to determine if significant degradation to the receiving water's biota has occurred. Bioassessment sampling guidelines are contained in this General Permit.

66. A summary and evaluation of the sampling and analysis results will be submitted in the Annual Reports.

67. This General Permit contains sampling, analysis and monitoring requirements for non-visible pollutants at all sites subject to this General Permit.

68. Compliance with the General Permit relies upon dischargers to electronically self-report any discharge violations and to comply with any Regional Water Board enforcement actions.

69. This General Permit requires that all dischargers maintain a paper or electronic copy of all required records for three years from the date generated or date submitted, whichever is last. These records must be available at the construction site until construction is completed. For LUPs, these documents may be retained in a crew member's vehicle and made available upon request.

K. Active Treatment System (ATS) Requirements

70. Active treatment systems add chemicals to facilitate flocculation, coagulation and filtration of suspended sediment particles. The uncontrolled release of these chemicals to the environment can negatively affect the beneficial uses of receiving waters and/or degrade water quality (e.g., acute and chronic toxicity). Additionally, the batch storage and treatment of storm water through an ATS' can potentially

cause physical impacts on receiving waters if storage volume is inadequate or due to sudden releases of the ATS batches and improperly designed outfalls.

71. If designed, operated and maintained properly an ATS can achieve very high removal rates of suspended sediment (measured as turbidity), albeit at sometimes significantly higher costs than traditional erosion/sediment control practices. As a result, this General Permit establishes NELs consistent with the expected level of typical ATS performance.

72. This General Permit requires discharges of storm water associated with construction activity that undergo active treatment to comply with special operational and effluent limitations to ensure that these discharges do not adversely affect the beneficial uses of the receiving waters or cause degradation of their water quality.

73. For ATS discharges, this General Permit establishes technology-based NELs for turbidity.

74. This General Permit establishes a 10 year, 24 hour (expressed in inches of rainfall) Compliance Storm Event exemption from the technology-based numeric effluent limitations for ATS discharges. Exceedances of the ATS turbidity NEL constitutes a violation of this General Permit.

L. Post-Construction Requirements

75. This General Permit includes performance standards for post-construction that are consistent with State Water Board Resolution No. 2005-0006, "Resolution Adopting the Concept of Sustainability as a Core Value for State Water Board Programs and Directing Its Incorporation," and 2008-0030, "Requiring Sustainable Water Resources Management." The requirement for all construction sites to match pre-project hydrology will help ensure that the physical and biological integrity of aquatic ecosystems are sustained. This "runoff reduction" approach is analogous in principle to Low Impact Development (LID) and will serve to protect related watersheds and waterbodies from both hydrologic-based and pollution impacts associated with the post-construction landscape.

76. LUP projects are not subject to post-construction requirements due to the nature of their construction to return project sites to pre-construction conditions.

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M. Storm Water Pollution Prevention Plan Requirements

77. This General Permit requires the development of a site-specific SWPPP. The SWPPP must include the information needed to demonstrate compliance with all requirements of this General Permit, and must be kept on the construction site and be available for review. The discharger shall ensure that a QSD develops the SWPPP.

78. To ensure proper site oversight, this General Permit requires a Qualified SWPPP Practitioner to oversee implementation of the BMPs required to comply with this General Permit.

N. Regional Water Board Authorities

79. Regional Water Boards are responsible for implementation and enforcement of this General Permit. A general approach to permitting is not always suitable for every construction site and environmental circumstances. Therefore, this General Permit recognizes that Regional Water Boards must have some flexibility and authority to alter, approve, exempt, or rescind permit authority granted under this General Permit in order to protect the beneficial uses of our receiving waters and prevent degradation of water quality.

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IT IS HEREBY ORDERED that all dischargers subject to this General Permit shall comply with the following conditions and requirements (including all conditions and requirements as set forth in Attachments A, B, C, D, E and F)[6]:

II. CONDITIONS FOR PERMIT COVERAGE

A. Linear Underground/Overhead Projects (LUPs)

1. Linear Underground/Overhead Projects (LUPs) include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water and wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g. telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, (a) those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment, and associated ancillary facilities); and include, but are not limited to, (b) underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/ or pavement repair or replacement, and stockpile/borrow locations.

2. The utility company, municipality, or other public or private company or agency that owns or operates the linear underground/overhead project is responsible for obtaining coverage under the General Permit where the construction of pipelines, utility lines, fiber-optic cables, or other linear underground/overhead projects will occur across several properties unless the LUP construction activities are covered under another construction storm water permit.

3. Only LUPs shall comply with the conditions and requirements in Attachment A, A.1 & A.2 of this Order. The balance of this Order is not applicable to LUPs except as indicated in Attachment A.

B. Obtaining Permit Coverage Traditional Construction Sites

[6] These attachments are part of the General Permit itself and are not separate documents that are capable of being updated independently by the State Water Board.

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1. The Legally Responsible Person (LRP) (see Special Provisions, Electronic Signature and Certification Requirements, Section IV.I.1) must obtain coverage under this General Permit.

2. To obtain coverage, the LRP must electronically file Permit Registration Documents (PRDs) prior to the commencement of construction activity. Failure to obtain coverage under this General Permit for storm water discharges to waters of the United States is a violation of the CWA and the California Water Code.

3. PRDs shall consist of:

   a. Notice of Intent (NOI)
   b. Risk Assessment (Section VIII)
   c. Site Map
   d. Storm Water Pollution Prevention Plan (Section XIV)
   e. Annual Fee
   f. Signed Certification Statement

   Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted.

   Attachment B contains additional PRD information. Dischargers must electronically file the PRDs, and mail the appropriate annual fee to the State Water Board.

4. This permit is effective on July 1, 2010.

   a. **Dischargers Obtaining Coverage On or After July 1, 2010:** All dischargers requiring coverage on or after July 1, 2010, shall electronically file their PRDs prior to the commencement of construction activities, and mail the appropriate annual fee no later than seven days prior to the commencement of construction activities. Permit coverage shall not commence until the PRDs and the annual fee are received by the State Water Board, and a WDID number is assigned and sent by SMARTS.

   b. **Dischargers Covered Under 99-08-DWQ and 2003-0007-DWQ:** Existing dischargers subject to State Water Board Order No. 99-08-DWQ (existing dischargers) will continue coverage under 99-08-DWQ until July 1, 2010. After July 1, 2010, all NOIs subject to State Water Board Order No. 99-08-DWQ will be terminated. Existing dischargers shall electronically file their PRDs no later than

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July 1, 2010. If an existing discharger's site acreage subject to the annual fee has changed, it shall mail a revised annual fee no less than seven days after receiving the revised annual fee notification, **or else lose permit coverage**. All existing dischargers shall be exempt from the risk determination requirements in Section VIII of this General Permit until two years after permit adoption. All existing dischargers are therefore subject to Risk Level 1 requirements regardless of their site's sediment and receiving water risks. However, a Regional Board retains the authority to require an existing discharger to comply with the Section VIII risk determination requirements.

5. The discharger is only considered covered by this General Permit upon receipt of a Waste Discharger Identification (WDID) number assigned and sent by the State Water Board Storm water Multi-Application and Report Tracking System (SMARTS). In order to demonstrate compliance with this General Permit, the discharger must obtain a WDID number and must present documentation of a valid WDID upon demand.

6. During the period this permit is subject to review by the U.S. EPA, the prior permit (State Water Board Order No. 99-08-DWQ) remains in effect. Existing dischargers under the prior permit will continue to have coverage under State Water Board Order No. 99-08-DWQ until this General Permit takes effect on July 1, 2010. Dischargers who complete their projects and electronically file an NOT prior to July 1, 2010, are not required to obtain coverage under this General Permit.

7. Small Construction Rainfall Erosivity Waiver

   EPA's Small Construction Erosivity Waiver applies to sites between one and five acres demonstrating that there are no adverse water quality impacts.

   Dischargers eligible for a Rainfall Erosivity Waiver based on low erosivity potential shall complete the electronic Notice of Intent (NOI) and Sediment Risk form through the State Water Board's SMARTS system, certifying that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five. Where the LRP changes or another LRP is added during construction, the new LRP must also submit a waiver certification through the SMARTS system.

   If a small construction site continues beyond the projected completion date given on the waiver certification, the LRP shall recalculate the rainfall erosivity factor for the new project duration and submit this

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information through the SMARTS system. If the new R factor is below five (5), the discharger shall update through SMARTS all applicable information on the waiver certification and retain a copy of the revised waiver onsite. The LRP shall submit the new waiver certification 30 days prior to the projected completion date listed on the original waiver form to assure exemption from permitting requirements is uninterrupted. If the new R factor is five (5) or above, the LRP shall be required to apply for coverage under this Order.

8. In the case of a public emergency that requires immediate construction activities, a discharger shall submit a brief description of the emergency construction activity within five days of the onset of construction, and then shall submit all PRDs within thirty days.

C. Revising Permit Coverage for Change of Acreage or New Ownership

1. The discharger may reduce or increase the total acreage covered under this General Permit when a portion of the site is complete and/or conditions for termination of coverage have been met (See Section II.D Conditions for Termination of Coverage); when ownership of a portion of the site is sold to a different entity; or when new acreage, subject to this General Permit, is added to the site.

2. Within 30 days of a reduction or increase in total disturbed acreage, the discharger shall electronically file revisions to the PRDs that include:

   a. A revised NOI indicating the new project size;

   b. A revised site map showing the acreage of the site completed, acreage currently under construction, acreage sold/transferred or added, and acreage currently stabilized in accordance with the Conditions for Termination of Coverage in Section II.D below.

   c. SWPPP revisions, as appropriate; and

   d. Certification that any new landowners have been notified of applicable requirements to obtain General Permit coverage. The certification shall include the name, address, telephone number, and e-mail address of the new landowner.

   e. If the project acreage has increased, dischargers shall mail payment of revised annual fees within 14 days of receiving the revised annual fee notification.

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3. The discharger shall continue coverage under the General Permit for any parcel that has not achieved "Final Stabilization" as defined in Section II.D.

4. When an LRP owns property with active General Permit coverage, and the LRP sells the property, or a parcel thereof, to another person, that person shall become an LRP with respect to whatever parcel was sold. The existing LRP shall inform the new LRP of the General Permit's requirements. In order for the new LRP to continue the construction activity on its parcel of property, the new LRP, or the new LRP's approved signatory, must submit PRDs in accordance with this General Permit's requirements.

D. Conditions for Termination of Coverage

1. Within 90 days of when construction is complete or ownership has been transferred, the discharger shall electronically file a Notice of Termination (NOT), a final site map, and photos through the State Water Boards SMARTS system. Filing a NOT certifies that all General Permit requirements have been met. The Regional Water Board will consider a construction site complete only when all portions of the site have been transferred to a new owner, or all of the following conditions have been met:

   a. For purposes of "final stabilization," the site will not pose any additional sediment discharge risk than it did prior to the commencement of construction activity;

   b. There is no potential for construction-related storm water pollutants to be discharged into site runoff;

   c. Final stabilization has been reached;

   d. Construction materials and wastes have been disposed of properly;

   e. Compliance with the Post-Construction Standards in Section XIII of this General Permit has been demonstrated;

   f. Post-construction storm water management measures have been installed and a long-term maintenance plan[7] has been established; and

[7] For the purposes of this requirement a long-term maintenance plan will be designed for a minimum of five years, and will describe the procedures to ensure that the post-construction storm water management measures are adequately maintained.

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g. All construction-related equipment, materials and any temporary BMPs no longer needed are removed from the site.

2. The discharger shall certify that final stabilization conditions are satisfied in their NOT. Failure to certify shall result in continuation of permit coverage and annual billing.

3. The NOT must demonstrate through photos, RUSLE or RUSLE2, or results of testing and analysis that the site meets all of the conditions above (Section II.D.1) and the final stabilization condition (Section II.D.1.a) is attained by one of the following methods:

   a. "70% final cover method," no computational proof required

   OR:

   b. "RUSLE or RUSLE2 method," computational proof required

   OR:

   c. "Custom method", the discharger shall demonstrate in some other manner than a or b, above, that the site complies with the "final stabilization" requirement in Section II.D.1.a.

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III. DISCHARGE PROHIBITIONS

A. Dischargers shall not violate any discharge prohibitions contained in applicable Basin Plans or statewide water quality control plans. Waste discharges to Areas of Special Biological Significance (ASBS) are prohibited by the California Ocean Plan, unless granted an exception issued by the State Water Board.

B. All discharges are prohibited except for the storm water and non-storm water discharges specifically authorized by this General Permit or another NPDES permit.

C. Authorized non-storm water discharges may include those from de-chlorinated potable water sources such as: fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, uncontaminated ground water from dewatering, and other discharges not subject to a separate general NPDES permit adopted by a Regional Water Board. The discharge of non-storm water is authorized under the following conditions:

1. The discharge does not cause or contribute to a violation of any water quality standard;

2. The discharge does not violate any other provision of this General Permit;

3. The discharge is not prohibited by the applicable Basin Plan;

4. The discharger has included and implemented specific BMPs required by this General Permit to prevent or reduce the contact of the non-storm water discharge with construction materials or equipment.

5. The discharge does not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;

6. The discharge is monitored and meets the applicable NALs and NELs; and

7. The discharger reports the sampling information in the Annual Report.

If any of the above conditions are not satisfied, the discharge is not authorized by this General Permit. The discharger shall notify the Regional Water Board of any anticipated non-storm water discharges not already authorized by this General Permit or another NPDES permit, to determine whether a separate NPDES permit is necessary.

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D. Debris resulting from construction activities are prohibited from being discharged from construction sites.

E. When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the discharger shall have those soils sampled and tested to ensure proper handling and public safety measures are implemented. The discharger shall notify the appropriate local, State, and federal agency(ies) when contaminated soil is found at a construction site, and will notify the appropriate Regional Water Board.

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IV. SPECIAL PROVISIONS

A. Duty to Comply

1. The discharger shall comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.

2. The discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

B. General Permit Actions

1. This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

2. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

C. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

D. Duty to Mitigate

The discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

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E. Proper Operation and Maintenance

The discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

F. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

G. Duty to Maintain Records and Provide Information

1. The discharger shall maintain a paper or electronic copy of all required records, including a copy of this General Permit, for three years from the date generated or date submitted, whichever is last. These records shall be available at the construction site until construction is completed.

2. The discharger shall furnish the Regional Water Board, State Water Board, or U.S. EPA, within a reasonable time, any requested information to determine compliance with this General Permit. The discharger shall also furnish, upon request, copies of records that are required to be kept by this General Permit.

H. Inspection and Entry

The discharger shall allow the Regional Water Board, State Water Board, U.S. EPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;

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2. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;

3. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and

4. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

I. Electronic Signature and Certification Requirements

1. All Permit Registration Documents (PRDs) and Notice of Terminations (NOTs) shall be electronically signed, certified, and submitted via SMARTS to the State Water Board. Either the Legally Responsible Person (LRP) or a person legally authorized to sign and certify PRDs and NOTs on behalf of the LRP (the LRP's Approved Signatory) must submit all information electronically via SMARTS.

   a. The LRP's Approved Signatory must be one of the following:

      i. For a corporation: a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (a) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or (b) the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

      ii. For a partnership or sole proprietorship: a general partner or the proprietor, respectively;

      iii. For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA);

      iv. For the military: Any military officer who has been designated.

      v. For a public university: An authorized university official

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b. Changes to Authorization. If an approved signatory's authorization is no longer accurate, a new authorization satisfying the requirements of paragraph (a) of this section must be submitted via SMARTS prior to or together with any reports, information or applications to be signed by an approved signatory.

2. All Annual Reports, or other information required by the General Permit (other than PRDs and NOTs) or requested by the Regional Water Board, State Water Board, U.S. EPA, or local storm water management agency shall be certified and submitted by the LRP or the LRP's approved signatory as described above.

J. Certification

Any person signing documents under Section IV.I above, shall make the following certification:

"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, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

K. Anticipated Noncompliance

The discharger shall give advance notice to the Regional Water Board and local storm water management agency of any planned changes in the construction activity, which may result in noncompliance with General Permit requirements.

L. Bypass

Bypass[8] is prohibited. The Regional Water Board may take enforcement action against the discharger for bypass unless:

1. Bypass was unavoidable to prevent loss of life, personal injury or severe property damage;[9]

[8] The intentional diversion of waste streams from any portion of a treatment facility

[9] Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

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2. There were no feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated waste, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that could occur during normal periods of equipment downtime or preventative maintenance;

3. The discharger submitted a notice at least ten days in advance of the need for a bypass to the Regional Water Board; or

4. The discharger may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation. In such a case, the above bypass conditions are not applicable. The discharger shall submit notice of an unanticipated bypass as required.

M. Upset

1. A discharger that wishes to establish the affirmative defense of an upset[10] in an action brought for noncompliance shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the discharger can identify the cause(s) of the upset

   b. The treatment facility was being properly operated by the time of the upset

   c. The discharger submitted notice of the upset as required; and

   d. The discharger complied with any remedial measures required

2. No determination made before an action of noncompliance occurs, such as during administrative review of claims that noncompliance was caused by an upset, is final administrative action subject to judicial review.

3. In any enforcement proceeding, the discharger seeking to establish the occurrence of an upset has the burden of proof

[10] An exceptional incident in which there is unintentional and temporary noncompliance the technology based numeric effluent limitations because of factors beyond the reasonable control of the discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or careless or improper operation.

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N. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

O. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the discharger is or may be subject to under Section 311 of the CWA.

P. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

Q. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of U.S. EPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

R. Penalties for Violations of Permit Conditions

1. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is subject to a civil penalty not to exceed $37,500[11] per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

[11] May be further adjusted in accordance with the Federal Civil Penalties Inflation Adjustment Act.

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2. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties, which in some cases are greater than those under the CWA.

S. Transfers

This General Permit is not transferable.

T. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

14-1405

V. EFFLUENT STANDARDS

A. Narrative Effluent Limitations

1. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

2. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

B. Numeric Effluent Limitations (NELs)

Table 1- Numeric Effluent Limitations, Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level	Numeric Effluent Limitation
pH	Field test with calibrated portable instrument	Risk Level 2	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5	N/A
		Risk Level 3			lower NAL = 6.5 upper NAL = 8.5	lower NEL = 6.0 upper NEL = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Risk Level 2	1	NTU	250 NTU	N/A
		Risk Level 3			250 NTU	500 NTU

1. Numeric Effluent Limitations (NELs):

   a. **Storm Event, Daily Average pH Limits** – For Risk Level 3 dischargers, the pH of storm water and non-storm water discharges

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shall be within the ranges specified in Table 1 during any site phase where there is a "high risk of pH discharge."[12]

b. **Storm Event Daily Average Turbidity Limit** – For Risk Level 3 dischargers, the turbidity of storm water and non-storm water discharges shall not exceed 500 NTU.

2. If daily average sampling results are outside the range of pH NELs (i.e., is below the lower NEL for pH or exceeds the upper NEL for pH) or exceeds the turbidity NEL (as listed in Table 1), the discharger is in violation of this General Permit and shall electronically file monitoring results in violation within 5 business days of obtaining the results.

3. **Compliance Storm Event**:

   Discharges of storm water from Risk Level 3 sites shall comply with applicable NELs (above) unless the storm event causing the discharges is determined after the fact to be equal to or larger than the Compliance Storm Event (expressed in inches of rainfall). The Compliance Storm Event for Risk Level 3 discharges is the 5 year, 24 hour storm (expressed in tenths of an inch of rainfall), as determined by using these maps:

   http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif
   http://www.wrcc.dri.edu/pcpnfreq/sca5y24.gif

   Compliance storm event verification shall be done by reporting on-site rain gauge readings as well as nearby governmental rain gauge readings.

4. Dischargers shall not be required to comply with NELs if the site receives run-on from a forest fire or any other natural disaster.

C. Numeric Action Levels (NALs)

1. For Risk Level 2 and 3 dischargers, the lower storm event average NAL for pH is 6.5 pH units and the upper storm event average NAL for pH is 8.5 pH units. The discharger shall take actions as described below if the discharge is outside of this range of pH values.

[12] A period of high risk of pH discharge is defined as a project's complete utilities phase, complete vertical build phase, and any portion of any phase where significant amounts of materials are placed directly on the land at the site in a manner that could result in significant alterations of the background pH of the discharges.

14-1408

2. For Risk Level 2 and 3 dischargers, the NAL storm event daily average for turbidity is 250 NTU. The discharger shall take actions as described below if the discharge is outside of this range of turbidity values.

3. Whenever the results from a storm event daily average indicate that the discharge is below the lower NAL for pH, exceeds the upper NAL for pH, or exceeds the turbidity NAL (as listed in Table 1), the discharger shall conduct a construction site and run-on evaluation to determine whether pollutant source(s) associated with the site's construction activity may have caused or contributed to the NAL exceedance and shall immediately implement corrective actions if they are needed.

4. The site evaluation shall be documented in the SWPPP and specifically address whether the source(s) of the pollutants causing the exceedance of the NAL:

   a. Are related to the construction activities and whether additional BMPs are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) determine what corrective action(s) were taken or will be taken and with a description of the schedule for completion.

      AND/OR:

   b. Are related to the run-on associated with the construction site location and whether additional BMPs measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) what corrective action(s) were taken or will be taken with a description of the schedule for completion.

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VI. RECEIVING WATER LIMITATIONS

A. The discharger shall ensure that storm water discharges and authorized non-storm water discharges to any surface or ground water will not adversely affect human health or the environment.

B. The discharger shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants in quantities that threaten to cause pollution or a public nuisance.

C. The discharger shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards (collectively, WQS) contained in a Statewide Water Quality Control Plan, the California Toxics Rule, the National Toxics Rule, or the applicable Regional Water Board's Water Quality Control Plan (Basin Plan).

D. Dischargers located within the watershed of a CWA § 303(d) impaired water body, for which a TMDL has been approved by the U.S. EPA, shall comply with the approved TMDL if it identifies "construction activity" or land disturbance as a source of the pollution.

14-1410

VII. TRAINING QUALIFICATIONS AND CERTIFICATION REQUIREMENTS

A. General

The discharger shall ensure that all persons responsible for implementing requirements of this General Permit shall be appropriately trained in accordance with this Section. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. Those responsible for preparing and amending SWPPPs shall comply with the requirements in this Section VII.

The discharger shall provide documentation of all training for persons responsible for implementing the requirements of this General Permit in the Annual Reports.

B. SWPPP Certification Requirements

1. **Qualified SWPPP Developer:** The discharger shall ensure that SWPPPs are written, amended and certified by a Qualified SWPPP Developer (QSD). A QSD shall have one of the following registrations or certifications, and appropriate experience, as required for:

   a. A California registered professional civil engineer;

   b. A California registered professional geologist or engineering geologist;

   c. A California registered landscape architect;

   d. A professional hydrologist registered through the American Institute of Hydrology;

   e. A Certified Professional in Erosion and Sediment Control (CPESC) ™ registered through Enviro Cert International, Inc.;

   f. A Certified Professional in Storm Water Quality (CPSWQ) ™ registered through Enviro Cert International, Inc.; or

   g. A professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET);

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Effective two years after the adoption date of this General Permit, a QSD shall have attended a State Water Board-sponsored or approved QSD training course.

2. The discharger shall list the name and telephone number of the currently designated Qualified SWPPP Developer(s) in the SWPPP.

3. **Qualified SWPPP Practitioner:** The discharger shall ensure that all BMPs required by this General Permit are implemented by a Qualified SWPPP Practitioner (QSP). A QSP is a person responsible for non-storm water and storm water visual observations, sampling and analysis. Effective two years from the date of adoption of this General Permit, a QSP shall be either a QSD or have one of the following certifications:

   a. A certified erosion, sediment and storm water inspector registered through Enviro Cert International, Inc.; or

   b. A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control, Inc.

   Effective two years after the adoption date of this General Permit, a QSP shall have attended a State Water Board-sponsored or approved QSP training course.

4. The LRP shall list in the SWPPP, the name of any Approved Signatory, and provide a copy of the written agreement or other mechanism that provides this authority from the LRP in the SWPPP.

5. The discharger shall include, in the SWPPP, a list of names of all contractors, subcontractors, and individuals who will be directed by the Qualified SWPPP Practitioner. This list shall include telephone numbers and work addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers shall also be included.

6. The discharger shall ensure that the SWPPP and each amendment will be signed by the Qualified SWPPP Developer. The discharger shall include a listing of the date of initial preparation and the date of each amendment in the SWPPP.

VIII. RISK DETERMINATION

The discharger shall calculate the site's sediment risk and receiving water risk during periods of soil exposure (i.e. grading and site stabilization) and use the calculated risks to determine a Risk Level(s) using the methodology in

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Appendix 1. For any site that spans two or more planning watersheds,[13] the discharger shall calculate a separate Risk Level for each planning watershed. The discharger shall notify the State Water Board of the site's Risk Level determination(s) and shall include this determination as a part of submitting the PRDs. If a discharger ends up with more than one Risk Level determination, the Regional Water Board may choose to break the project into separate levels of implementation.

IX. RISK LEVEL 1 REQUIREMENTS

Risk Level 1 Dischargers shall comply with the requirements included in Attachment C of this General Permit.

X. RISK LEVEL 2 REQUIREMENTS

Risk Level 2 Dischargers shall comply with the requirements included in Attachment D of this General Permit.

XI. RISK LEVEL 3 REQUIREMENTS

Risk Level 3 Dischargers shall comply with the requirements included in Attachment E of this General Permit.

XII. ACTIVE TREATMENT SYSTEMS (ATS)

Dischargers choosing to implement an ATS on their site shall comply with all of the requirements in Attachment F of this General Permit.

[13] Planning watershed: defined by the Calwater Watershed documents as a watershed that ranges in size from approximately 3,000 to 10,000 acres http://cain.ice.ucdavis.edu/calwater/calwfaq.html, http://gis.ca.gov/catalog/BrowseRecord.epl?id=22175 .

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XIII. POST-CONSTRUCTION STANDARDS

A. All dischargers shall comply with the following runoff reduction requirements unless they are located within an area subject to post-construction standards of an active Phase I or II municipal separate storm sewer system (MS4) permit that has an approved Storm Water Management Plan.

1. This provision shall take effect three years from the adoption date of this permit, or later at the discretion of the Executive Officer of the Regional Board.

2. The discharger shall demonstrate compliance with the requirements of this section by submitting with their NOI a map and worksheets in accordance with the instructions in Appendix 2. The discharger shall use non-structural controls unless the discharger demonstrates that non-structural controls are infeasible or that structural controls will produce greater reduction in water quality impacts.

3. The discharger shall, through the use of non-structural and structural measures as described in Appendix 2, replicate the pre-project water balance (for this permit, defined as the volume of rainfall that ends up as runoff) for the smallest storms up to the 85th percentile storm event (or the smallest storm event that generates runoff, whichever is larger). Dischargers shall inform Regional Water Board staff at least 30 days prior to the use of any structural control measure used to comply with this requirement. Volume that cannot be addressed using non-structural practices shall be captured in structural practices and approved by the Regional Water Board. When seeking Regional Board approval for the use of structural practices, dischargers shall document the infeasibility of using non-structural practices on the project site, or document that there will be fewer water quality impacts through the use of structural practices.

4. For sites whose disturbed area exceeds two acres, the discharger shall preserve the pre-construction drainage density (miles of stream length per square mile of drainage area) for all drainage areas within the area serving a first order stream[14] or larger stream and ensure that post-project time of runoff concentration is equal or greater than pre-project time of concentration.

[14] A first order stream is defined as a stream with no tributaries.

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B. All dischargers shall implement BMPs to reduce pollutants in storm water discharges that are reasonably foreseeable after all construction phases have been completed at the site (Post-construction BMPs).

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XIV. SWPPP REQUIREMENTS

A. The discharger shall ensure that the Storm Water Pollution Prevention Plans (SWPPPs) for all traditional project sites are developed and amended or revised by a QSD. The SWPPP shall be designed to address the following objectives:

1. All pollutants and their sources, including sources of sediment associated with construction, construction site erosion and all other activities associated with construction activity are controlled;

2. Where not otherwise required to be under a Regional Water Board permit, all non-storm water discharges are identified and either eliminated, controlled, or treated;

3. Site BMPs are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from construction activity to the BAT/BCT standard;

4. Calculations and design details as well as BMP controls for site run-on are complete and correct, and

5. Stabilization BMPs installed to reduce or eliminate pollutants after construction are completed.

B. To demonstrate compliance with requirements of this General Permit, the QSD shall include information in the SWPPP that supports the conclusions, selections, use, and maintenance of BMPs.

C. The discharger shall make the SWPPP available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, current copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

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XV. REGIONAL WATER BOARD AUTHORITIES

A. In the case where the Regional Water Board does not agree with the discharger's self-reported risk level (e.g., they determine themselves to be a Level 1 Risk when they are actually a Level 2 Risk site), Regional Water Boards may either direct the discharger to reevaluate the Risk Level(s) for their site or terminate coverage under this General Permit.

B. Regional Water Boards may terminate coverage under this General Permit for dischargers who fail to comply with its requirements or where they determine that an individual NPDES permit is appropriate.

C. Regional Water Boards may require dischargers to submit a Report of Waste Discharge / NPDES permit application for Regional Water Board consideration of individual requirements.

D. Regional Water Boards may require additional Monitoring and Reporting Program Requirements, including sampling and analysis of discharges to sediment-impaired water bodies.

E. Regional Water Boards may require dischargers to retain records for more than the three years required by this General Permit.

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XVI. ANNUAL REPORTING REQUIREMENTS

A. All dischargers shall prepare and electronically submit an Annual Report no later than September 1 of each year.

B. The discharger shall certify each Annual Report in accordance with the Special Provisions.

C. The discharger shall retain an electronic or paper copy of each Annual Report for a minimum of three years after the date the annual report is filed.

D. The discharger shall include storm water monitoring information in the Annual Report consisting of:

1. a summary and evaluation of all sampling and analysis results, including copies of laboratory reports;
2. the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit");
3. a summary of all corrective actions taken during the compliance year;
4. identification of any compliance activities or corrective actions that were not implemented;
5. a summary of all violations of the General Permit;
6. the names of individual(s) who performed the facility inspections, sampling, visual observation (inspections), and/or measurements;
7. the date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation (rain gauge); and
8. the visual observation and sample collection exception records and reports specified in Attachments C, D, and E.

E. The discharger shall provide training information in the Annual Report consisting of:

1. documentation of all training for individuals responsible for all activities associated with compliance with this General Permit;

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2. documentation of all training for individuals responsible for BMP installation, inspection, maintenance, and repair; and

3. documentation of all training for individuals responsible for overseeing, revising, and amending the SWPPP.

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ATTACHMENT A
Linear Underground/ Overhead Requirements

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All Linear Underground/Overhead project dischargers who submit permit registration documents (PRDs) indicating their intention to be regulated under the provisions of this General Permit shall comply with the following:

A. DEFINITION OF LINEAR UNDERGROUND/OVERHEAD PROJECTS

1. Linear Underground/Overhead Projects (LUPs) include, but are not limited to, any conveyance, pipe, or pipeline for the transportation of any gaseous, liquid (including water and wastewater for domestic municipal services), liquiescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio, or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to, (a) those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment, and associated ancillary facilities); and include, but are not limited to, (b) underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/tower pad and cable/wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/ or pavement repair or replacement, and stockpile/borrow locations.

2. LUP evaluation shall consist of two tasks:

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a. Confirm that the project or project section(s) qualifies as an LUP. The State Water Board website contains a project determination guidance flowchart. http://www.waterboards.ca.gov/water_issues/programs/stormwater/constpermits.shtml

b. Identify which Type(s) (1, 2 or 3 described in Section I below) are applicable to the project or project sections based on project sediment and receiving water risk. (See Attachment A.1)

3. A Legally Responsible Person (LRP) for a Linear Underground/Overhead project is required to obtain CGP coverage under one or more permit registration document (PRD) electronic submittals to the State Water Board's Storm Water Multi-Application and Report Tracking (SMARTs) system. Attachment A.1 contains a flow chart to be used when determining if a linear project qualifies for coverage and to determine LUP Types. Since a LUP may be constructed within both developed and undeveloped locations and portions of LUPs may be constructed by different contractors, LUPs may be broken into logical permit sections. Sections may be determined based on portions of a project conducted by one contractor. Other situations may also occur, such as the time period in which the sections of a project will be constructed (e.g. project phases), for which separate permit coverage is possible. For projects that are broken into separate sections, a description of how each section relates to the overall project and the definition of the boundaries between sections shall be clearly stated.

4. Where construction activities transverse or enter into different Regional Water Board jurisdictions, LRPs shall obtain permit coverage for each Regional Water Board area involved prior to the commencement of construction activities.

5. Small Construction Rainfall Erosivity Waiver

   EPA's Small Construction Erosivity Waiver applies to sites between one and five acres demonstrating that there are no adverse water quality impacts.

   Dischargers eligible for a Rainfall Erosivity Waiver based on low erosivity potential shall complete the electronic Notice of Intent (NOI) and Sediment Risk form through the State Water Board's SMARTS system, certifying that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five. Where the LRP changes or another LRP is added during construction, the new LRP must also submit a waiver certification through the SMARTS system.

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If a small linear construction site continues beyond the projected completion date given on the waiver certification, the LRP shall recalculate the rainfall erosivity factor for the new project duration and submit this information through the SMARTS system. If the new R factor is below five (5), the discharger shall update through SMARTS all applicable information on the waiver certification and retain a copy of the revised waiver onsite. The LRP shall submit the new waiver certification 30 days prior to the projected completion date listed on the original waiver form to assure exemption from permitting requirements is uninterrupted. If the new R factor is five (5) or above, the LRP shall be required to apply for coverage under this Order.

B. LINEAR PROJECT PERMIT REGISTRATION DOCUMENTS (PRDs)

Any information provided to the Regional Water Board shall comply with the Homeland Security Act and any other federal law that concerns security in the United States; any information that does not comply should not be submitted. PRDs shall consist of the following:

1. Notice of Intent (NOI)

Prior to construction activities, the LRP of a proposed linear underground/overhead project shall utilize the processes and methods provided in Attachment A.2, Permit Registration Documents (PRDs) – General Instructions for Linear Underground/Overhead Projects to comply with the Construction General Permit.

2. Site Maps

LRPs submitting PRDs shall include at least 3 maps. The first map will be a zoomed[1] 1000-1500 ft vicinity map that shows the starting point of the project. The second will be a zoomed map of 1000-1500 ft showing the ending location of the project. The third will be a larger view vicinity map, 1000 ft to 2000 ft, displaying the entire project location depending on the project size, and indicating the LUP type (1, 2 or 3) areas within the total project footprint.

3. Drawings

LRPs submitting PRDs shall include a construction drawing(s) or other appropriate drawing(s) or map(s) that shows the locations of storm drain

[1] An image with a close-up/enhanced detailed view of site features that show minute details such as streets and neighboring structures.
Or: An image with a close-up/enhanced detailed view of the site's surrounding infrastructure.
Or: An image with a close up detailed view of the project and its surroundings.

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inlets and waterbodies[2] that may receive discharges from the construction activities and that shows the locations of BMPs to be installed for all those BMPs that can be illustrated on the revisable drawing(s) or map(s). If storm drain inlets, waterbodies, and/or BMPs cannot be adequately shown on the drawing(s) or map(s) they should be described in detail within the SWPPP.

4. **Storm Water Pollution Prevention Plan (SWPPP)**

   LUP dischargers shall comply with the SWPPP Preparation, Implementation, and Oversight requirements in Section K of this Attachment.

5. **Contact information**

   LUP dischargers shall include contact information for all contractors (or subcontractors) responsible for each area of an LUP project. This should include the names, telephone numbers, and addresses of contact personnel. Specific areas of responsibility of each contact, and emergency contact numbers should also be included.

6. In the case of a public emergency that requires immediate construction activities, a discharger shall submit a brief description of the emergency construction activity within five days of the onset of construction, and then shall submit all PRDs within thirty days.

C. LINEAR PROJECT TERMINATION OF COVERAGE REQUIREMENTS

The LRP may terminate coverage of an LUP when construction activities are completed by submitting an electronic notice of termination (NOT) through the State Water Board's SMARTS system. Termination requirements are different depending on the complexity of the LUP. An LUP is considered complete when: (a) there is no potential for construction-related storm water pollution; (b) all elements of the SWPPP have been completed; (c) construction materials and waste have been disposed of properly; (d) the site is in compliance with all local storm water management requirements; and (e) the LRP submits a notice of termination (NOT) and has received approval for termination from the appropriate Regional Water Board office.

1. LUP Stabilization Requirements

The LUP discharger shall ensure that all disturbed areas of the construction site are stabilized prior to termination of coverage under this General Permit. Final stabilization for the purposes of submitting an NOT

[2] Includes basin(s) that the MS4 storm sewer systems may drain to for Hydromodification or Hydrological Conditional of Concerns under the MS4 permits.

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is satisfied when all soil disturbing activities are completed and one of the following criteria is met:

a. In disturbed areas that were vegetated prior to construction activities of the LUP, the area disturbed must be re-established to a uniform vegetative cover equivalent to 70 percent coverage of the preconstruction vegetative conditions. Where preconstruction vegetation covers less than 100 percent of the surface, such as in arid areas, the 70 percent coverage criteria is adjusted as follows: if the preconstruction vegetation covers 50 percent of the ground surface, 70 percent of 50 percent (.70 X .50=.35) would require 35 percent total uniform surface coverage; or

b. Where no vegetation is present prior to construction, the site is returned to its original line and grade and/or compacted to achieve stabilization; or

c. Equiva lent stabilization measures have been employed. These measures include, but are not limited to, the use of such BMPs as blankets, reinforced channel liners, soil cement, fiber matrices, geotextiles, or other erosion resistant soil coverings or treatments.

2. LUP Termination of Coverage Requirements

The LRP shall file an NOT through the State Water Board's SMARTS system. By submitting an NOT, the LRP is certifying that construction activities for an LUP are complete and that the project is in full compliance with requirements of this General Permit and that it is now compliant with soil stabilization requirements where appropriate. Upon approval by the appropriate Regional Water Board office, permit coverage will be terminated.

3. Revising Coverage for Change of Acreage

When the LRP of a portion of an LUP construction project changes, or when a phase within a multi-phase project is completed, the LRP may reduce the total acreage covered by this General Permit. In reducing the acreage covered by this General Permit, the LRP shall electronically file revisions to the PRDs that include:

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a. a revised NOI indicating the new project size;

b. a revised site map showing the acreage of the project completed, acreage currently under construction, acreage sold, transferred or added, and acreage currently stabilized.

c. SWPPP revisions, as appropriate; and

d. certification that any new LRPs have been notified of applicable requirements to obtain General Permit coverage. The certification shall include the name, address, telephone number, and e-mail address (if known) of the new LRP.

If the project acreage has increased, dischargers shall mail payment of revised annual fees within 14 days of receiving the revised annual fee notification.

D. DISCHARGE PROHIBITIONS

1. LUP dischargers shall not violate any discharge prohibitions contained in applicable Basin Plans or statewide water quality control plans. Waste discharges to Areas of Special Biological Significance (ASBS) are prohibited by the California Ocean Plan, unless granted an exception issued by the State Water Board.

2. LUP dischargers are prohibited from discharging non-storm water that is not otherwise authorized by this General Permit. Non-storm water discharges authorized by this General Permit[3] may include, fire hydrant flushing, irrigation of vegetative erosion control measures, pipe flushing and testing, water to control dust, street cleaning, dewatering,[4] uncontaminated groundwater from dewatering, and other discharges not subject to a separate general NPDES permit adopted by a Regional Water Board. Such discharges are allowed by this General Permit provided they are not relied upon to clean up failed or inadequate construction or post-construction BMPs designed to keep materials on site. These authorized non-storm water discharges:

[3] Dischargers must identify all authorized non-storm water discharges in the LUP's SWPPP and identify BMPs that will be implemented to either eliminate or reduce pollutants in non-storm water discharges. Regional Water Boards may direct the discharger to discontinue discharging such non-storm water discharges if determined that such discharges discharge significant pollutants or threaten water quality.
[4] Dewatering activities may be prohibited or need coverage under a separate permit issued by the Regional Water Boards. Dischargers shall check with the appropriate Regional Water Boards for any required permit or basin plan conditions prior to initial dewatering activities to land, storm drains, or waterbodies.

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a. Shall not cause or contribute to a violation of any water quality standard;

b. Shall not violate any other provision of this General Permit;

c. Shall not violate any applicable Basin Plan;

d. Shall comply with BMPs as described in the SWPPP;

e. Shall not contain toxic constituents in toxic amounts or (other) significant quantities of pollutants;

f. Shall be monitored and meets the applicable NALs and NELs; and

g. Shall be reported by the discharger in the Annual Report.

If any of the above conditions are not satisfied, the discharge is not authorized by this General Permit. The discharger shall notify the Regional Water Board of any anticipated non-storm water discharges not authorized by this General Permit to determine the need for a separate NPDES permit.

Additionally, some LUP dischargers may be required to obtain a separate permit if the applicable Regional Water Board has adopted a General Permit for dewatering discharges. Wherever feasible, alternatives, that do not result in the discharge of non-storm water, shall be implemented in accordance with this Attachment's Section K.2 - SWPPP Implementation Schedule.

3. LUP dischargers shall ensure that trench spoils or any other soils disturbed during construction activities that are contaminated[5] are not discharged with storm water or non-storm water discharges into any storm drain or water body except pursuant to an NPDES permit.

When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the LUP discharger shall have those soils sampled and tested to ensure that proper handling and public safety measures are

[5] Contaminated soil contains pollutants in concentrations that exceed the appropriate thresholds that various regulatory agencies set for those substances. Preliminary testing of potentially contaminated soils will be based on odor, soil discoloration, or prior history of the site's chemical use and storage and other similar factors. When soil contamination is found or suspected and a responsible party is not identified, or the responsible party fails to promptly take the appropriate action, the discharger shall have those soils sampled and tested to ensure proper handling and public safety measures are implemented. The legally responsible person will notify the appropriate local, State, or federal agency(ies) when contaminated soil is found at a construction site, and will notify the Regional Water Board by submitting an NOT at the completion of the project.

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implemented. The LUP discharger shall notify the appropriate local, State, and federal agency(ies) when contaminated soil is found at a construction site, and will notify the appropriate Regional Water Board.

4. Discharging any pollutant-laden water that will cause or contribute to an exceedance of the applicable Regional Water Board's Basin Plan from a dewatering site or sediment basin into any receiving water or storm drain is prohibited.

5. Debris[6] resulting from construction activities are prohibited from being discharged from construction project sites.

E. SPECIAL PROVISIONS

1. Duty to Comply

a. The LUP discharger must comply with all of the conditions of this General Permit. Any permit noncompliance constitutes a violation of the Clean Water Act (CWA) and the Porter-Cologne Water Quality Control Act and is grounds for enforcement action and/or removal from General Permit coverage.

b. The LUP discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish these standards or prohibitions, even if this General Permit has not yet been modified to incorporate the requirement.

2. General Permit Actions

a. This General Permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a General Permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not annul any General Permit condition.

[6] Litter, rubble, discarded refuse, and remains of something destroyed.

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b. If any toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under Section 307(a) of the CWA for a toxic pollutant which is present in the discharge and that standard or prohibition is more stringent than any limitation on the pollutant in this General Permit, this General Permit shall be modified or revoked and reissued to conform to the toxic effluent standard or prohibition and the dischargers so notified.

3. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for an LUP discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this General Permit.

4. Duty to Mitigate

The LUP discharger shall take all responsible steps to minimize or prevent any discharge in violation of this General Permit, which has a reasonable likelihood of adversely affecting human health or the environment.

5. Proper Operation and Maintenance

The LUP discharger shall at all times properly operate and maintain any facilities and systems of treatment and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with the conditions of this General Permit and with the requirements of the Storm Water Pollution Prevention Plan (SWPPP). Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance may require the operation of backup or auxiliary facilities or similar systems installed by a discharger when necessary to achieve compliance with the conditions of this General Permit.

6. Property Rights

This General Permit does not convey any property rights of any sort or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor does it authorize any infringement of Federal, State, or local laws or regulations.

7. Duty to Maintain Records and Provide Information

a. The LUP discharger shall maintain a paper or electronic copy of all required records, including a copy of this General Permit, for three years from the date generated or date submitted, whichever is last. These records shall be kept at the construction site or in a crew

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member's vehicle until construction is completed, and shall be made available upon request.

b. The LUP discharger shall furnish the Regional Water Board, State Water Board, or USEPA, within a reasonable time, any requested information to determine compliance with this General Permit. The LUP discharger shall also furnish, upon request, copies of records that are required to be kept by this General Permit.

8. Inspection and Entry

The LUP discharger shall allow the Regional Water Board, State Water Board, USEPA, and/or, in the case of construction sites which discharge through a municipal separate storm sewer, an authorized representative of the municipal operator of the separate storm sewer system receiving the discharge, upon the presentation of credentials and other documents as may be required by law, to:

a. Enter upon the discharger's premises at reasonable times where a regulated construction activity is being conducted or where records must be kept under the conditions of this General Permit;

b. Access and copy at reasonable times any records that must be kept under the conditions of this General Permit;

c. Inspect at reasonable times the complete construction site, including any off-site staging areas or material storage areas, and the erosion/sediment controls; and

d. Sample or monitor at reasonable times for the purpose of ensuring General Permit compliance.

9. Electronic Signature and Certification Requirements

a. All Permit Registration Documents (PRDs) and Notices of Termination (NOTs) shall be electronically signed, certified, and submitted via SMARTS to the State Water Board. Either the Legally Responsible Person (LRP) or a person legally authorized to sign and certify PRDs and NOTs on behalf of the LRP (the LRP's Approved Signatory) must submit all information electronically via SMARTS. For Linear Underground/Overhead projects, the Legally Responsible Person is the person in charge of the utility company, municipality, or other public or private company or agency that owns or operates the LUP. The LRP's Approved Signatory must be one of the following:

i For a corporation: a responsible corporate officer. For the purpose of this section, a responsible corporate officer means:

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(1) a president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision-making functions for the corporation; or

(2) the manager of the facility if authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures;

ii For a partnership or sole proprietorship: a general partner or the proprietor, respectively; or

iii For a municipality, State, Federal, or other public agency: either a principal executive officer or ranking elected official. The principal executive officer of a Federal agency includes the chief executive officer of the agency or the senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of U.S. EPA).

b. Changes to Authorization. If an approved signatory's authorization is no longer accurate, a new authorization satisfying the requirements of paragraph (a) of this section must be submitted via SMARTS prior to or together with any reports, information or applications to be signed by an approved signatory.

c. All SWPPP revisions, annual reports, or other information required by the General Permit (other than PRDs and NOTs) or requested by the Regional Water Board, State Water Board, USEPA, or local storm water management agency shall be certified and submitted by the LRP or the LRP's approved signatory as described above.

10. Certification

Any person signing documents under Section E.9 above, shall make the following certification:

"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, to the best of my knowledge and belief, the information submitted is, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

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11. Anticipated Noncompliance

The LUP discharger shall give advance notice to the Regional Water Board and local storm water management agency of any planned changes in the construction activity, which may result in noncompliance with General Permit requirements.

12. Penalties for Falsification of Reports

Section 309(c)(4) of the CWA provides that any person who knowingly makes any false material statement, representation, or certification in any record or other document submitted or required to be maintained under this General Permit, including reports of compliance or noncompliance shall upon conviction, be punished by a fine of not more than $10,000 or by imprisonment for not more than two years or by both.

13. Oil and Hazardous Substance Liability

Nothing in this General Permit shall be construed to preclude the institution of any legal action or relieve the discharger from any responsibilities, liabilities, or penalties to which the LUP discharger is or may be subject to under Section 311 of the CWA.

14. Severability

The provisions of this General Permit are severable; and, if any provision of this General Permit or the application of any provision of this General Permit to any circumstance is held invalid, the application of such provision to other circumstances and the remainder of this General Permit shall not be affected thereby.

15. Reopener Clause

This General Permit may be modified, revoked and reissued, or terminated for cause due to promulgation of amended regulations, receipt of USEPA guidance concerning regulated activities, judicial decision, or in accordance with 40 Code of Federal Regulations (CFR) 122.62, 122.63, 122.64, and 124.5.

16. Penalties for Violations of Permit Conditions

a. Section 309 of the CWA provides significant penalties for any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the CWA or any permit condition or limitation implementing any such section in a permit issued under Section 402. Any person who violates any permit condition of this General Permit is

subject to a civil penalty not to exceed $37,500[7] per calendar day of such violation, as well as any other appropriate sanction provided by Section 309 of the CWA.

b. The Porter-Cologne Water Quality Control Act also provides for civil and criminal penalties, which in some cases are greater than those under the CWA.

17. Transfers

This General Permit is not transferable. A new LRP of an ongoing construction activity must submit PRDs in accordance with the requirements of this General Permit to be authorized to discharge under this General Permit. An LRP who is a property owner with active General Permit coverage who sells a fraction or all the land shall inform the new property owner(s) of the requirements of this General Permit.

18. Continuation of Expired Permit

This General Permit continues in force and effect until a new General Permit is issued or the SWRCB rescinds this General Permit. Only those dischargers authorized to discharge under the expiring General Permit are covered by the continued General Permit.

F. EFFLUENT STANDARDS

1. Narrative Effluent Limitations

a. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges regulated by this General Permit do not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

b. LUP dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of structural or non-structural controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

[7] May be further adjusted in accordance with the Federal Civil Penalties Inflation Adjustment Act

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2. Numeric Effluent Limitations (NELs)

Table 1. Numeric Effluent Limitations, Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level	Numeric Effluent Limitation
pH	Field test with calibrated portable instrument	LUP Type 2	0.2	pH units	lower NAL = 6.5 upper NAL = 8.5	N/A
		LUP Type 3			lower NAL = 6.5 upper NAL = 8.5	lower NEL = 6.0 upper NEL = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	LUP Type 2	1 NTU		250 NTU	N/A
		LUP Type 3			250 NTU	500 NTU

a. Numeric Effluent Limitations (NELs):

i **Storm Event, Daily Average pH Limits** – For LUP Type 3 dischargers, the daily average pH of storm water and non-storm water discharges shall be within the ranges specified in Table 1 during any project phase where there is a "high risk of pH discharge."[8]

ii **Storm Event Daily Average Turbidity Limit** – For LUP Type 3 dischargers, the daily average turbidity of storm water and non-storm water discharges shall not exceed 500 NTU.

[8] A period of high risk of pH discharge is defined as a project's complete utilities phase, complete vertical build phase, and any portion of any phase where significant amounts of materials are placed directly on the land at the site in a manner that could result in significant alterations of the background pH of the discharges.

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b. If a daily average sample result is outside the range of pH NELs (i.e., is below the lower NEL for pH or exceeds the upper NEL for pH) or exceeds the turbidity NEL (as listed in Table 1), the discharger is in violation of this General Permit and shall electronically file the results in violation within 5 business days of obtaining the results.

c. Compliance Storm Event:

Discharges of storm water from LUP Type 3 sites shall comply with applicable NELs (above) unless the storm event causing the discharges is determined after the fact to be equal to or larger than the Compliance Storm Event (expressed in inches of rainfall). The Compliance Storm Event for LUP Type 3 discharges is the 5-year, 24-hour storm (expressed in tenths of an inch of rainfall), as determined by using these maps:

http://www.wrcc.dri.edu/pcpnfreq/nca5y24.gif
http://www.wrcc.dri.edu/pcpnfreq/sca5y24.gif

Compliance storm event verification shall be done by reporting on-site rain gauge readings as well as nearby governmental rain gauge readings.

d. Dischargers shall not be required to comply with NELs if the site receives run-on from a forest fire or any other natural disaster.

3. Numeric Action Levels (NALs)

a. For LUP Type 2 and 3 dischargers, the lower storm event daily average NAL for pH is 6.5 pH units and the upper storm event daily average NAL for pH is 8.5 pH units. The LUP discharger shall take actions as described below if the storm event daily average discharge is outside of this range of pH values.

b. For LUP Type 2 and 3 dischargers, the storm event daily average NAL for turbidity is 250 NTU. The discharger shall take actions as described below if the storm event daily average discharge is outside of this range of turbidity values.

c. Whenever daily average analytical effluent monitoring results indicate that the discharge is below the lower NAL for pH, exceeds the upper NAL for pH, or exceeds the turbidity NAL (as listed in Table 1), the LUP discharger shall conduct a construction site and run-on evaluation to determine whether pollutant source(s) associated with the site's construction activity may have caused or contributed to the NAL

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exceedance and shall immediately implement corrective actions if they are needed.

d. The site evaluation will be documented in the SWPPP and specifically address whether the source(s) of the pollutants causing the exceedance of the NAL:

i Are related to the construction activities and whether additional BMPs or SWPPP implementation measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) determine what corrective action(s) were taken or will be taken and with a description of the schedule for completion.

AND/OR:

ii Are related to the run-on associated with the construction site location and whether additional BMPs or SWPPP implementation measures are required to (1) meet BAT/BCT requirements; (2) reduce or prevent pollutants in storm water discharges from causing exceedances of receiving water objectives; and (3) decide what corrective action(s) were taken or will be taken, including a description of the schedule for completion.

G. RECEIVING WATER LIMITATIONS

1. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges to any surface or ground water will not adversely affect human health or the environment.

2. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants in quantities that threaten to cause pollution or a public nuisance.

3. LUP dischargers shall ensure that storm water discharges and authorized non-storm water discharges will not contain pollutants that cause or contribute to an exceedance of any applicable water quality objectives or water quality standards (collectively, WQS) contained in a Statewide Water Quality Control Plan, the California Toxics Rule, the National Toxics Rule, or the applicable Regional Water Board's Water Quality Control Plan (Basin Plan).

H. TRAINING QUALIFICATIONS

1. General

All persons responsible for implementing requirements of this General Permit shall be appropriately trained. Training should be both formal and informal, occur on an ongoing basis, and should include training offered by recognized governmental agencies or professional organizations. Persons responsible for preparing, amending and certifying SWPPPs shall comply with the requirements in this Section H.

2. SWPPP Certification Requirements

a. **Qualified SWPPP Developer:** The LUP discharger shall ensure that all SWPPPs be written, amended and certified by a Qualified SWPPP Developer (QSD). A QSD shall have one of the following registrations or certifications, and appropriate experience, as required for:

i A California registered professional civil engineer;

ii A California registered professional geologist or engineering geologist;

iii A California registered landscape architect;

iv A professional hydrologist registered through the American Institute of Hydrology;

v A certified professional in erosion and sediment control (CPESC) ™ registered through Enviro Cert International, Inc;

vi A certified professional in storm water quality (CPSWQ)™ registered through Enviro Cert International, Inc.; or

vii A certified professional in erosion and sediment control registered through the National Institute for Certification in Engineering Technologies (NICET).

Effective two years after the adoption date of this General Permit, a QSD shall have attended a State Water Board-sponsored or approved QSD training course.

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b. The LUP discharger shall ensure that the SWPPP is written and amended, as needed, to address the specific circumstances for each construction site covered by this General Permit prior to commencement of construction activity for any stage.

c. The LUP discharger shall list the name and telephone number of the currently designated Qualified SWPPP Developer(s) in the SWPPP.

d. **Qualified SWPPP Practitioner:** The LUP discharger shall ensure that all elements of any SWPPP for each project will be implemented by a Qualified SWPPP Practitioner (QSP). A QSP is a person responsible for non-storm water and storm water visual observations, sampling and analysis, and for ensuring full compliance with the permit and implementation of all elements of the SWPPP. Effective two years from the date of adoption of this General Permit, a QSP shall be either a QSD or have one of the following certifications:

   i A certified erosion, sediment and storm water inspector registered through Certified Professional in Erosion and Sediment Control, Inc.; or

   ii A certified inspector of sediment and erosion control registered through Certified Inspector of Sediment and Erosion Control, Inc.

   Effective two years after the adoption date of this General Permit, a QSP shall have attended a State Water Board-sponsored or approved QSP training course.

e. The LUP discharger shall ensure that the SWPPP include a list of names of all contractors, subcontractors, and individuals who will be directed by the Qualified SWPPP Practitioner, and who is ultimately responsible for implementation of the SWPPP. This list shall include telephone numbers and work addresses. Specific areas of responsibility of each subcontractor and emergency contact numbers shall also be included.

f. The LUP discharger shall ensure that the SWPPP and each amendment be signed by the Qualified SWPPP Developer. The LUP discharger shall include a listing of the date of initial preparation and the dates of each amendment in the SWPPP.

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I. TYPES OF LINEAR PROJECTS

This attachment establishes three types (Type 1, 2 & 3) of complexity for areas within an LUP or project section based on threat to water quality. Project area Types are determined through Attachment A.1.

The Type 1 requirements below establish the baseline requirements for all LUPs subject to this General Permit. Additional requirements for Type 2 and Type 3 LUPs are labeled.

1. Type 1 LUPs:

LUP dischargers with areas of a LUP designated as Type 1 shall comply with the requirements in this Attachment. Type 1 LUPs are:

a. Those construction areas where 70 percent or more of the construction activity occurs on a paved surface and where areas disturbed during construction will be returned to preconstruction conditions or equivalent protection established at the end of the construction activities for the day; or

b. Where greater than 30 percent of construction activities occur within the non-paved shoulders or land immediately adjacent to paved surfaces, or where construction occurs on unpaved improved roads, including their shoulders or land immediately adjacent to them where:

   i Areas disturbed during construction will be returned to preconstruction conditions or equivalent protection is established at the end of the construction activities for the day to minimize the potential for erosion and sediment deposition, and

   ii Areas where established vegetation was disturbed during construction will be stabilized and re-vegetated by the end of project. When required, adequate temporary stabilization BMPs will be installed and maintained until vegetation is established to meet minimum cover requirements established in this General Permit for final stabilization.

c. Where the risk determination is as follows:

   i Low sediment risk, low receiving water risk, or

   ii Low sediment risk, medium receiving water risk, or

   iii Medium sediment risk, low receiving water risk

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2. **Type 2 LUPs**:

   Type 2 LUPs are determined by the Combined Risk Matrix in Attachment A.1. Type 2 LUPs have the specified combination of risk:

   d. High sediment risk, low receiving water risk, or

   e. Medium sediment risk, medium receiving water risk, or

   f. Low sediment risk, high receiving water risk

   Receiving water risk is either considered "Low" for those areas of the project that are not in close proximity to a sensitive receiving watershed, "Medium" for those areas of the project within a sensitive receiving watershed yet outside of the flood plain of a sensitive receiving water body, and "High" where the soil disturbance is within close proximity to a sensitive receiving water body. Project sediment risk is calculated based on the Risk Factor Worksheet in Attachment C of this General Permit.

3. **Type 3 LUPs:**

   Type 3 LUPs are determined by the Combined Risk Matrix in Attachment A.1. Type 3 LUPs have the specified combination of risk:

   a. High sediment risk, high receiving water risk, or

   b. High sediment risk, medium receiving water risk, or

   c. Medium sediment risk, high receiving water risk

   Receiving water risk is either considered "Medium" for those areas of the project within a sensitive receiving watershed yet outside of the flood plain of a sensitive receiving water body, or "High" where the soil disturbance is within close proximity to a sensitive receiving water body. Project sediment risk is calculated based on the Risk Factor Worksheet in Attachment C.

J. LUP TYPE-SPECIFIC REQUIREMENTS

1. Effluent Standards

a. Narrative – LUP dischargers shall comply with the narrative effluent standards below.

i Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

ii LUP dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

b. Numeric – LUP Type 1 dischargers are not subject to a numeric effluent standard

c. Numeric –LUP Type 2 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

d. Numeric – LUP Type 3 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU. In addition, LUP Type 3 dischargers are subject to a pH NEL of 6.0-9.0 and a turbidity NEL of 500 NTU.

2. Good Site Management "Housekeeping"

a. LUP dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, the good housekeeping measures shall consist of the following:

i Identify the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

ii Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

iii Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

iv Minimize exposure of construction materials to precipitation (not applicable to materials designed to be outdoors and exposed to the environment).

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v Implement BMPs to control the off-site tracking of loose construction and landscape materials.

b. LUP dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

i Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

ii Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

iii Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

iv Cover waste disposal containers at the end of every business day and during a rain event.

v Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

vi Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.

vii Implement procedures that effectively address hazardous and non-hazardous spills.

viii Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:

(1) Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

(2) Appropriate spill response personnel are assigned and trained.

ix Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

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c. LUP dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

i Prevent oil, grease, or fuel from leaking into the ground, storm drains or surface waters.

ii Implement appropriate BMPs whenever equipment or vehicles are fueled, maintained or stored.

iii Clean leaks immediately and disposing of leaked materials properly.

d. LUP dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

i Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

ii Contain fertilizers and other landscape materials when they are not actively being used.

iii Discontinue the application of any erodible landscape material at least 2 days before a forecasted rain event[9] or during periods of precipitation.

iv Applying erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

v Stacking erodible landscape material on pallets and covering or storing such materials when not being used or applied.

e. LUP dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, LUP dischargers shall do the following:

[9] 50% or greater chance of producing precipitation.

i Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

ii Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

iii Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

iv Ensure retention of sampling, visual observation, and inspection records.

v Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

f. LUP dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations.

3. Non-Storm Water Management

a. LUP dischargers shall implement measures to control all non-storm water discharges during construction.

b. LUP dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

c. LUP dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

4. Erosion Control

a. LUP dischargers shall implement effective wind erosion control.

b. LUP dischargers shall provide effective soil cover for inactive[10] areas and all finished slopes, and utility backfill.

[10] Areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days

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c. LUP dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

5. Sediment Controls

a. LUP dischargers shall establish and maintain effective perimeter controls as needed, and implement effective BMPs for all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

b. On sites where sediment basins are to be used, LUP dischargers shall, at minimum, design sediment basins according to the guidance provided in CASQA's Construction BMP Handbook.

c. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths[11] in accordance with Table 2 below.

Table 2 – Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25% 20	feet
25-50% 15	feet
Over 50%	10 feet

d. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent off-site tracking of sediment.

e. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.

f. **Additional LUP Type 2 & 3 Requirement:** LUP Type 2 & 3 dischargers shall inspect all immediate access roads. At a minimum daily and prior to any rain event, the discharger shall remove any

[11] Sheet flow length is the length that shallow, low velocity flow travels across a site.

sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

g. **Additional LUP Type 3 Requirement:** The Regional Water Board may require LUP Type 3 dischargers to implement additional site-specific sediment control requirements if the implementation of the other requirements in this section are not adequately protecting the receiving waters.

6. Run-on and Run-off Controls

a. LUP dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site-shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this Attachment.

b. Run-on and runoff controls are not required for Type 1 LUPs unless the evaluation of quantity and quality of run-on and runoff deems them necessary or visual inspections show that the site requires such controls.

7. Inspection, Maintenance and Repair

a. All inspection, maintenance repair and sampling activities at the discharger's LUP location shall be performed or supervised by a QSP representing the discharger. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment.

b. LUP dischargers shall conduct visual inspections and observations daily during working hours (not recorded). At least once each 24-hour period during extended storm events, **LUP Type 2 & 3 dischargers** shall conduct visual inspections to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

c. Upon identifying failures or other shortcomings, as directed by the QSP, LUP dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

d. For each pre- and post-rain event inspection required, LUP dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format that includes the information described below.

e. The LUP discharger shall ensure that the checklist remains on-site or with the SWPPP. At a minimum, an inspection checklist should include:

i Inspection date and date the inspection report was written.

ii Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

iii Site information, including stage of construction, activities completed, and approximate area of the site exposed.

iv A description of any BMPs evaluated and any deficiencies noted.

v If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

vi Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

vii Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

viii Photographs taken during the inspection, if any.

ix Inspector's name, title, and signature.

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K. STORM WATER POLLUTION PREVENTION PLAN (SWPPP) REQUIREMENTS

1. Objectives

SWPPPs for all LUPs shall be developed and amended or revised by a QSD. The SWPPP shall be designed to address the following objectives:

a. All pollutants and their sources, including sources of sediment, associated with construction activities associated with LUP activity are controlled;

b. All non-storm water discharges are identified and either eliminated, controlled, or treated;

c. BMPs are effective and result in the reduction or elimination of pollutants in storm water discharges and authorized non-storm water discharges from LUPs during construction; and

d. Stabilization BMPs installed to reduce or eliminate pollutants after construction is completed are effective and maintained.

2. SWPPP Implementation Schedule

a. LUPs for which PRDs have been submitted to the State Water Board shall develop a site/project location SWPPP prior to the start of land-disturbing activity in accordance with this Section and shall implement the SWPPP concurrently with commencement of soil-disturbing activities.

b. For an ongoing LUP involving a change in the LRP, the new LRP shall review the existing SWPPP and amend it, if necessary, or develop a new SWPPP within 15 calendar days to conform to the requirements set forth in this General Permit.

3. Availability

The SWPPP shall be available at the construction site during working hours while construction is occurring and shall be made available upon request by a State or Municipal inspector. When the original SWPPP is retained by a crewmember in a construction vehicle and is not currently at the construction site, copies of the BMPs and map/drawing will be left with the field crew and the original SWPPP shall be made available via a request by radio/telephone.

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L. REGIONAL WATER BOARD AUTHORITIES

1. Regional Water Boards shall administer the provisions of this General Permit. Administration of this General Permit may include, but is not limited to, requesting the submittal of SWPPPs, reviewing SWPPPs, reviewing monitoring and sampling and analysis reports, conducting compliance inspections, gathering site information by any medium including sampling, photo and video documentation, and taking enforcement actions.

2. Regional Water Boards may terminate coverage under this General Permit for dischargers who fail to comply with its requirements or where they determine that an individual NPDES permit is appropriate.

3. Regional Water Boards may issue separate permits for discharges of storm water associated with construction activity to individual dischargers, categories of dischargers, or dischargers in a geographic area. Upon issuance of such permits by a Regional Water Board, dischargers subject to those permits shall no longer be regulated by this General Permit.

4. Regional Water Boards may direct the discharger to reevaluate the LUP Type(s) for the project (or elements/areas of the project) and impose the appropriate level of requirements.

5. Regional Water Boards may terminate coverage under this General Permit for dischargers who negligently or with willful intent incorrectly determine or report their LUP Type (e.g., they determine themselves to be a LUP Type 1 when they are actually a Type 2).

6. Regional Water Boards may review PRDs and reject or accept applications for permit coverage or may require dischargers to submit a Report of Waste Discharge / NPDES permit application for Regional Water Board consideration of individual requirements.

7. Regional Water Boards may impose additional requirements on dischargers to satisfy TMDL implementation requirements or to satisfy provisions in their Basin Plans.

8. Regional Water Boards may require additional Monitoring and Reporting Program Requirements, including sampling and analysis of discharges to sediment-impaired water bodies.

9. Regional Water Boards may require dischargers to retain records for more than the three years required by this General Permit.

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10. Based on an LUP's threat to water quality and complexity, the Regional Water Board may determine on a case-by-case basis that an LUP, or a portion of an LUP, is not eligible for the linear project requirements contained in this Attachment, and require that the discharger comply with all standard requirements in this General Permit.

11. The Regional Water Board may require additional monitoring and reporting program requirements including sampling and analysis of discharges to CWA § 303(d)-listed water bodies. Additional requirements imposed by the Regional Water Board shall be consistent with the overall monitoring effort in the receiving waters.

M. MONITORING AND REPORTING REQUIREMENTS

Table 3. LUP Summary of Monitoring Requirements

LUP Type	Visual Inspections				Sample Collection		
	Daily Site BMP	Pre-storm Event / Baseline	Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water	Non-Visible (when applicable)
1	X						X
2	X	X	X	X	X		X
3	X	X	X	X	X	X	X

1. Objectives

LUP dischargers shall prepare a monitoring and reporting program (M&RP) prior to the start of construction and immediately implement the program at the start of construction for LUPs. The monitoring program must be implemented at the appropriate level to protect water quality at all times throughout the life of the project. The M&RP must be a part of the SWPPP, included as an appendix or separate SWPPP chapter.

2. M&RP Implementation Schedule

a. LUP dischargers shall implement the requirements of this Section at the time of commencement of construction activity. LUP dischargers are responsible for implementing these requirements until construction activity is complete and the site is stabilized.

b. LUP dischargers shall revise the M&RP when:

i Site conditions or construction activities change such that a change in monitoring is required to comply with the requirements and intent of this General Permit.

ii The Regional Water Board requires the discharger to revise its M&RP based on its review of the document. Revisions may include, but not be limited to, conducting additional site inspections, submitting reports, and certifications. Revisions shall be submitted via postal mail or electronic e-mail.

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iii The Regional Water Board may require additional monitoring and reporting program requirements including sampling and analysis of discharges to CWA § 303(d)-listed water bodies. Additional requirements imposed by the Regional Water Board shall be consistent with the overall monitoring effort in the receiving waters.

3. LUP Type 1 Monitoring and Reporting Requirements

a. LUP Type 1 Inspection Requirements

i LUP Type 1 dischargers shall ensure that all inspections are conducted by trained personnel. The name(s) and contact number(s) of the assigned inspection personnel should be listed in the SWPPP.

ii LUP Type 1 dischargers shall ensure that all visual inspections are conducted daily during working hours and in conjunction with other daily activities in areas where active construction is occurring.

iii LUP Type 1 dischargers shall ensure that photographs of the site taken before, during, and after storm events are taken during inspections, and submitted through the State Water Board's SMARTS website once every three rain events.

iv LUP Type 1 dischargers shall conduct daily visual inspections to verify that:

(1) Appropriate BMPs for storm water and non-storm water are being implemented in areas where active construction is occurring (including staging areas);

(2) Project excavations are closed, with properly protected spoils, and that road surfaces are cleaned of excavated material and construction materials such as chemicals by either removing or storing the material in protective storage containers at the end of every construction day;

(3) Land areas disturbed during construction are returned to pre-construction conditions or an equivalent protection is used at the end of each workday to eliminate or minimize erosion and the possible discharge of sediment or other pollutants during a rain event.

v Inspections may be discontinued in non-active construction areas where soil-disturbing activities are completed and final soil stabilization is achieved (e.g., paving is completed, substructures

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are installed, vegetation meets minimum cover requirements for final stabilization, or other stabilization requirements are met).

vi Inspection programs are required for LUP Type 1 projects where temporary and permanent stabilization BMPs are installed and are to be monitored after active construction is completed. Inspection activities shall continue until adequate permanent stabilization is established and, in areas where re-vegetation is chosen, until minimum vegetative coverage is established in accordance with Section C.1 of this Attachment.

b. LUP Type 1 Monitoring Requirements for Non-Visible Pollutants

LUP Type 1 dischargers shall implement sampling and analysis requirements to monitor non-visible pollutants associated with (1) construction sites; (2) activities producing pollutants that are not visually detectable in storm water discharges; and (3) activities which could cause or contribute to an exceedance of water quality objectives in the receiving waters.

i Sampling and analysis for non-visible pollutants is only required where the LUP Type 1 discharger believes pollutants associated with construction activities have the potential to be discharged with storm water runoff due to a spill or in the event there was a breach, malfunction, failure and/or leak of any BMP. Also, failure to implement BMPs may require sample collection.

(1) Visual observations made during the monitoring program described above will help the LUP Type 1 discharger determine when to collect samples.

(2) The LUP Type 1 discharger is not required to sample if one of the conditions described above (e.g., breach or spill) occurs and the site is cleaned of material and pollutants and/or BMPs are implemented prior to the next storm event.

ii LUP Type 1 dischargers shall collect samples down-gradient from all discharge locations where the visual observations were made triggering the monitoring, and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples.

iii If sampling for non-visible pollutant parameters is required, LUP Type 1 dischargers shall ensure that samples be analyzed for parameters indicating the presence of pollutants identified in the pollutant source assessment required in Section J.2.a.i.

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iv LUP Type 1 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

v LUP Type 1 dischargers shall ensure that a sufficiently large sample of storm water that has not come into contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample[12]) will be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.

vi LUP Type 1 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and Total Dissolved Solids (TDS).

vii For laboratory analyses, all sampling, sample preservation, and other analyses must be conducted according to test procedures pursuant to 40 C.F.R. Part 136. LUP Type 1 dischargers shall ensure that field samples are collected and analyzed according to manufacturer specifications of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification.

viii LUP Type 1 dischargers shall ensure that all field and/or analytical data are kept in the SWPPP document.

c. LUP Type 1 Visual Observation Exceptions

i LUP Type 1 dischargers shall be prepared to collect samples and conduct visual observation (inspections) to meet the minimum visual observation requirements of this Attachment. The Type 1 LUP discharger is not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

(1) During dangerous weather conditions such as flooding and electrical storms;

(2) Outside of scheduled site business hours.

(3) When access to the site is unsafe due to storm events.

[12] Sample collected at a location unaffected by contruction activities.

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ii If the LUP Type 1 discharger does not collect the required samples or visual observation (inspections) due to these exceptions, an explanation why the sampling or visual observation (inspections) were not conducted shall be included in both the SWPPP and the Annual Report.

d. Particle Size Analysis for Risk Justification

LUP Type 1 dischargers utilizing justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

4. LUP Type 2 & 3 Monitoring and Reporting Requirements

a. LUP Type 2 & 3 Inspection Requirements

i LUP Type 2 & 3 dischargers shall ensure that all inspections are conducted by trained personnel. The name(s) and contact number(s) of the assigned inspection personnel should be listed in the SWPPP.

ii LUP Type 2 & 3 dischargers shall ensure that all visual inspections are conducted daily during working hours and in conjunction with other daily activities in areas where active construction is occurring.

iii LUP Type 2 & 3 dischargers shall ensure that photographs of the site taken before, during, and after storm events are taken during inspections, and submitted through the State Water Board's SMARTS website once every three rain events.

iv LUP Type 2 & 3 dischargers shall conduct daily visual inspections to verify that appropriate BMPs for storm water and non-storm water are being implemented and in place in areas where active construction is occurring (including staging areas).

v LUP Type 2 & 3 dischargers shall conduct inspections of the construction site prior to anticipated storm events, during extended storm events, and after actual storm events to identify areas contributing to a discharge of storm water associated with construction activity. Pre-storm inspections are to ensure that BMPs are properly installed and maintained; post-storm inspections are to assure that BMPs have functioned adequately. During

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extended storm events, inspections shall be required during normal working hours for each 24-hour period.

vi Inspections may be discontinued in non-active construction areas where soil-disturbing activities are completed and final soil stabilization is achieved (e.g., paving is completed, substructures are installed, vegetation meets minimum cover requirements for final stabilization, or other stabilization requirements are met).

vii LUP Type 2 & 3 dischargers shall implement a monitoring program for inspecting projects that require temporary and permanent stabilization BMPs after active construction is complete. Inspections shall ensure that the BMPs are adequate and maintained. Inspection activities shall continue until adequate permanent stabilization is established and, in vegetated areas, until minimum vegetative coverage is established in accordance with Section C.1 of this Attachment.

viii If possible, LUP Type 2 & 3 dischargers shall install a rain gauge on-site at an accessible and secure location with readings made during all storm event inspections. When readings are unavailable, data from the closest rain gauge with publically available data may be used.

ix LUP Type 2 & 3 dischargers shall Include and maintain a log of the inspections conducted in the SWPPP. The log will provide the date and time of the inspection and who conducted the inspection.

b. LUP Type 2 & 3 Storm Water Effluent Monitoring Requirements

Table 4. LUP Type 2 & 3 Effluent Monitoring Requirements

LUP Type	Frequency	Effluent Monitoring
2	Minimum of 3 samples per day characterizing discharges associated with construction activity from the project active areas of construction.	Turbidity, pH, and non-visible pollutant parameters (if applicable)
3	Minimum of 3 samples per day characterizing discharges associated with construction activity from the project active areas of construction.	turbidity, pH, suspended sediment concentrations (SSC)[13] (only if turbidity NEL exceeded), plus non-visible pollutant parameters (if applicable)

i LUP Type 2 & 3 dischargers shall collect storm water grab samples from sampling locations characterizing discharges associated with

[13] Suspended Sediment Concentration monitoring is required for any Type 3 area that exceeds its turbidity NEL.

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activity from the LUP active areas of construction. At a minimum, 3 samples shall be collected per day of discharge.

ii LUP Type 2 & 3 dischargers shall collect samples of stored or contained storm water that is discharged subsequent to a storm event producing precipitation of ½ inch or more at the time of discharge.

iii LUP Type 2 & 3 dischargers shall ensure that storm water grab sample(s) obtained be representative of the flow and characteristics of the discharge.

iv LUP Type 2 & 3 dischargers shall analyze their effluent samples for:

(1) pH and turbidity
(2) Any additional parameter for which monitoring is required by the Regional Water Board.

v LUP Type 3 dischargers that have violated the turbidity daily average NEL shall analyze subsequent effluent samples for turbidity and SSC.

c. LUP Type 2 & 3 Storm Water Effluent Sampling Locations

i LUP Type 2 & 3 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire disturbed project or area.

ii LUP Type 2 & 3 dischargers may monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to exceedance of NALs or NELs (applicable to Type 3).

iii LUP Type 2 & 3 dischargers shall select analytical test methods from the list provided in Table 5 below.

iv LUP Type 2 & 3 dischargers shall ensure that all storm water sample collection preservation and handling shall be conducted in accordance with the "Storm Water Sample Collection and Handling Instructions" below.

d. LUP Type 3 Receiving Water Monitoring Requirements

i In the event that an LUP Type 3 discharger violates an applicable NEL contained in this General Permit and has a direct discharge to receiving waters, the LUP discharger shall subsequently sample Receiving Waters (RWs) for turbidity, pH (if applicable) and SSC.

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ii LUP Type 3 dischargers that meet the project criteria in Appendix 3 of this General Permit and have more than 30 acres of soil disturbance in the project area or project section area designated as Type 3, shall comply with the Bioassessment requirements prior to commencement of construction activity.

iii LUP Type 3 dischargers shall obtain RW samples in accordance with the requirements of the Receiving Water Sampling Locations section (Section M.4.d of this Attachment).

e. LUP Type 3 Receiving Water Sampling Locations

i **Upstream/up-gradient RW samples**: LUP Type 3 dischargers shall obtain any required upstream/up-gradient receiving water samples from a representative and accessible location as close as possible to and upstream from the effluent discharge point.

ii **Downstream/down-gradient RW samples**: LUP Type 3 dischargers shall obtain any required downstream/down-gradient receiving water samples from a representative and accessible location as close as possible to and downstream from the effluent discharge point.

iii If two or more discharge locations discharge to the same receiving water, LUP Type 3 dischargers may sample the receiving water at a single upstream and downstream location.

f. LUP Type 2 & 3 Monitoring Requirements for Non-Visible Pollutants

LUP Type 2 & 3 dischargers shall implement sampling and analysis requirements to monitor non-visible pollutants associated with (1) construction sites; (2) activities producing pollutants that are not visually detectable in storm water discharges; and (3) activities which could cause or contribute to an exceedance of water quality objectives in the receiving waters.

i Sampling and analysis for non-visible pollutants is only required where LUP Type 2 & 3 dischargers believe pollutants associated with construction activities have the potential to be discharged with storm water runoff due to a spill or in the event there was a breach, malfunction, failure and/or leak of any BMP. Also, failure to implement BMPs may require sample collection.

(1) Visual observations made during the monitoring program described above will help LUP Type 2 & 3 dischargers determine when to collect samples.

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(2) LUP Type 2 & 3 dischargers are not required to sample if one of the conditions described above (e.g., breach or spill) occurs and the site is cleaned of material and pollutants and/or BMPs are implemented prior to the next storm event.

ii LUP Type 2 & 3 dischargers shall collect samples down-gradient from the discharge locations where the visual observations were made triggering the monitoring and which can be safely accessed. For sites where sampling and analysis is required, personnel trained in water quality sampling procedures shall collect storm water samples.

iii If sampling for non-visible pollutant parameters is required, LUP Type 2 & 3 dischargers shall ensure that samples be analyzed for parameters indicating the presence of pollutants identified in the pollutant source assessment required in Section J.2.a.i.

iv LUP Type 2 & 3 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

v LUP Type 2 & 3 dischargers shall ensure that a sufficiently large sample of storm water that has not come into contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample[14]) will be collected for comparison with the discharge sample. Samples shall be collected during the first two hours of discharge from rain events that occur during daylight hours and which generate runoff.

vi LUP Type 2 & 3 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis. Analyses may include, but are not limited to, indicator parameters such as: pH, specific conductance, dissolved oxygen, conductivity, salinity, and Total Dissolved Solids (TDS).

vii For laboratory analyses, all sampling, sample preservation, and other analyses must be conducted according to test procedures pursuant to 40 C.F.R. Part 136. LUP Type 2 & 3 dischargers shall ensure that field samples are collected and analyzed according to manufacturer specifications of the sampling devices employed. Portable meters shall be calibrated according to manufacturer's specification.

viii LUP Type 2 & 3 dischargers shall ensure that all field and/or analytical data are kept in the SWPPP document.

[14] Sample collected at a location unaffected by construction activities

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g. LUP Type 2 & 3 Visual Observation and Sample Collection Exceptions

i LUP Type 2 & 3 dischargers shall be prepared to collect samples and conduct visual observation (inspections) to meet the minimum visual observation requirements of this Attachment. Type 2 & 3 LUP dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

(1) During dangerous weather conditions such as flooding and electrical storms;

(2) Outside of scheduled site business hours.

(3) When access to the site is unsafe due to storm events.

ii If the LUP Type 2 or 3 discharger does not collect the required samples or visual observation (inspections) due to these exceptions, an explanation why the sampling or visual observation (inspections) were not conducted shall be included in both the SWPPP and the Annual Report.

h. LUP Type 2 & 3 Storm Water Sample Collection and Handling Instructions

LUP Type 2 & 3 dischargers shall refer to Table 5 below for test Methods, detection Limits, and reporting Units. During storm water sample collection and handling, the LUP Type 2 & 3 discharger shall:

i Identify the parameters required for testing and the number of storm water discharge points that will be sampled. Request the laboratory to provide the appropriate number of sample containers, types of containers, sample container labels, blank chain of custody forms, and sample preservation instructions.

ii Determine how to ship the samples to the laboratory. The testing laboratory should receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory). The options are to either deliver the samples to the laboratory, arrange to have the laboratory pick them up, or ship them overnight to the laboratory.

iii Use only the sample containers provided by the laboratory to collect and store samples. Use of any other type of containers could contaminate your samples.

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iv Prevent sample contamination, by not touching, or putting anything into the sample containers before collecting storm water samples.

v Not overfilling sample containers. Overfilling can change the analytical results.

vi Tightly screw the cap of each sample container without stripping the threads of the cap.

vii Complete and attach a label to each sample container. The label shall identify the date and time of sample collection, the person taking the sample, and the sample collection location or discharge point. The label should also identify any sample containers that have been preserved.

viii Carefully pack sample containers into an ice chest or refrigerator to prevent breakage and maintain temperature during shipment. Remember to place frozen ice packs into the shipping container. Samples should be kept as close to 4° C (39° F) as possible until arriving at the laboratory. Do not freeze samples.

ix Complete a Chain of Custody form for each set of samples. The Chain of Custody form shall include the discharger's name, address, and phone number, identification of each sample container and sample collection point, person collecting the samples, the date and time each sample container was filled, and the analysis that is required for each sample container.

x Upon shipping/delivering the sample containers, obtain both the signatures of the persons relinquishing and receiving the sample containers.

xi Designate and train personnel to collect, maintain, and ship samples in accordance with the above sample protocols and good laboratory practices.

xii Refer to the Surface Water Ambient Monitoring Program's (SWAMP) Quality Assurance Management Plan (QAMP) for more information on sampling collection and analysis. See http://www.waterboards.ca.gov/water_issues/programs/swamp/[15] QAMP Link: http://www.waterboards.ca.gov/water_issues/programs/swamp/qamp.shtml

[15] Additional information regarding QAMP can be found at http://mpsl.mlml.calstate.edu/swqacompare.htm.

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Table 5. Test Methods, Detection Limits, Reporting Units and Applicable NALs/NELs

Parameter	Test Method	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Levels	Numeric Effluent Limitation (LUP Type 3)
pH	Field test with calibrated portable instrument	Type 2 & 3	0.2	pH units	Lower = 6.5 upper = 8.5	Lower = 6.0 upper = 9.0
Turbidity	EPA 0180.1 and/or field test with calibrated portable instrument	Type 2 & 3	1	NTU	250 NTU	500 NTU
SSC	ASTM Method D 3977-97[16]	Type 3 if NEL is exceeded	5 Mg/L		N/A	N/A
Bioassessment	(STE) Level I of (SAFIT),[17] fixed-count of 600 org/sample	Type 3 LUPs > 30 acres	N/A N/A		N/A	N/A

i. LUP Type 2 & 3 Monitoring Methods

i The LUP Type 2 or 3 discharger's project M&RP shall include a description of the following items:

(1) Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

(2) Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program a copy of the Chain of Custody form used when handling and shipping samples.

[16] ASTM, 1999, Standard Test Method for Determining Sediment Concentration in Water Samples: American Society of Testing and Materials, D 3977-97, Vol. 11.02, pp. 389-394

[17] The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

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(3) Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section M.4.f above.

ii LUP Type 2 & 3 dischargers shall ensure that all sampling and sample preservation be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) shall be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. All laboratory analyses shall be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses shall be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services (SSC exception). The LUP discharger shall conduct its own field analysis of pH and may conduct its own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

j. LUP Type 2 & 3 Analytical Methods

LUP Type 2 & 3 dischargers shall refer to Table 5 above for test Methods, detection Limits, and reporting Units.

i **pH**: LUP Type 2 & 3 dischargers shall perform pH analysis on-site with a calibrated pH meter or pH test kit. The LUP discharger shall record pH monitoring results on paper and retain these records in accordance with Section M.4.o, below.

ii **Turbidity**: LUP Type 2 & 3 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results shall be recorded in the site log book in Nephelometric Turbidity Units (NTU).

iii **Suspended sediment concentration (SSC)**: LUP Type 3 dischargers exceeding their NEL, shall perform SSC analysis using ASTM Method D3977-97.

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iv **Bioassessment**: LUP Type 3 dischargers shall perform bioassessment sampling and analysis according to Appendix 3 of this General Permit.

k. Watershed Monitoring Option

If an LUP Type 2 or 3 discharger is part of a qualified regional watershed-based monitoring program the LUP Type 2 or 3 discharger may be eligible for relief from the monitoring requirements in this Attachment. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program if it determines that the watershed-based monitoring program will provide information to determine each discharger's compliance with the requirements of this General Permit.

l. Particle Size Analysis for Risk Justification

LUP Type 2 & 3 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

m. NAL Exceedance Report

i In the event that any effluent sample exceeds an applicable NAL, the Regional Water Boards may require LUP Type 2 & 3 dischargers to submit NAL Exceedance Reports.

ii LUP Type 2 & 3 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity.

iii LUP Type 2 & 3 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the exceedance report is filed.

iv LUP Type 2 & 3 dischargers shall include in the NAL Exceedance Report:

(1) the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit"); and
(2) the date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.

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(3) Description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

n. NEL Violation Report

i All LUP Type 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 5 days after the conclusion of the storm event.

ii In the event that a LUP Type 3 discharger has violated an applicable NEL, the discharger shall submit an NEL Violation Report to the State Water Board no later than 24 hours after the NEL exceedance has been identified.

iii The LUP Type 3 discharger shall certify each NEL Violation Report in accordance with the Special Provisions for Construction Activity.

iv The LUP Type 3 discharger shall retain an electronic or paper copy of each NEL Violation Report for a minimum of three years after the date the violation report is filed.

v The LUP Type 3 discharger shall include in the NEL Violation Report:

(1) the analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit"); and
(2) the date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.
(3) Description of the current on-site BMPs, and the proposed corrective actions taken to manage the NEL exceedance.

vi Compliance Storm Exemption:
In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event (see Section F.2.c of this Attachment), the LUP Type 3 discharger shall report the on-site rain gauge and nearby governmental rain gauge readings for verification.

o. Monitoring Records

LUP Type 2 & 3 dischargers shall ensure that records of all storm water monitoring information and copies of all reports (including Annual Reports) required by this General Permit be retained for a period of at least three years. LUP Type 2 & 3 dischargers may retain records off-

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site and make them available upon request. These records shall include:

i The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation (rain gauge);

ii The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements;

iii The date and approximate time of analyses;

iv The individual(s) who performed the analyses;

v A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and all chain of custody forms;

vi Quality assurance/quality control records and results;

vii Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Section M.4.a above);

viii Visual observation and sample collection exception records (see Section M.4.g above); and

ix The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

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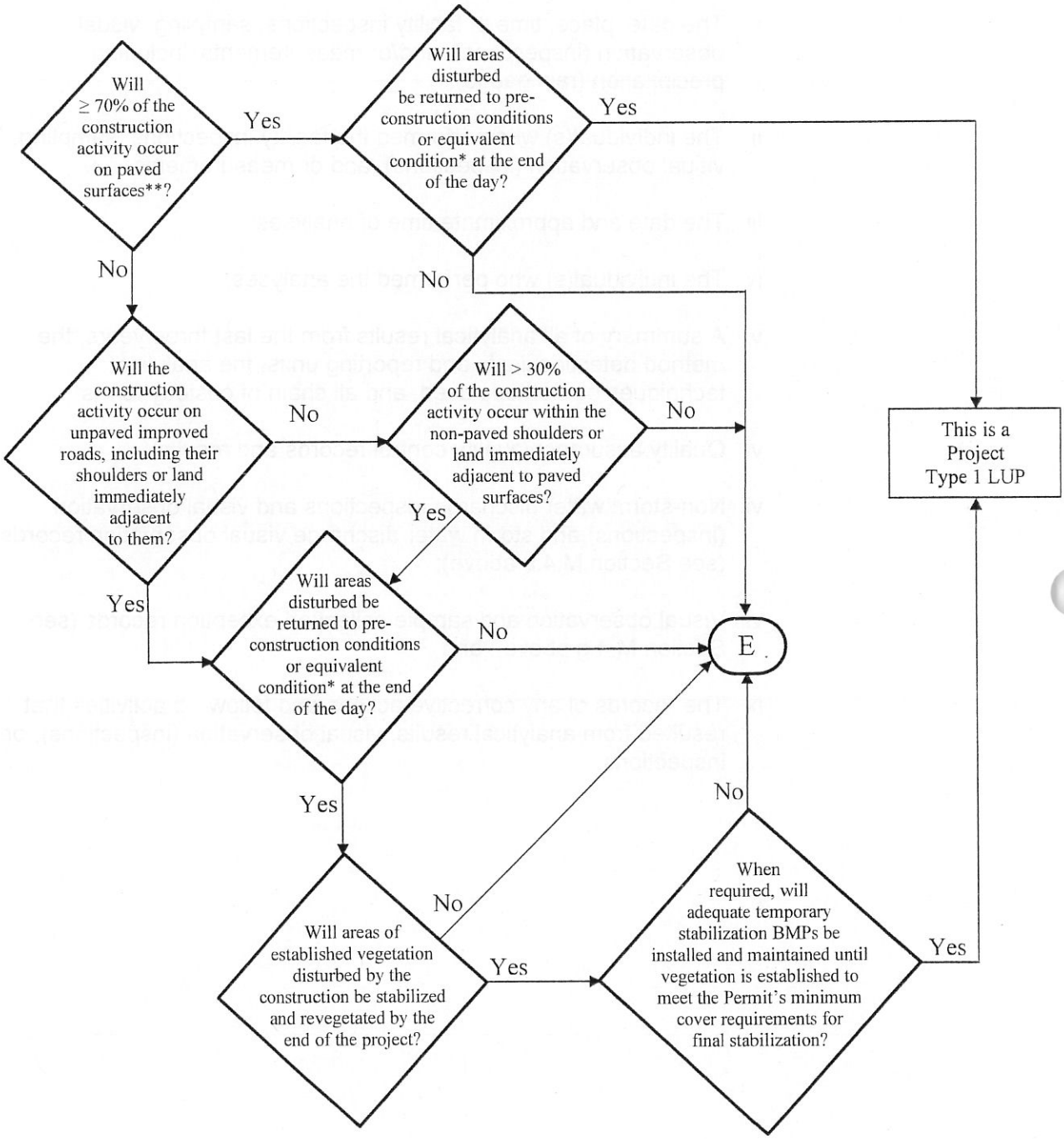
ATTACHMENT A.1
LUP Project Area or Project Section Area Type Determination



*See Definition of Terms
** Or: "Will < 30% of the soil disturbance occur on unpaved surfaces?

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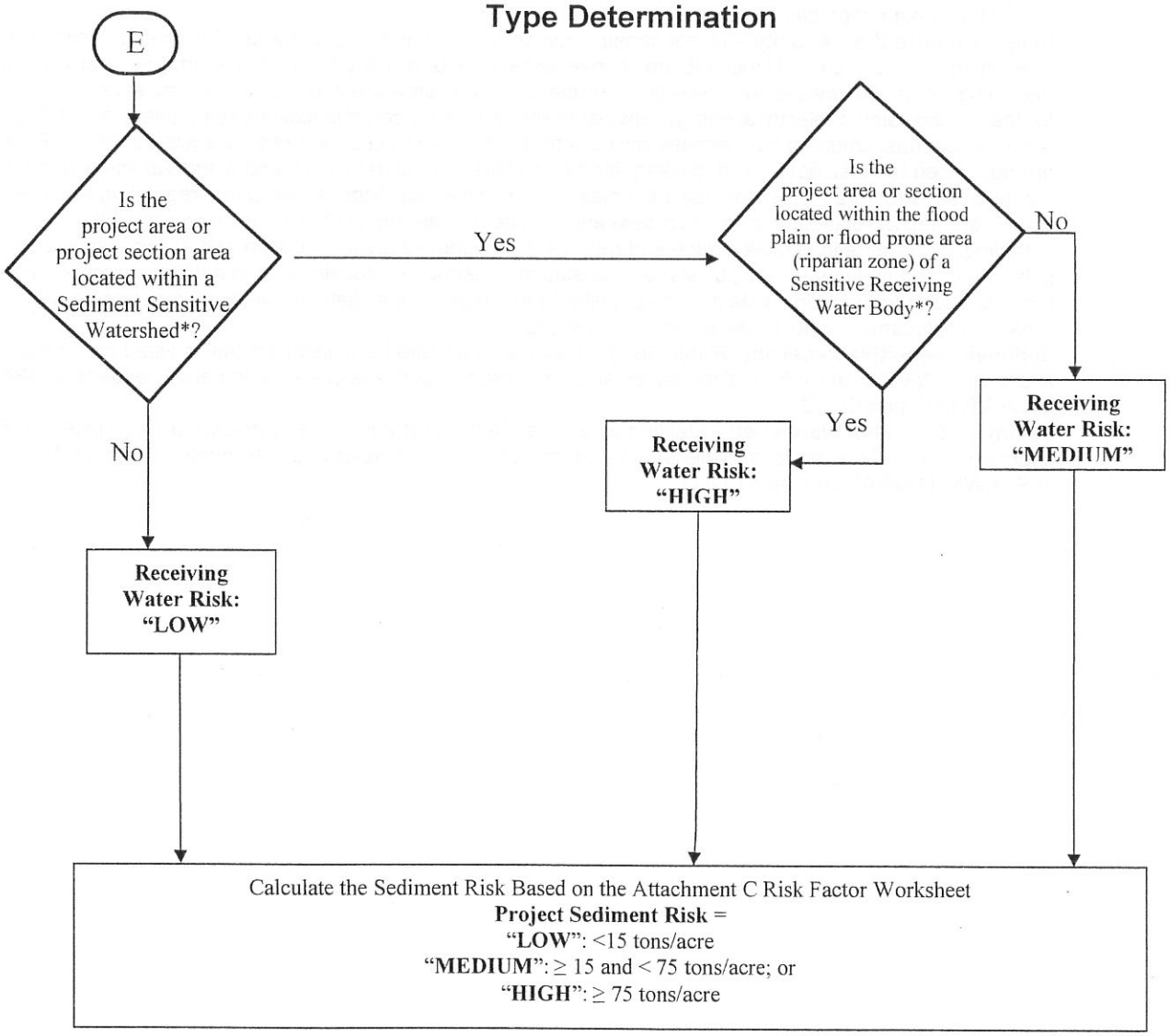
ATTACHMENT A.1
LUP Project Area or Project Section Area Type Determination



* See Definition of Terms

RECEIVING WATER RISK	PROJECT SEDIMENT RISK		
	LOW	MEDIUM	HIGH
LOW	Type 1	Type 1	Type 2
MEDIUM	Type 1	Type 2	Type 3
HIGH	Type 2	Type 3	Type 3

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ATTACHMENT A.1
Definition of Terms

1. **Equivalent Condition** – Means disturbed soils such as those from trench excavation are required to be hauled away, backfilled into the trench, and/or covered (e.g., metal plates, pavement, plastic covers over spoil piles) at the end of the construction day.
2. **Linear Construction Activity** – Linear construction activity consists of underground/ overhead facilities that typically include, but are not limited to, any conveyance, pipe or pipeline for the transportation of any gaseous, liquid (including water, wastewater for domestic municipal services), liquescent, or slurry substance; any cable line or wire for the transmission of electrical energy; any cable line or wire for communications (e.g., telephone, telegraph, radio or television messages); and associated ancillary facilities. Construction activities associated with LUPs include, but are not limited to those activities necessary for the installation of underground and overhead linear facilities (e.g., conduits, substructures, pipelines, towers, poles, cables, wires, connectors, switching, regulating and transforming equipment and associated ancillary facilities) and include, but are not limited to, underground utility mark-out, potholing, concrete and asphalt cutting and removal, trenching, excavation, boring and drilling, access road and pole/ tower pad and cable/ wire pull station, substation construction, substructure installation, construction of tower footings and/or foundations, pole and tower installations, pipeline installations, welding, concrete and/or pavement repair or replacement, and stockpile/ borrow locations.
3. **Sediment Sensitive Receiving Water Body** – Defined as a water body segment that is listed on EPA's approved CWA 303(d) list for sedimentation/siltation, turbidity, or is designated with beneficial uses of SPAWN, MIGRATORY, and COLD.
4. **Sediment Sensitive Watershed** – Defined as a watershed draining into a receiving water body listed on EPA's approved CWA 303(d) list for sedimentation/siltation, turbidity, or a water body designated with beneficial uses of SPAWN, MIGRATORY, and COLD.

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ATTACHMENT A.2
PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS FOR LINEAR UNDERGROUND/OVERHEAD PROJECTS TO COMPLY WITH THE CONSTRUCTION GENERAL PERMIT

GENERAL INSTRUCTIONS

Who Must Submit

This permit is effective on July 1, 2010.

The Legally Responsible Person (LRP) for construction activities associated with linear underground/overhead project (LUP) must electronically apply for coverage under this General Permit on or after July 1, 2010. If it is determined that the LUP construction activities require an NPDES permit, the Legally Responsible Person[1] (LRP) shall submit PRDs for this General Permit in accordance with the following:

LUPs associated with Private or Municipal Development Projects

1. For LUPs associated with pre-development and pre-redevelopment construction activities:

   The LRP must obtain coverage[2] under this General Permit for its pre-development and pre-redevelopment construction activities where the total disturbed land area of these construction activities is greater than 1 acre.

2. For LUPs associated with new development and redevelopment construction projects:

   The LRP must obtain coverage under this General Permit for LUP construction activities associated with new development and redevelopment projects where the total disturbed land area of the LUP is greater than 1 acre. Coverage under this permit is not required where the same LUP construction activities are covered by another NPDES permit.

LUPs not associated with private or municipal new development or redevelopment projects:

The LRP must obtain coverage under this General Permit on or after July 1, 2010 for its LUP construction activities where the total disturbed land area is greater than 1 acre.

PRD Submittal Requirements

Prior to the start of construction activities a LRP must submit PRDs and fees to the State Water Board for each LUP.

New and Ongoing LUPs

Dischargers of new LUPs that commence construction activities after the adoption date of this General Permit shall file PRDs prior to the commencement of construction and implement the SWPPP upon the start of construction.

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[1] person possessing the title of the land on which the construction activities will occur for the regulated site

[2] obtain coverage means filing PRDs for the project.

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PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)

Dischargers of ongoing LUPs that are currently covered under State Water Board Order No. 2003-0007 (Small LUP General Permit) shall electronically file Permit Registration Documents no later than July 1, 2010. After July 1, 2010, all NOIs subject to State Water Board Order No. 2003-0007-DWQ will be terminated. All existing dischargers shall be exempt from the risk determination requirements in Attachment A. All existing dischargers are therefore subject to LUP Type 1 requirements regardless of their project's sediment and receiving water risks. However, a Regional Board retains the authority to require an existing discharger to comply with the risk determination requirements in Attachment A.

Where to Apply

The Permit Registration Documents (PRDs) can be found at www.waterboards.ca.gov/water_issues/programs/stormwater/

Fees

The annual fee for storm water permits are established through the State of California Code of Regulations.

When Permit Coverage Commences

To obtain coverage under the General Permit, the LRP must include the complete PRDs and the annual fee. All PRDs deemed incomplete will be rejected with an explanation as to what is required to complete submittal. Upon receipt of complete PRDs and associated fee, each discharger will be sent a waste discharger's identification (WDID) number.

Projects and Activities Not Defined As Construction Activity

1. LUP construction activity does not include routine maintenance projects to maintain original line and grade, hydraulic capacity, or original purpose of the facility. Routine maintenance projects are projects associated with operations and maintenance activities that are conducted on existing lines and facilities and within existing right-of-way, easements, franchise agreements or other legally binding agreements of the discharger. Routine maintenance projects include, but are not limited to projects that are conducted to:

- Maintain the original purpose of the facility, or hydraulic capacity.
- Update existing lines[3] and facilities to comply with applicable codes, standards and regulations regardless if such projects result in increased capacity.
- Repairing leaks.

Routine maintenance does not include construction of new[4] lines or facilities resulting from compliance with applicable codes, standards and regulations.

[3] Update existing lines includes replacing existing lines with new materials or pipes.
[4] New lines are those that are not associated with existing facilities and are not part of a project to update or replace existing lines.

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PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)

Routine maintenance projects do not include those areas of maintenance projects that are outside of an existing right-of-way, franchise, easements, or agreements. When a project must acquire new areas, those areas may be subject to this General Permit based on the area of disturbed land outside the original right-of-way, easement or agreement.

2. LUP construction activity does not include field activities associated with the planning and design of a project (e.g., activities associated with route selection).

3. Tie-ins conducted immediately adjacent to "energized" or "pressurized" facilities by the discharger are not considered small construction activities where all other LUP construction activities associated with the tie-in are covered by a NOI and SWPPP of a third party or municipal agency.

Calculating Land Disturbance Areas of LUPs

The total land area disturbed for LUPs is the sum of the:

- Surface areas of trenches, laterals and ancillary facilities, plus
- Area of the base of stockpiles on unpaved surfaces, plus
- Surface area of the borrow area, plus
- Areas of paved surfaces constructed for the project, plus
- Areas of new roads constructed or areas of major reconstruction to existing roads (e.g. improvements to two-track surfaces or road widening) for the sole purpose of accessing construction activities or as part of the final project, plus
- Equipment and material storage, staging, and preparation areas (laydown areas) not on paved surfaces, plus
- Soil areas outside the surface area of trenches, laterals and ancillary facilities that will be graded, and/or disturbed by the use of construction equipment, vehicles and machinery during construction activities.

Stockpiling Areas

Stockpiling areas, borrow areas and the removal of soils from a construction site may or may not be included when calculating the area of disturbed soil for a site depending on the following conditions:

- For stockpiling of soils onsite or immediately adjacent to a LUP site and the stockpile is not on a paved surface, the area of the base of the stockpile is to be included in the disturbed area calculation.

- The surface area of borrow areas that are onsite or immediately adjacent to a project site are to be included in the disturbed area calculation.

- For soil that is hauled offsite to a location owned or operated by the discharger that is not a paved surface, the area of the base of the stockpile is to be included in the disturbed area calculation except when the offsite location is already subject to a separate storm water permit.

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PERMIT REGISTRATION DOCUMENTS (PRDs)
GENERAL INSTRUCTIONS (CONTINUED)

- For soil that is brought to the project from an off-site location owned or operated by the discharger the surface area of the borrow pit is to be included in the disturbed area calculation except when the offsite location is already subject to a separate storm water permit.

- Trench spoils on a paved surface that are either returned to the trench or excavation or hauled away from the project daily for disposal or reuse will not be included in the disturbed area calculation.

If you have any questions concerning submittal of PRDs, please call the State Water Board at (866) 563-3107.

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ATTACHMENT B
PERMIT REGISTRATION DOCUMENTS (PRDs) TO COMPLY WITH THE TERMS OF THE GENERAL PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY

GENERAL INSTRUCTIONS

A. All Linear Construction Projects shall comply with the PRD requirements in Attachment A.2 of this Order.

B. Who Must Submit

Discharges of storm water associated with construction that results in the disturbance of one acre or more of land must apply for coverage under the General Construction Storm Water Permit (General Permit). Any construction activity that is a part of a larger common plan of development or sale must also be permitted, regardless of size. (For example, if 0.5 acre of a 20-acre subdivision is disturbed by the construction activities of discharger A and the remaining 19.5 acres is to be developed by discharger B, discharger A must obtain a General Storm Water Permit for the 0.5 acre project).

Other discharges from construction activities that are covered under this General Permit can be found in the General Permit Section II.B.

It is the LRP's responsibility to obtain coverage under this General Permit by electronically submitting complete PRDs (Permit Registration Documents).

In all cases, the proper procedures for submitting the PRDs must be completed before construction can commence.

C. Construction Activity Not Covered By This General Permit

Discharges from construction that are not covered under this General Permit can be found in the General Permit Sections II.A &B..

D. Annual Fees and Fee Calculation

Annual fees are calculated based upon the total area of land to be disturbed not the total size of the acreage owned. However, the calculation includes all acres to be disturbed during the duration of the project. For example, if 10 acres are scheduled to be disturbed the first year and 10 in each subsequent year for 5 years, the annual fees would be based upon 50 acres of disturbance. The State Water Board will evaluate adding acreage to an existing Permit Waste Discharge Identification (WDID) number on a case-by-case basis. In general, any acreage to be considered must be contiguous to the permitted land area and the existing

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SWPPP must be appropriate for the construction activity and topography of the acreage under consideration. As acreage is built out and stabilized or sold, the Change of Information (COI) form enables the applicant to remove those acres from inclusion in the annual fee calculation. Checks should be made payable to: State Water Board.

The Annual fees are established through regulations adopted by the State Water Board. The total annual fee is the current base fee plus applicable surcharges for all construction sites submitting an NOI, based on the total acreage to be disturbed during the life of the project. Annual fees are subject to change by regulation.

Dischargers that apply for and satisfy the Small Construction Erosivity Wavier requirements shall pay a fee of $200.00 plus an applicable surcharge, see the General Permit Section II.B.7.

E. When to Apply

LRP's proposing to conduct construction activities subject to this General Permit must submit their PRDs prior to the commencement of construction activity.

F. Requirements for Completing Permit Registration Documents (PRDs)

All dischargers required to comply with this General Permit shall electronically submit the required PRDs for their type of construction as defined below.

G. Standard PRD Requirements (All Dischargers)

1. Notice of Intent
2. Risk Assessment (Standard or Site-Specific)
3. Site Map
4. SWPPP
5. Annual Fee
6. Certification

H. Additional PRD Requirements Related to Construction Type

1. Discharger in unincorporated areas of the State (not covered under an adopted Phase I or II SUSMP requirements) and that are not a linear project shall also submit a completed:
   a. Post-Construction Water Balance Calculator (Appendix 2).

2. Dischargers who are proposing to implement ATS shall submit:
   a. Complete ATS Plan in accordance with Attachment F at least 14 days prior to the planned operation of the ATS and a paper copy shall be available onsite during ATS operation.

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b. Certification proof that design done by a professional in accordance with Attachment F.

3. Dischargers who are proposing an alternate Risk Justification:
   a. Particle Size Analysis.

I. Exceptions to Standard PRD Requirements

Construction sites with an R value less than 5 as determined in the Risk Assessment are not required to submit a SWPPP.

J. Description of PRDs

1. Notice of Intent (NOI)

2. Site Map(s) Includes:
   a. The project's surrounding area (vicinity)
   b. Site layout
   c. Construction site boundaries
   d. Drainage areas
   e. Discharge locations
   f. Sampling locations
   g. Areas of soil disturbance (temporary or permanent)
   h. Active areas of soil disturbance (cut or fill)
   i. Locations of all runoff BMPs
   j. Locations of all erosion control BMPs
   k. Locations of all sediment control BMPs
   l. ATS location (if applicable)
   m. Locations of sensitive habitats, watercourses, or other features which are not to be disturbed
   n. Locations of all post-construction BMPs
   o. Locations of storage areas for waste, vehicles, service, loading/unloading of materials, access (entrance/exits) points to construction site, fueling, and water storage, water transfer for dust control and compaction practices

3. **SWPPPs**
   A site-specific SWPPP shall be developed by each discharger and shall be submitted with the PRDs.

4. **Risk Assessment**
   All dischargers shall use the Risk Assessment procedure as describe in the General Permit Appendix 1.

   a. The Standard Risk Assessment includes utilization of the following:
      i. Receiving water Risk Assessment interactive map

ii. EPA Rainfall Erosivity Factor Calculator Website
iii. Sediment Risk interactive map
iv. Sediment sensitive water bodies list

b. The Site-Specific Risk Assessment includes the completion of the hand calculated R value Risk Calculator

5. **Post-Construction Water Balance Calculator**
All dischargers subject to this requirement shall complete the Water Balance Calculator (in Appendix 2) in accordance with the instructions.

6. **ATS Design Document and Certification**
All dischargers using ATS must submit electronically their system design (as well as any supporting documentation) and proof that the system was designed by a qualified ATS design professional (See Attachment F).

To obtain coverage under the General Permit PRDs must be included and completed. If any of the required items are missing, the PRD submittal is considered incomplete and will be rejected. Upon receipt of a complete PRD submittal, the State Water Board will process the application package in the order received and assign a (WDID) number.

Questions?

If you have any questions on completing the PRDs please email stormwater@waterboards.ca.gov or call (866) 563-3107.

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ATTACHMENT C
RISK LEVEL 1 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 1 dischargers shall comply with the narrative effluent standards listed below:

   a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

   b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric – Risk Level 1 dischargers are not subject to a numeric effluent standard.

B. Good Site Management "Housekeeping"

1. Risk Level 1 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 1 dischargers shall implement the following good housekeeping measures:

   a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

   b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

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c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.

2. Risk Level 1 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

d. Cover waste disposal containers at the end of every business day and during a rain event.

e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.

g. Implement procedures that effectively address hazardous and non-hazardous spills.

h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:

i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

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ii. Appropriate spill response personnel are assigned and trained.

i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

3. Risk Level 1 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.

   b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.

   c. Clean leaks immediately and disposing of leaked materials properly.

4. Risk Level 1 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   b. Contain fertilizers and other landscape materials when they are not actively being used.

   c. Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.

   d. Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   e. Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.

5. Risk Level 1 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

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all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 1 dischargers shall do the following:

a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

d. Ensure retention of sampling, visual observation, and inspection records.

e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

6. Risk Level 1 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

C. Non-Storm Water Management

1. Risk Level 1 dischargers shall implement measures to control all non-storm water discharges during construction.

2. Risk Level 1 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

3. Risk Level 1 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

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D. Erosion Control

1. Risk Level 1 dischargers shall implement effective wind erosion control.

2. Risk Level 1 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.

3. Risk Level 1 dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 1 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

2. On sites where sediment basins are to be used, Risk Level 1 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

F. Run-on and Runoff Controls

Risk Level 1 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 1 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee trained to do the task(s) appropriately, but shall ensure adequate deployment.

2. Risk Level 1 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended

[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

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storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 1 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

4. For each inspection required, Risk Level 1 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.

5. Risk Level 1 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:

   a. Inspection date and date the inspection report was written.

   b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

   c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.

   d. A description of any BMPs evaluated and any deficiencies noted.

   e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

   f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

   g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

   h. Photographs taken during the inspection, if any.

   i. Inspector's name, title, and signature.

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H. Rain Event Action Plan
Not required for Risk Level 1 dischargers.

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I. Risk Level 1 Monitoring and Reporting Requirements

Table 1- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
1	X	X		X	X		

1. Construction Site Monitoring Program Requirements

a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.

b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Programs to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Programs in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.

c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. Objectives

The CSMP shall be developed and implemented to address the following objectives:

a. To demonstrate that the site is in compliance with the Discharge Prohibitions;

b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives;

c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges; and

d. To determine whether BMPs included in the SWPPP are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. **Risk Level 1 - Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**

a. Risk Level 1 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.

b. Risk Level 1 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

c. Risk Level 1 dischargers shall conduct visual observations (inspections) during business hours only.

d. Risk Level 1 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.

e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 1 dischargers shall visually observe (inspect):

i. All storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

ii. All BMPs to identify whether they have been properly implemented in accordance with the SWPPP. If needed, the discharger shall implement appropriate corrective actions.

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iii. Any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

f. For the visual observations (inspections) described in e.i and e.iii above, Risk Level 1 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

g. Within two business days (48 hours) after each qualifying rain event, Risk Level 1 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

h. Risk Level 1 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. **Risk Level 1 – Visual Observation Exemptions**

a. Risk Level 1 dischargers shall be prepared to conduct visual observation (inspections) until the minimum requirements of Section I.3 above are completed. Risk Level 1 dischargers are not required to conduct visual observation (inspections) under the following conditions:

i. During dangerous weather conditions such as flooding and electrical storms.

ii. Outside of scheduled site business hours.

b. If no required visual observations (inspections) are collected due to these exceptions, Risk Level 1 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the visual observations (inspections) were not conducted.

5. **Risk Level 1 – Monitoring Methods**

Risk Level 1 dischargers shall include a description of the visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures in the CSMP.

6. **Risk Level 1 – Non-Storm Water Discharge Monitoring Requirements**

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a. Visual Monitoring Requirements:

i. Risk Level 1 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.

ii. Risk Level 1 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

iii. Risk Level 1 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 1 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

7. **Risk Level 1 – Non-Visible Pollutant Monitoring Requirements**

a. Risk Level 1 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

b. Risk Level 1 dischargers shall ensure that water samples are large enough to characterize the site conditions.

c. Risk Level 1 dischargers shall collect samples at all discharge locations that can be safely accessed.

d. Risk Level 1 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

e. Risk Level 1 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the

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presence of pollutants identified in the pollutant source assessment required (Risk Level 1 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

f. Risk Level 1 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

g. Risk Level 1 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.[2]

h. Risk Level 1 dischargers shall keep all field /or analytical data in the SWPPP document.

8. **Risk Level 1 – Particle Size Analysis for Project Risk Justification**

Risk Level 1 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

9. **Risk Level 1 – Records**

Risk Level 1 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 1 dischargers shall retain all records on-site while construction is ongoing. These records include:

a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.

b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.

c. The date and approximate time of analyses.

d. The individual(s) who performed the analyses.

[2] For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

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e. A summary of all analytical results from the last three years, the method detection limits and reporting units, and the analytical techniques or methods used.

f. Rain gauge readings from site inspections.

g. Quality assurance/quality control records and results.

h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.6 above).

i. Visual observation and sample collection exception records (see Section I.4 above).

j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

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ATTACHMENT D
RISK LEVEL 2 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 2 dischargers shall comply with the narrative effluent standards listed below:

   a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

   b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric – Risk level 2 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU.

B. Good Site Management "Housekeeping"

1. Risk Level 2 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 2 dischargers shall implement the following good housekeeping measures:

   a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

   b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.

2. Risk Level 2 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

d. Cover waste disposal containers at the end of every business day and during a rain event.

e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

f. Contain and securely protect stockpiled waste material from wind and rain at all times unless actively being used.

g. Implement procedures that effectively address hazardous and non-hazardous spills.

h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require:

i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly.

ii. Appropriate spill response personnel are assigned and trained.

i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

3. Risk Level 2 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.

   b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.

   c. Clean leaks immediately and disposing of leaked materials properly.

4. Risk Level 2 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   b. Contain all fertilizers and other landscape materials when they are not actively being used.

   c. Discontinue the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.

   d. Apply erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   e. Stack erodible landscape material on pallets and covering or storing such materials when not being used or applied.

5. Risk Level 2 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

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all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 2 dischargers shall do the following:

a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

d. Ensure retention of sampling, visual observation, and inspection records.

e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

6. Risk Level 2 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

7. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall document all housekeeping BMPs in the SWPPP and REAP(s) in accordance with the nature and phase of the construction project. Construction phases at traditional land development projects include Grading and Land Development Phase, Streets and Utilities, or Vertical Construction for traditional land development projects.

C. Non-Storm Water Management

1. Risk Level 2 dischargers shall implement measures to control all non-storm water discharges during construction.

2. Risk Level 2 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

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3. Risk Level 2 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 2 dischargers shall implement effective wind erosion control.
2. Risk Level 2 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.
3. Risk Level 2 dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 2 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.
2. On sites where sediment basins are to be used, Risk Level 2 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.
3. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall implement appropriate erosion control BMPs (runoff control and soil stabilization) in conjunction with sediment control BMPs for areas under active[2] construction.
4. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths[3] in accordance with Table 1.

Table 1 - Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not

[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.
[2] Active areas of construction are areas undergoing land surface disturbance. This includes construction activity during the preliminary stage, mass grading stage, streets and utilities stage and the vertical construction stage.
[3] Sheet flow length is the length that shallow, low velocity flow travels across a site.

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	to exceed
0-25% 20	feet
25-50% 15	feet
Over 50%	10 feet

5. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent offsite tracking of sediment.

6. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.

7. **Additional Risk Level 2 Requirement:** Risk Level 2 dischargers shall inspect on a daily basis all immediate access roads daily. At a minimum daily (when necessary) and prior to any rain event, the discharger shall remove any sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

F. Run-on and Run-off Controls

Risk Level 2 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 2 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee appropriately trained to do the task(s).

2. Risk Level 2 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 2 dischargers shall begin implementing repairs or

design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

4. For each inspection required, Risk Level 2 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.
5. Risk Level 2 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:

   a. Inspection date and date the inspection report was written.

   b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

   c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.

   d. A description of any BMPs evaluated and any deficiencies noted.

   e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

   f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

   g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

   h. Photographs taken during the inspection, if any.

   i. Inspector's name, title, and signature.

H. Rain Event Action Plan

1. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop a Rain Event Action Plan (REAP) 48 hours prior to any likely precipitation event. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The discharger shall

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ensure a QSP obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

2. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop the REAPs for all phases of construction (i.e., Grading and Land Development, Streets and Utilities, Vertical Construction, Final Landscaping and Site Stabilization).

3. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:

   a. Site Address
   b. Calculated Risk Level (2 or 3)
   c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number
   d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number
   e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number

4. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP include in the REAP, at a minimum, the following project phase information:

   a. Activities associated with each construction phase
   b. Trades active on the construction site during each construction phase
   c. Trade contractor information
   d. Suggested actions for each project phase

5. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP develop additional REAPs for project sites where construction activities are indefinitely halted or postponed (Inactive Construction). At a minimum, Inactive Construction REAPs must include:

   a. Site Address
   b. Calculated Risk Level (2 or 3)
   c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number
   d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number
   e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number

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f. Trades active on site during Inactive Construction
g. Trade contractor information
h. Suggested actions for inactive construction sites

6. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP begin implementation and make the REAP available onsite no later than 24 hours prior to the likely precipitation event.

7. **Additional Risk Level 2 Requirement:** The discharger shall ensure a QSP maintain onsite a paper copy of each REAP onsite in compliance with the record retention requirements of the Special Provisions in this General Permit.

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I. Risk Level 2 Monitoring and Reporting Requirements

Table 2- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
2	X	X	X	X	X	X	

1. Construction Site Monitoring Program Requirements

   a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.

   b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Program to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Programs in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.

   c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. **Objectives**

   The CSMP shall be developed and implemented to address the following objectives:

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a. To demonstrate that the site is in compliance with the Discharge Prohibitions and applicable Numeric Action Levels (NALs)/Numeric Effluent Limitations (NELs) of this General Permit.

b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives.

c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges.

d. To determine whether BMPs included in the SWPPP/Rain Event Action Plan (REAP) are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. **Risk Level 2 – Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**

a. Risk Level 2 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.

b. Risk Level 2 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

c. Risk Level 2 dischargers shall conduct visual observations (inspections) during business hours only.

d. Risk Level 2 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.

e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 2 dischargers shall visually observe (inspect):

i. all storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

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ii. all BMPs to identify whether they have been properly implemented in accordance with the SWPPP/REAP. If needed, the discharger shall implement appropriate corrective actions.

iii. any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

f. For the visual observations (inspections) described in c.i and c.iii above, Risk Level 2 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

g. Within two business days (48 hours) after each qualifying rain event, Risk Level 2 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

h. Risk Level 2 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. **Risk Level 2 – Water Quality Sampling and Analysis**

a. Risk Level 2 dischargers shall collect storm water grab samples from sampling locations, as defined in Section I.5. The storm water grab sample(s) obtained shall be representative of the flow and characteristics of the discharge.

b. At minimum, Risk Level 2 dischargers shall collect 3 samples per day of the qualifying event.

c. Risk Level 2 dischargers shall ensure that the grab samples collected of stored or contained storm water are from discharges subsequent to a qualifying rain event (producing precipitation of ½ inch or more at the time of discharge).

Storm Water Effluent Monitoring Requirements

d. Risk Level 2 dischargers shall analyze their effluent samples for:

i. pH and turbidity.

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ii. Any additional parameters for which monitoring is required by the Regional Water Board.

5. **Risk Level 2 – Storm Water Discharge Water Quality Sampling Locations**

Effluent Sampling Locations

a. Risk Level 2 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire project disturbed area.

b. Risk Level 2 dischargers shall collect effluent samples at all discharge points where storm water is discharged off-site.

c. Risk Level 2 dischargers shall ensure that storm water discharge collected and observed represent[4] the effluent in each drainage area based on visual observation of the water and upstream conditions.

d. Risk Level 2 dischargers shall monitor and report site run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs or NELs.

e. Risk Level 2 dischargers who deploy an ATS on their site, or a portion on their site, shall collect ATS effluent samples and measurements from the discharge pipe or another location representative of the nature of the discharge.

f. Risk Level 2 dischargers shall select analytical test methods from the list provided in Table 3 below.

g. All storm water sample collection preservation and handling shall be conducted in accordance with Section I.7 "Storm Water Sample Collection and Handling Instructions" below.

6. **Risk Level 2 – Visual Observation and Sample Collection Exemptions**

a. Risk Level 2 dischargers shall be prepared to collect samples and conduct visual observation (inspections) until the minimum requirements of Sections I.3 and I.4 above are completed. Risk

[4] For example, if there has been concrete work recently in an area, or drywall scrap is exposed to the rain, a pH sample shall be taken of drainage from the relevant work area. Similarly, if sediment laden water is flowing through some parts of a silt fence, samples shall be taken of the sediment-laden water even if most water flowing through the fence is clear.

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Level 2 dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

i. During dangerous weather conditions such as flooding and electrical storms.

ii. Outside of scheduled site business hours.

b. If no required samples or visual observation (inspections) are collected due to these exceptions, Risk Level 2 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the sampling or visual observation (inspections) were not conducted.

7. **Risk Level 2 – Storm Water Sample Collection and Handling Instructions**

a. Risk Level 2 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

b. Risk Level 2 dischargers shall ensure that testing laboratories will receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory), and shall use only the sample containers provided by the laboratory to collect and store samples.

c. Risk Level 2 dischargers shall designate and train personnel to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan (QAPrP).[5]

8. **Risk Level 2 – Monitoring Methods**

a. Risk Level 2 dischargers shall include a description of the following items in the CSMP:

i. Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

ii. Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample

[5] Additional information regarding SWAMP's QAPrP and QAMP can be found at http://www.waterboards.ca.gov/water_issues/programs/swamp/.
QAPrP:http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/swamp_qapp_master090108a.pdf.
QAMP: http://www.waterboards.ca.gov/water_issues/programs/swamp/qamp.shtml.

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collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program an example Chain of Custody form used when handling and shipping samples.

iii. Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section I.4 above.

b. Risk Level 2 dischargers shall ensure that all sampling and sample preservation are in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) should be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. Risk Level 2 dischargers shall ensure that all laboratory analyses are conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses should be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services. Risk Level 2 dischargers shall conduct their own field analysis of pH and may conduct their own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

9. **Risk Level 2 – Analytical Methods**

a. Risk Level 2 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

b. **pH**: Risk Level 2 dischargers shall perform pH analysis on-site with a calibrated pH meter or a pH test kit. Risk Level 2 dischargers shall record pH monitoring results on paper and retain these records in accordance with Section I.14, below.

c. **Turbidity**: Risk Level 2 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results will be recorded in the site log book in Nephelometric Turbidity Units (NTU).

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10. **Risk Level 2 - Non-Storm Water Discharge Monitoring Requirements**

    a. Visual Monitoring Requirements:

        i. Risk Level 2 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.

        ii. Risk Level 2 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

        iii. Risk Level 2 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 2 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to reduce or prevent pollutants from contacting non-storm water discharges.

    b. Effluent Sampling Locations:

        i. Risk Level 2 dischargers shall sample effluent at all discharge points where non-storm water and/or authorized non-storm water is discharged off-site.

        ii. Risk Level 2 dischargers shall send all non-storm water sample analyses to a laboratory certified for such analyses by the State Department of Health Services.

        iii. Risk Level 2 dischargers shall monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs.

11. **Risk Level 2 – Non-Visible Pollutant Monitoring Requirements**

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a. Risk Level 2 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

b. Risk Level 2 dischargers shall ensure that water samples are large enough to characterize the site conditions.

c. Risk Level 2 dischargers shall collect samples at all discharge locations that can be safely accessed.

d. Risk Level 2 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

e. Risk Level 2 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the presence of pollutants identified in the pollutant source assessment required (Risk Level 2 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

f. Risk Level 2 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

g. Risk Level 2 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.[6]

h. Risk Level 2 dischargers shall keep all field /or analytical data in the SWPPP document.

12. **Risk Level 2 – Watershed Monitoring Option**

Risk Level 2 dischargers who are part of a qualified regional watershed-based monitoring program may be eligible for relief from the requirements in Sections I.5. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program by determining if the watershed-based monitoring program

[6] For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

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will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of this General Permit.

13. **Risk Level 2 – Particle Size Analysis for Project Risk Justification**

Risk Level 2 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

14. **Risk Level 2 – Records**

Risk Level 2 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 2 dischargers shall retain all records on-site while construction is ongoing. These records include:

a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.

b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.

c. The date and approximate time of analyses.

d. The individual(s) who performed the analyses.

e. A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and the chain of custody forms.

f. Rain gauge readings from site inspections;

g. Quality assurance/quality control records and results.

h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.10 above).

i. Visual observation and sample collection exception records (see Section I.6 above).

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j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

15. **Risk Level 2 – NAL Exceedance Report**

a. In the event that any effluent sample exceeds an applicable NAL, Risk Level 2 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 10 days after the conclusion of the storm event. The Regional Boards have the authority to require the submittal of an NAL Exceedance Report.

b. Risk Level 2 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity.

c. Risk Level 2 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the annual report is filed.

d. Risk Level 2 dischargers shall include in the NAL Exceedance Report:

i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit").

ii. The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.

iii. A description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

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Table 3 – Risk Level 2 Test Methods, Detection Limits, Reporting Units and Applicable NALs/NELs

Parameter	Test Method / Protocol	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Level
pH	Field test with calibrated portable instrument	Risk Level 2 Discharges	0.2 pH	units	lower NAL = 6.5 upper NAL = 8.5
Turbidity EPA	0180.1 and/or field test with calibrated portable instrument	Risk Level 2 Discharges other than ATS	1 NTU		250 NTU
		For ATS discharges	1 NTU		N/A

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ATTACHMENT E
RISK LEVEL 3 REQUIREMENTS

A. Effluent Standards

[These requirements are the same as those in the General Permit order.]

1. Narrative – Risk Level 3 dischargers shall comply with the narrative effluent standards listed below:

   a. Storm water discharges and authorized non-storm water discharges regulated by this General Permit shall not contain a hazardous substance equal to or in excess of reportable quantities established in 40 C.F.R. §§ 117.3 and 302.4, unless a separate NPDES Permit has been issued to regulate those discharges.

   b. Dischargers shall minimize or prevent pollutants in storm water discharges and authorized non-storm water discharges through the use of controls, structures, and management practices that achieve BAT for toxic and non-conventional pollutants and BCT for conventional pollutants.

2. Numeric –Risk Level 3 dischargers are subject to a pH NAL of 6.5-8.5, and a turbidity NAL of 250 NTU. In addition, Risk Level 3 dischargers are subject to a pH NEL of 6.0-9.0 and a turbidity NEL of 500 NTU.

B. Good Site Management "Housekeeping"

1. Risk Level 3 dischargers shall implement good site management (i.e., "housekeeping") measures for construction materials that could potentially be a threat to water quality if discharged. At a minimum, Risk Level 3 dischargers shall implement the following good housekeeping measures:

   a. Conduct an inventory of the products used and/or expected to be used and the end products that are produced and/or expected to be produced. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

   b. Cover and berm loose stockpiled construction materials that are not actively being used (i.e. soil, spoils, aggregate, fly-ash, stucco, hydrated lime, etc.).

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c. Store chemicals in watertight containers (with appropriate secondary containment to prevent any spillage or leakage) or in a storage shed (completely enclosed).

d. Minimize exposure of construction materials to precipitation. This does not include materials and equipment that are designed to be outdoors and exposed to environmental conditions (i.e. poles, equipment pads, cabinets, conductors, insulators, bricks, etc.).

e. Implement BMPs to prevent the off-site tracking of loose construction and landscape materials.

2. Risk Level 3 dischargers shall implement good housekeeping measures for waste management, which, at a minimum, shall consist of the following:

a. Prevent disposal of any rinse or wash waters or materials on impervious or pervious site surfaces or into the storm drain system.

b. Ensure the containment of sanitation facilities (e.g., portable toilets) to prevent discharges of pollutants to the storm water drainage system or receiving water.

c. Clean or replace sanitation facilities and inspecting them regularly for leaks and spills.

d. Cover waste disposal containers at the end of every business day and during a rain event.

e. Prevent discharges from waste disposal containers to the storm water drainage system or receiving water.

f. Contain and securely protecting stockpiled waste material from wind and rain at all times unless actively being used.

g. Implement procedures that effectively address hazardous and non-hazardous spills.

h. Develop a spill response and implementation element of the SWPPP prior to commencement of construction activities. The SWPPP shall require that:

i. Equipment and materials for cleanup of spills shall be available on site and that spills and leaks shall be cleaned up immediately and disposed of properly; and

ii. Appropriate spill response personnel are assigned and trained.

i. Ensure the containment of concrete washout areas and other washout areas that may contain additional pollutants so there is no discharge into the underlying soil and onto the surrounding areas.

3. Risk Level 3 dischargers shall implement good housekeeping for vehicle storage and maintenance, which, at a minimum, shall consist of the following:

   a. Prevent oil, grease, or fuel to leak in to the ground, storm drains or surface waters.

   b. Place all equipment or vehicles, which are to be fueled, maintained and stored in a designated area fitted with appropriate BMPs.

   c. Clean leaks immediately and disposing of leaked materials properly.

4. Risk Level 3 dischargers shall implement good housekeeping for landscape materials, which, at a minimum, shall consist of the following:

   a. Contain stockpiled materials such as mulches and topsoil when they are not actively being used.

   b. Contain fertilizers and other landscape materials when they are not actively being used.

   c. Discontinuing the application of any erodible landscape material within 2 days before a forecasted rain event or during periods of precipitation.

   d. Applying erodible landscape material at quantities and application rates according to manufacture recommendations or based on written specifications by knowledgeable and experienced field personnel.

   e. Stacking erodible landscape material on pallets and covering or storing such materials when not being used or applied.

5. Risk Level 3 dischargers shall conduct an assessment and create a list of potential pollutant sources and identify any areas of the site where additional BMPs are necessary to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges. This potential pollutant list shall be kept with the SWPPP and shall identify

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all non-visible pollutants which are known, or should be known, to occur on the construction site. At a minimum, when developing BMPs, Risk Level 3 dischargers shall do the following:

a. Consider the quantity, physical characteristics (e.g., liquid, powder, solid), and locations of each potential pollutant source handled, produced, stored, recycled, or disposed of at the site.

b. Consider the degree to which pollutants associated with those materials may be exposed to and mobilized by contact with storm water.

c. Consider the direct and indirect pathways that pollutants may be exposed to storm water or authorized non-storm water discharges. This shall include an assessment of past spills or leaks, non-storm water discharges, and discharges from adjoining areas.

d. Ensure retention of sampling, visual observation, and inspection records.

e. Ensure effectiveness of existing BMPs to reduce or prevent pollutants in storm water discharges and authorized non-storm water discharges.

6. Risk Level 3 dischargers shall implement good housekeeping measures on the construction site to control the air deposition of site materials and from site operations. Such particulates can include, but are not limited to, sediment, nutrients, trash, metals, bacteria, oil and grease and organics.

7. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall document all housekeeping BMPs in the SWPPP and REAP(s) in accordance with the nature and phase of the construction project. Construction phases at traditional land development projects include Grading and Land Development Phase, Streets and Utilities, or Vertical Construction for traditional land development projects.

C. Non-Storm Water Management

1. Risk Level 3 dischargers shall implement measures to control all non-storm water discharges during construction.

2. Risk Level 3 dischargers shall wash vehicles in such a manner as to prevent non-storm water discharges to surface waters or MS4 drainage systems.

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3. Risk Level 3 dischargers shall clean streets in such a manner as to prevent unauthorized non-storm water discharges from reaching surface water or MS4 drainage systems.

D. Erosion Control

1. Risk Level 3 dischargers shall implement effective wind erosion control.

2. Risk Level 3 dischargers shall provide effective soil cover for inactive[1] areas and all finished slopes, open space, utility backfill, and completed lots.

3. Dischargers shall limit the use of plastic materials when more sustainable, environmentally friendly alternatives exist. Where plastic materials are deemed necessary, the discharger shall consider the use of plastic materials resistant to solar degradation.

E. Sediment Controls

1. Risk Level 3 dischargers shall establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from the site.

2. On sites where sediment basins are to be used, Risk Level 3 dischargers shall, at minimum, design sediment basins according to the method provided in CASQA's Construction BMP Guidance Handbook.

3. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall implement appropriate erosion control BMPs (runoff control and soil stabilization) in conjunction with sediment control BMPs for areas under active[2] construction.

4. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall apply linear sediment controls along the toe of the slope, face of the slope, and at the grade breaks of exposed slopes to comply with sheet flow lengths[3] in accordance with Table 1.

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[1] Inactive areas of construction are areas of construction activity that have been disturbed and are not scheduled to be re-disturbed for at least 14 days.

[2] Active areas of construction are areas undergoing land surface disturbance. This includes construction activity during the preliminary stage, mass grading stage, streets and utilities stage and the vertical construction stage

[3] Sheet flow length is the length that shallow, low velocity flow travels across a site.

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Table 1 - Critical Slope/Sheet Flow Length Combinations

Slope Percentage	Sheet flow length not to exceed
0-25% 20	feet
25-50% 15	feet
Over 50%	10 feet

5. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall ensure that construction activity traffic to and from the project is limited to entrances and exits that employ effective controls to prevent offsite tracking of sediment.

6. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall ensure that all storm drain inlets and perimeter controls, runoff control BMPs, and pollutant controls at entrances and exits (e.g. tire washoff locations) are maintained and protected from activities that reduce their effectiveness.

7. **Additional Risk Level 3 Requirement:** Risk Level 3 dischargers shall inspect on a daily basis all immediate access roads daily. At a minimum daily (when necessary) and prior to any rain event, the discharger shall remove any sediment or other construction activity-related materials that are deposited on the roads (by vacuuming or sweeping).

8. **Additional Risk Level 3 Requirement:** The Regional Water Board may require Risk Level 3 dischargers to implement additional site-specific sediment control requirements if the implementation of the other requirements in this section are not adequately protecting the receiving waters.

F. Run-on and Run-off Controls

Risk Level 3 dischargers shall effectively manage all run-on, all runoff within the site and all runoff that discharges off the site. Run-on from off site shall be directed away from all disturbed areas or shall collectively be in compliance with the effluent limitations in this General Permit.

G. Inspection, Maintenance and Repair

1. Risk Level 3 dischargers shall ensure that all inspection, maintenance repair and sampling activities at the project location shall be performed or supervised by a Qualified SWPPP Practitioner (QSP) representing the discharger. The QSP may delegate any or all of these activities to an employee appropriately trained to do the task(s).

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2. Risk Level 3 dischargers shall perform weekly inspections and observations, and at least once each 24-hour period during extended storm events, to identify and record BMPs that need maintenance to operate effectively, that have failed, or that could fail to operate as intended. Inspectors shall be the QSP or be trained by the QSP.

3. Upon identifying failures or other shortcomings, as directed by the QSP, Risk Level 3 dischargers shall begin implementing repairs or design changes to BMPs within 72 hours of identification and complete the changes as soon as possible.

4. For each inspection required, Risk Level 3 dischargers shall complete an inspection checklist, using a form provided by the State Water Board or Regional Water Board or in an alternative format.

5. Risk Level 3 dischargers shall ensure that checklists shall remain onsite with the SWPPP and at a minimum, shall include:

   a. Inspection date and date the inspection report was written.

   b. Weather information, including presence or absence of precipitation, estimate of beginning of qualifying storm event, duration of event, time elapsed since last storm, and approximate amount of rainfall in inches.

   c. Site information, including stage of construction, activities completed, and approximate area of the site exposed.

   d. A description of any BMPs evaluated and any deficiencies noted.

   e. If the construction site is safely accessible during inclement weather, list the observations of all BMPs: erosion controls, sediment controls, chemical and waste controls, and non-storm water controls. Otherwise, list the results of visual inspections at all relevant outfalls, discharge points, downstream locations and any projected maintenance activities.

   f. Report the presence of noticeable odors or of any visible sheen on the surface of any discharges.

   g. Any corrective actions required, including any necessary changes to the SWPPP and the associated implementation dates.

   h. Photographs taken during the inspection, if any.

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i. Inspector's name, title, and signature.

H. Rain Event Action Plan

1. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP develop a Rain Event Action Plan (REAP) 48 hours prior to any likely precipitation event. A likely precipitation event is any weather pattern that is forecast to have a 50% or greater probability of producing precipitation in the project area. The QSP shall obtain a printed copy of precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

2. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP develop the REAPs for all phases of construction (i.e., Grading and Land Development, Streets and Utilities, Vertical Construction, Final Landscaping and Site Stabilization).

3. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP ensure that the REAP include, at a minimum, the following site information:

   a. Site Address.
   b. Calculated Risk Level (2 or 3).
   c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number.
   d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number.
   e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number.

4. **Additional Risk Level 3 Requirement:** The QSP shall include in the REAP, at a minimum, the following project phase information:

   a. Activities associated with each construction phase.
   b. Trades active on the construction site during each construction phase.
   c. Trade contractor information.
   d. Suggested actions for each project phase.

5. **Additional Risk Level 3 Requirement:** The QSP shall develop additional REAPs for project sites where construction activities are indefinitely halted or postponed (Inactive Construction). At a minimum, Inactive Construction REAPs must include:

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a. Site Address.
b. Calculated Risk Level (2 or 3).
c. Site Storm Water Manager Information including the name, company, and 24-hour emergency telephone number.
d. Erosion and Sediment Control Provider information including the name, company, and 24-hour emergency telephone number.
e. Storm Water Sampling Agent information including the name, company, and 24-hour emergency telephone number.
f. Trades active on site during Inactive Construction.
g. Trade contractor information.
h. Suggested actions for inactive construction sites.

6. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP begin implementation and make the REAP available onsite no later than 24 hours prior to the likely precipitation event.

7. **Additional Risk Level 3 Requirement:** The discharger shall ensure a QSP maintain onsite a paper copy of each REAP onsite in compliance with the record retention requirements of the Special Provisions in this General Permit.

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I. Risk Level 3 Monitoring and Reporting Requirements

Table 2- Summary of Monitoring Requirements

Risk Level	Visual Inspections					Sample Collection	
	Quarterly Non-storm Water Discharge	Pre-storm Event		Daily Storm BMP	Post Storm	Storm Water Discharge	Receiving Water
		Baseline	REAP				
3	X	X	X	X	X	X	X[4]

1. Construction Site Monitoring Program Requirements

   a. Pursuant to Water Code Sections 13383 and 13267, all dischargers subject to this General Permit shall develop and implement a written site-specific Construction Site Monitoring Program (CSMP) in accordance with the requirements of this Section. The CSMP shall include all monitoring procedures and instructions, location maps, forms, and checklists as required in this section. The CSMP shall be developed prior to the commencement of construction activities, and revised as necessary to reflect project revisions. The CSMP shall be a part of the Storm Water Pollution Prevention Plan (SWPPP), included as an appendix or separate SWPPP chapter.

   b. Existing dischargers registered under the State Water Board Order No. 99-08-DWQ shall make and implement necessary revisions to their Monitoring Program to reflect the changes in this General Permit in a timely manner, but no later than July 1, 2010. Existing dischargers shall continue to implement their existing Monitoring Program in compliance with State Water Board Order No. 99-08-DWQ until the necessary revisions are completed according to the schedule above.

   c. When a change of ownership occurs for all or any portion of the construction site prior to completion or final stabilization, the new discharger shall comply with these requirements as of the date the ownership change occurs.

2. **Objectives**

   The CSMP shall be developed and implemented to address the following objectives:

[4] When NEL exceeded

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a. To demonstrate that the site is in compliance with the Discharge Prohibitions and applicable Numeric Action Levels (NALs)/Numeric Effluent Limitations (NELs) of this General Permit.

b. To determine whether non-visible pollutants are present at the construction site and are causing or contributing to exceedances of water quality objectives.

c. To determine whether immediate corrective actions, additional Best Management Practice (BMP) implementation, or SWPPP revisions are necessary to reduce pollutants in storm water discharges and authorized non-storm water discharges.

d. To determine whether BMPs included in the SWPPP/Rain Event Action Plan (REAP) are effective in preventing or reducing pollutants in storm water discharges and authorized non-storm water discharges.

3. **Risk Level 3 – Visual Monitoring (Inspection) Requirements for Qualifying Rain Events**

a. Risk Level 3 dischargers shall visually observe (inspect) storm water discharges at all discharge locations within two business days (48 hours) after each qualifying rain event.

b. Risk Level 3 dischargers shall visually observe (inspect) the discharge of stored or contained storm water that is derived from and discharged subsequent to a qualifying rain event producing precipitation of ½ inch or more at the time of discharge. Stored or contained storm water that will likely discharge after operating hours due to anticipated precipitation shall be observed prior to the discharge during operating hours.

c. Risk Level 3 dischargers shall conduct visual observations (inspections) during business hours only.

d. Risk Level 3 dischargers shall record the time, date and rain gauge reading of all qualifying rain events.

e. Within 2 business days (48 hours) prior to each qualifying rain event, Risk Level 3 dischargers shall visually observe (inspect):

   i. all storm water drainage areas to identify any spills, leaks, or uncontrolled pollutant sources. If needed, the discharger shall implement appropriate corrective actions.

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ii. all BMPs to identify whether they have been properly implemented in accordance with the SWPPP/REAP. If needed, the discharger shall implement appropriate corrective actions.

iii. any storm water storage and containment areas to detect leaks and ensure maintenance of adequate freeboard.

f. For the visual observations (inspections) described in c.i. and c.iii above, Risk Level 3 dischargers shall observe the presence or absence of floating and suspended materials, a sheen on the surface, discolorations, turbidity, odors, and source(s) of any observed pollutants.

g. Within two business days (48 hours) after each qualifying rain event, Risk Level 3 dischargers shall conduct post rain event visual observations (inspections) to (1) identify whether BMPs were adequately designed, implemented, and effective, and (2) identify additional BMPs and revise the SWPPP accordingly.

h. Risk Level 3 dischargers shall maintain on-site records of all visual observations (inspections), personnel performing the observations, observation dates, weather conditions, locations observed, and corrective actions taken in response to the observations.

4. **Risk Level 3 – Water Quality Sampling and Analysis**

a. Risk Level 3 dischargers shall collect storm water grab samples from sampling locations, as defined in Section I.5. The storm water grab sample(s) obtained shall be representative of the flow and characteristics of the discharge.

b. At minimum, Risk Level 3 dischargers shall collect 3 samples per day of the qualifying event.

c. Risk Level 3 dischargers shall ensure that the grab samples collected of stored or contained storm water are from discharges subsequent to a qualifying rain event (producing precipitation of ½ inch or more at the time of discharge).

Storm Water Effluent Monitoring Requirements

d. Risk Level 3 dischargers shall analyze their effluent samples for:

i. pH and turbidity.

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ii. Any additional parameters for which monitoring is required by the Regional Water Board.

e. Risk 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 5 days after the conclusion of the storm event.

f. Risk Level 3 discharger sites that have violated the turbidity daily average NEL shall analyze subsequent effluent samples for all the parameters specified in Section I.4.e, above, and Suspended Sediment Concentration (SSC).

Receiving Water Monitoring Requirements

g. In the event that a Risk Level 3 discharger violates an NEL contained in this General Permit and has a direct discharge into receiving waters, the Risk Level 3 discharger shall subsequently sample receiving waters (RWs) for all parameter(s) required in Section I.4.e above for the duration of coverage under this General Permit.

h. Risk Level 3 dischargers disturbing 30 acres or more of the landscape and with direct discharges into receiving waters shall conduct or participate in benthic macroinvertebrate bioassessment of RWs prior to commencement of construction activity (See Appendix 3).

i. Risk Level 3 dischargers shall obtain RW samples in accordance with the Receiving Water sampling location section (Section I.5), below.

5. **Risk Level 3 – Storm Water Discharge Water Quality Sampling Locations**

Effluent Sampling Locations

a. Risk Level 3 dischargers shall perform sampling and analysis of storm water discharges to characterize discharges associated with construction activity from the entire project disturbed area.

b. Risk Level 3 dischargers shall collect effluent samples at all discharge points where storm water is discharged off-site.

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c. Risk Level 3 dischargers shall ensure that storm water discharge collected and observed represent[5] the effluent in each drainage area based on visual observation of the water and upstream conditions.

d. Risk Level 3 dischargers shall monitor and report site run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs or NELs.

e. Risk Level 3 dischargers who deploy an ATS on their site, or a portion on their site, shall collect ATS effluent samples and measurements from the discharge pipe or another location representative of the nature of the discharge.

f. Risk Level 3 dischargers shall select analytical test methods from the list provided in Table 3 below.

g. All storm water sample collection preservation and handling shall be conducted in accordance with Section I.7 "Storm Water Sample Collection and Handling Instructions" below.

Receiving Water Sampling Locations

h. **Upstream/up-gradient RW samples**: Risk Level 3 dischargers shall obtain any required upstream/up-gradient receiving water samples from a representative and accessible location as close as possible and upstream from the effluent discharge point.

i. **Downstream/down-gradient RW samples**: Risk Level 3 dischargers shall obtain any required downstream/down-gradient receiving water samples from a representative and accessible location as close as possible and downstream from the effluent discharge point.

j. If two or more discharge locations discharge to the same receiving water, Risk Level 3 dischargers may sample the receiving water at a single upstream and downstream location.

[5] For example, if there has been concrete work recently in an area, or drywall scrap is exposed to the rain, a pH sample shall be taken of drainage from the relevant work area. Similarly, if sediment-laden water is flowing through some parts of a silt fence, samples shall be taken of the sediment laden water even if most water flowing through the fence is clear.

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6. **Risk Level 3 – Visual Observation and Sample Collection Exemptions**

   a. Risk Level 3 dischargers shall be prepared to collect samples and conduct visual observation (inspections) until the minimum requirements of Sections I.3 and I.4 above are completed. Risk Level 3 dischargers are not required to physically collect samples or conduct visual observation (inspections) under the following conditions:

      i. During dangerous weather conditions such as flooding and electrical storms.

      ii. Outside of scheduled site business hours.

   b. If no required samples or visual observation (inspections) are collected due to these exceptions, Risk Level 3 dischargers shall include an explanation in their SWPPP and in the Annual Report documenting why the sampling or visual observation (inspections) were not conducted.

7. **Risk Level 3 – Storm Water Sample Collection and Handling Instructions**

   a. Risk Level 3 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

   b. Risk Level 3 dischargers shall ensure that testing laboratories will receive samples within 48 hours of the physical sampling (unless otherwise required by the laboratory), and shall use only the sample containers provided by the laboratory to collect and store samples.

   c. Risk Level 3 dischargers shall designate and train personnel to collect, maintain, and ship samples in accordance with the Surface Water Ambient Monitoring Program's (SWAMP) 2008 Quality Assurance Program Plan (QAPrP).[6]

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[6] Additional information regarding SWAMP's QAPrP and QAMP can be found at http://www.waterboards.ca.gov/water_issues/programs/swamp/.
QAPrP:http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/swamp_qapp_master090108a.pdf
QAMP: http://www.waterboards.ca.gov/water_issues/programs/swamp/qamp.shtml

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8. **Risk Level 3 – Monitoring Methods**

   a. Risk Level 3 dischargers shall include a description of the following items in the CSMP:

      i. Visual observation locations, visual observation procedures, and visual observation follow-up and tracking procedures.

      ii. Sampling locations, and sample collection and handling procedures. This shall include detailed procedures for sample collection, storage, preservation, and shipping to the testing lab to assure that consistent quality control and quality assurance is maintained. Dischargers shall attach to the monitoring program an example Chain of Custody form used when handling and shipping samples.

      iii. Identification of the analytical methods and related method detection limits (if applicable) for each parameter required in Section I.4 above.

   b. Risk Level 3 dischargers shall ensure that all sampling and sample preservation are in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). All monitoring instruments and equipment (including a discharger's own field instruments for measuring pH and turbidity) should be calibrated and maintained in accordance with manufacturers' specifications to ensure accurate measurements. Risk Level 3 dischargers shall ensure that all laboratory analyses are conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this General Permit or by the Regional Water Board. With the exception of field analysis conducted by the discharger for turbidity and pH, all analyses should be sent to and conducted at a laboratory certified for such analyses by the State Department of Health Services (SSC exception). Risk Level 3 dischargers shall conduct their own field analysis of pH and may conduct their own field analysis of turbidity if the discharger has sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform the field analysis.

9. **Risk Level 3 – Analytical Methods**

   a. Risk Level 3 dischargers shall refer to Table 3 below for test methods, detection limits, and reporting units.

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b. **pH**: Risk Level 3 dischargers shall perform pH analysis on-site with a calibrated pH meter or a pH test kit. Risk Level 3 dischargers shall record pH monitoring results on paper and retain these records in accordance with Section I.14, below.

c. **Turbidity**: Risk Level 3 dischargers shall perform turbidity analysis using a calibrated turbidity meter (turbidimeter), either on-site or at an accredited lab. Acceptable test methods include Standard Method 2130 or USEPA Method 180.1. The results will be recorded in the site log book in Nephelometric Turbidity Units (NTU).

d. **Suspended sediment concentration (SSC)**: Risk Level 3 dischargers shall perform SSC analysis using ASTM Method D3977-97.

e. **Bioassessment**: Risk Level 3 dischargers shall perform bioassessment sampling and analysis according to Appendix 3 of this General Permit.

10. **Risk Level 3 - Non-Storm Water Discharge Monitoring Requirements**

a. Visual Monitoring Requirements:

i. Risk Level 3 dischargers shall visually observe (inspect) each drainage area for the presence of (or indications of prior) unauthorized and authorized non-storm water discharges and their sources.

ii. Risk Level 3 dischargers shall conduct one visual observation (inspection) quarterly in each of the following periods: January-March, April-June, July-September, and October-December. Visual observation (inspections) are only required during daylight hours (sunrise to sunset).

iii. Risk Level 3 dischargers shall ensure that visual observations (inspections) document the presence or evidence of any non-storm water discharge (authorized or unauthorized), pollutant characteristics (floating and suspended material, sheen, discoloration, turbidity, odor, etc.), and source. Risk Level 3 dischargers shall maintain on-site records indicating the personnel performing the visual observation (inspections), the dates and approximate time each drainage area and non-storm water discharge was observed, and the response taken to eliminate unauthorized non-storm water discharges and to

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reduce or prevent pollutants from contacting non-storm water discharges.

b. Effluent Sampling Locations:

i. Risk Level 3 dischargers shall sample effluent at all discharge points where non-storm water and/or authorized non-storm water is discharged off-site.

ii. Risk Level 3 dischargers shall send all non-storm water sample analyses to a laboratory certified for such analyses by the State Department of Health Services.

iii. Risk Level 3 dischargers shall monitor and report run-on from surrounding areas if there is reason to believe run-on may contribute to an exceedance of NALs or NELs.

11. **Risk Level 3 – Non-Visible Pollutant Monitoring Requirements**

a. Risk Level 3 dischargers shall collect one or more samples during any breach, malfunction, leakage, or spill observed during a visual inspection which could result in the discharge of pollutants to surface waters that would not be visually detectable in storm water.

b. Risk Level 3 dischargers shall ensure that water samples are large enough to characterize the site conditions.

c. Risk Level 3 dischargers shall collect samples at all discharge locations that can be safely accessed.

d. Risk Level 3 dischargers shall collect samples during the first two hours of discharge from rain events that occur during business hours and which generate runoff.

e. Risk Level 3 dischargers shall analyze samples for all non-visible pollutant parameters (if applicable) - parameters indicating the presence of pollutants identified in the pollutant source assessment required (Risk Level 3 dischargers shall modify their CSMPs to address these additional parameters in accordance with any updated SWPPP pollutant source assessment).

f. Risk Level 3 dischargers shall collect a sample of storm water that has not come in contact with the disturbed soil or the materials stored or used on-site (uncontaminated sample) for comparison with the discharge sample.

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g. Risk Level 3 dischargers shall compare the uncontaminated sample to the samples of discharge using field analysis or through laboratory analysis.[7]

h. Risk Level 3 dischargers shall keep all field /or analytical data in the SWPPP document.

12. **Risk Level 3 – Watershed Monitoring Option**

Risk Level 3 dischargers who are part of a qualified regional watershed-based monitoring program may be eligible for relief from the requirements in Sections I.5. The Regional Water Board may approve proposals to substitute an acceptable watershed-based monitoring program by determining if the watershed-based monitoring program will provide substantially similar monitoring information in evaluating discharger compliance with the requirements of this General Permit.

13. **Risk Level 3 – Particle Size Analysis for Project Risk Justification**

Risk Level 3 dischargers justifying an alternative project risk shall report a soil particle size analysis used to determine the RUSLE K-Factor. ASTM D-422 (Standard Test Method for Particle-Size Analysis of Soils), as revised, shall be used to determine the percentages of sand, very fine sand, silt, and clay on the site.

14. **Risk Level 3 – Records**

Risk Level 3 dischargers shall retain records of all storm water monitoring information and copies of all reports (including Annual Reports) for a period of at least three years. Risk Level 3 dischargers shall retain all records on-site while construction is ongoing. These records include:

a. The date, place, time of facility inspections, sampling, visual observation (inspections), and/or measurements, including precipitation.

b. The individual(s) who performed the facility inspections, sampling, visual observation (inspections), and or measurements.

c. The date and approximate time of analyses.

[7] For laboratory analysis, all sampling, sample preservation, and analyses must be conducted according to test procedures under 40 CFR Part 136. Field discharge samples shall be collected and analyzed according to the specifications of the manufacturer of the sampling devices employed.

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d. The individual(s) who performed the analyses.

e. A summary of all analytical results from the last three years, the method detection limits and reporting units, the analytical techniques or methods used, and the chain of custody forms.

f. Rain gauge readings from site inspections.

g. Quality assurance/quality control records and results.

h. Non-storm water discharge inspections and visual observation (inspections) and storm water discharge visual observation records (see Sections I.3 and I.10 above).

i. Visual observation and sample collection exception records (see Section I.6 above).

j. The records of any corrective actions and follow-up activities that resulted from analytical results, visual observation (inspections), or inspections.

15. **Risk Level 3 – NAL Exceedance Report**

a. In the event that any effluent sample exceeds an applicable NAL, Risk Level 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 10 days after the conclusion of the storm event. The Regional Boards have the authority to require the submittal of an NAL Exceedance Report.

b. Risk Level 3 dischargers shall certify each NAL Exceedance Report in accordance with the Special Provisions for Construction Activity In this General Permit.

c. Risk Level 3 dischargers shall retain an electronic or paper copy of each NAL Exceedance Report for a minimum of three years after the date the annual report is filed.

d. Risk Level 3 dischargers shall include in the NAL Exceedance Report:

i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit").

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ii. The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation.

iii. A description of the current BMPs associated with the effluent sample that exceeded the NAL and the proposed corrective actions taken.

16. **Risk Level 3 – NEL Violation Report**

a. Risk Level 3 dischargers shall electronically submit all storm event sampling results to the State Water Board no later than 5 days after the conclusion of the storm event.

b. In the event that a discharger has violated an applicable NEL, Risk Level 3 dischargers shall submit an NEL Violation Report to the State Water Board within 24 hours after the NEL exceedance has been identified.

c. Risk Level 3 dischargers shall certify each NEL Violation Report in accordance with the Special Provisions for Construction Activity in this General Permit.

d. Risk Level 3 dischargers shall retain an electronic or paper copy of each NEL Violation Report for a minimum of three years after the date the annual report is filed.

e. Risk Level 3 dischargers shall include in the NEL Violation Report:

i. The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit");

ii. The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation; and

iii. A Description of the current onsite BMPs, and the proposed corrective actions taken to manage the NEL exceedance.

f. Compliance Storm Exemption - In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event, Risk level 3 discharger shall report the on-site rain gauge reading and nearby governmental rain gauge readings for verification.

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17. **Risk Level 3 – Bioassessment**

a. Risk Level 3 dischargers with a total project-related ground disturbance exceeding 30 acres shall:

i. Conduct bioassessment monitoring, as described in Appendix 3.

ii. Include the collection and reporting of specified in stream biological data and physical habitat.

iii. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP).[8]

b. Risk Level 3 dischargers qualifying for bioassessment, where construction commences out of an index period for the site location shall:

i. Receive Regional Board approval for the sampling exception.

ii. Conduct bioassessment monitoring, as described in Appendix 3.

iii. Include the collection and reporting of specified instream biological data and physical habitat.

iv. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP).

OR

v. Make a check payable to: Cal State Chico Foundation (SWAMP Bank Account) or San Jose State Foundation (SWAMP Bank Account) and include the WDID# on the check for the amount calculated for the exempted project.

vi. Send a copy of the check to the Regional Water Board office for the site's region.

vii. Invest $**7,500.00 X The number of samples required** into the SWAMP program as compensation (upon regional board approval).

[8] http://www.waterboards.ca.gov/water_issues/programs/swamp/.

Table 3 – Risk Level 3 Test Methods, Detection Limits, Reporting Units and Applicable NALs/NELs

Parameter	Test Method / Protocol	Discharge Type	Min. Detection Limit	Reporting Units	Numeric Action Level	Numeric Effluent Limitation
pH	Field test with calibrated portable instrument	Risk Level 3 Discharges	0.2 pH	units	lower NAL = 6.5 upper NAL = 8.5	lower NEL = 6.0 upper NEL = 9.0
Turbidity EPA	0180.1 and/or field test with calibrated portable instrument	Risk Level 3 Discharges other than ATS	1	NTU	250 NTU	500 NTU
		For ATS discharges	1 NTU		N/A	10 NTU for Daily Weighted Average & 20 NTU for Any Single Sample
SSC ASTM	Method D 3977-97[9]	Risk Level 3 (if NEL exceeded)	5 mg/L		N/A	N/A
Bioassessment	(STE) Level I of (SAFIT),[10] fixed-count of 600 org/sample	Risk Level 3 projects> 30 acres	N/A N/A		N/A	N/A

[9] ASTM, 1999, Standard Test Method for Determining Sediment Concentration in Water Samples: American Society of Testing and Materials, D 3977-97, Vol. 11.02, pp. 389-394.

[10] The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

ATTACHMENT F:
Active Treatment System (ATS) Requirements

Table 1 – Numeric Effluent Limitations, Numeric Action Levels, Test Methods, Detection Limits, and Reporting Units

Parameter	Test Method	Discharge Type	Min. Detection Limit	Units	Numeric Action Level	Numeric Effluent Limitation
Turbidity	EPA 0180.1 and/or field test with a calibrated portable instrument	For ATS discharges	1 NTU		N/A	10 NTU for Daily Flow-Weighted Average & 20 NTU for Any Single Sample

A. Dischargers choosing to implement an Active Treatment System (ATS) on their site shall comply with all of the requirements in this Attachment.

B. The discharger shall maintain a paper copy of each ATS specification onsite in compliance with the record retention requirements in the Special Provisions of this General Permit.

C. ATS Design, Operation and Submittals

1. The ATS shall be designed and approved by a Certified Professional in Erosion and Sediment Control (CPESC), a Certified Professional in Storm Water Quality (CPSWQ); a California registered civil engineer; or any other California registered engineer.

2. The discharger shall ensure that the ATS is designed in a manner to preclude the accidental discharge of settled floc[1] during floc pumping or related operations.

3. The discharger shall design outlets to dissipate energy from concentrated flows.

4. The discharger shall install and operate an ATS by assigning a lead person (or project manager) who has either a minimum of five years construction storm

[1] Floc is defined as a clump of solids formed by the chemical action in ATS systems.

water experience or who is a licensed contractors specifically holding a California Class A Contractors license.[2]

5. The discharger shall prepare an ATS Plan that combines the site-specific data and treatment system information required to safely and efficiently operate an ATS. The ATS Plan shall be electronically submitted to the State Water Board at least 14 days prior to the planned operation of the ATS and a paper copy shall be available onsite during ATS operation. At a minimum, the ATS Plan shall include:

   a. ATS Operation and Maintenance Manual for All Equipment.

   b. ATS Monitoring, Sampling & Reporting Plan, including Quality Assurance/Quality Control (QA/QC).

   c. ATS Health and Safety Plan.

   d. ATS Spill Prevention Plan.

6. The ATS shall be designed to capture and treat (within a 72-hour period) a volume equivalent to the runoff from a 10-year, 24-hour storm event using a watershed runoff coefficient of 1.0.

D. Treatment – Chemical Coagulation/Flocculation

1. Jar tests shall be conducted using water samples selected to represent typical site conditions and in accordance with ASTM D2035-08 (2003).

2. The discharger shall conduct, at minimum, six site-specific jar tests (per polymer with one test serving as a control) for each project to determine the proper polymer and dosage levels for their ATS.

3. Single field jar tests may also be conducted during a project if conditions warrant, for example if construction activities disturb changing types of soils, which consequently cause change in storm water and runoff characteristics.

E. Residual Chemical and Toxicity Requirements

1. The discharger shall utilize a residual chemical test method that has a method detection limit (MDL) of 10% or less than the maximum allowable threshold

[2] Business and Professions Code Division 3, Chapter 9, Article 4, Class A Contractor: A general engineering contractor is a contractor whose principal contracting business is in connection with fixed works requiring specialized engineering knowledge and skill. [http://www.cslb.ca.gov/General-Information/library/licensing-classifications.asp].

concentration[3] (MATC) for the specific coagulant in use and for the most sensitive species of the chemical used.

2. The discharger shall utilize a residual chemical test method that produces a result within one hour of sampling.

3. The discharger shall have a California State certified laboratory validate the selected residual chemical test. Specifically the lab will review the test protocol, test parameters, and the detection limit of the coagulant. The discharger shall electronically submit this documentation as part of the ATS Plan.

4. If the discharger cannot utilize a residual chemical test method that meets the requirements above, the discharger shall operate the ATS in Batch Treatment[4] mode.

5. A discharger planning to operate in Batch Treatment mode shall perform toxicity testing in accordance with the following:

   a. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge[5]. All bioassays shall be sent to a laboratory certified by the Department of Health Services (DHS) Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.[6]

   b. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012" for Fathead minnow, *Pimephales promelas* (fathead minnow). Acute toxicity for *Oncorhynchus mykiss* (Rainbow Trout) may be used as a substitute for testing fathead minnows.

   c. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.

   d. The discharger shall electronically report all acute toxicity testing.

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[3] The Maximum Allowable Threshold Concentration (MATC) is the allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. A typical MATC would be:
The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

[4] Batch Treatment mode is defined as holding or recirculating the treated water in a holding basin or tank(s) until treatment is complete or the basin or storage tank(s) is full.

[5] This requirement only requires that the test be initiated prior to discharge.

[6] http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf.

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F. Filtration

1. The ATS shall include a filtration step between the coagulant treatment train and the effluent discharge. This is commonly provided by sand, bag, or cartridge filters, which are sized to capture suspended material that might pass through the clarifier tanks.

2. Differential pressure measurements shall be taken to monitor filter loading and confirm that the final filter stage is functioning properly.

G. Residuals Management

1. Sediment shall be removed from the storage or treatment cells as necessary to ensure that the cells maintain their required water storage (i.e., volume) capability.

2. Handling and disposal of all solids generated during ATS operations shall be done in accordance with all local, state, and federal laws and regulations.

H. ATS Instrumentation

1. The ATS shall be equipped with instrumentation that automatically measures and records effluent water quality data and flow rate.

2. The minimum data recorded shall be consistent with the Monitoring and Reporting requirements below, and shall include:

   a. Influent Turbidity

   b. Effluent Turbidity

   c. Influent pH

   d. Effluent pH

   e. Residual Chemical

   f. Effluent Flow rate

   g. Effluent Flow volume

3. Systems shall be equipped with a data recording system, such as data loggers or webserver-based systems, which records each measurement on a frequency no longer than once every 15 minutes.

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4. Cumulative flow volume shall be recorded daily. The data recording system shall have the capacity to record a minimum of seven days continuous data.

5. Instrumentation systems shall be interfaced with system control to provide auto shutoff or recirculation in the event that effluent measurements exceed turbidity or pH.

6. The system shall also assure that upon system upset, power failure, or other catastrophic event, the ATS will default to a recirculation mode or safe shut down.

7. Instrumentation (flow meters, probes, valves, streaming current detectors, controlling computers, etc.) shall be installed and maintained per manufacturer's recommendations, which shall be included in the QA/QC plan.

8. The QA/QC plan shall also specify calibration procedures and frequencies, instrument method detection limit or sensitivity verification, laboratory duplicate procedures, and other pertinent procedures.

9. The instrumentation system shall include a method for controlling coagulant dose, to prevent potential overdosing. Available technologies include flow/turbidity proportional metering, periodic jar testing and metering pump adjustment, and ionic charge measurement controlling the metering pump.

I. ATS Effluent Discharge

1. ATS effluent shall comply with all provisions and prohibitions in this General Permit, specifically the NELs.

2. NELs for discharges from an ATS:

   a. Turbidity of all ATS discharges shall be less than 10 NTU for daily flow-weighted average of all samples and 20 NTU for any single sample.

   b. Residual Chemical shall be < 10% of MATC[7] for the most sensitive species of the chemical used.

3. If an analytical effluent sampling result is outside the range of pH NELs (i.e., is below the lower NEL for pH or exceeds the upper NEL for pH) or exceeds the turbidity NEL (as listed in Table 1), the discharger is in violation of this General

[7] The Maximum Allowable Threshold Concentration (MATC) is the allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

Permit and shall electronically file the results in violation within 24-hours of obtaining the results.

4. If ATS effluent is authorized to discharge into a sanitary sewer system, the discharger shall comply with any pre-treatment requirements applicable for that system. The discharger shall include any specific criteria required by the municipality in the ATS Plan.

5. Compliance Storm Event:

   Discharges of storm water from ATS shall comply with applicable NELs (above) unless the storm event causing the discharges is determined after the fact to be equal to or larger than the Compliance Storm Event (expressed in inches of rainfall). The Compliance Storm Event for ATS discharges is the 10 year, 24 hour storm, as determined using these maps:

   http://www.wrcc.dri.edu/pcpnfreq/nca10y24.gif
   http://www.wrcc.dri.edu/pcpnfreq/sca10y24.gif

   This exemption is dependent on the submission of rain gauge data verifying the storm event is equal to or larger than the Compliance Storm.

J. Operation and Maintenance Plan

1. Each Project shall have a site-specific Operation and Maintenance (O&M) Manual covering the procedures required to install, operate and maintain the ATS.[8]

2. The O&M Manual shall only be used in conjunction with appropriate project-specific design specifications that describe the system configuration and operating parameters.

3. The O&M Manual shall have operating manuals for specific pumps, generators, control systems,and other equipment.

K. Sampling and Reporting Quality Assurance/ Quality Check (QA/QC) Plan

4. A project-specific QA/QC Plan shall be developed for each project. The QA/QC Plan shall include at a minimum:

   a. Calibration – Calibration methods and frequencies for all system and field instruments shall be specified.

   b. Method Detection Limits (MDLs) – The methods for determining MDLs shall be specified for each residual coagulant measurement method. Acceptable

[8] The manual is typically in a modular format covering generalized procedures for each component that is utilized in a particular system.

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minimum MDLs for each method, specific to individual coagulants, shall be specified.

c. Laboratory Duplicates – Requirements for monthly laboratory duplicates for residual coagulant analysis shall be specified.

L. Personnel Training

1. Operators shall have training specific to using an ATS and liquid coagulants for storm water discharges in California.

2. The training shall be in the form of a formal class with a certificate and requirements for testing and certificate renewal.

3. Training shall include a minimum of eight hours classroom and 32 hours field training. The course shall cover the following topics:

   a. Coagulation Basics –Chemistry and physical processes

   b. ATS System Design and Operating Principles

   c. ATS Control Systems

   d. Coagulant Selection – Jar testing, dose determination, etc.

   e. Aquatic Safety/Toxicity of Coagulants, proper handling and safety

   f. Monitoring, Sampling, and Analysis

   g. Reporting and Recordkeeping

   h. Emergency Response

M. Active Treatment System (ATS) Monitoring Requirements

Any discharger who deploys an ATS on their site shall conduct the following:

1. Visual Monitoring

   a. A designated responsible person shall be on site daily at all times during treatment operations.

   b. Daily on-site visual monitoring of the system for proper performance shall be conducted and recorded in the project data log.

i. The log shall include the name and phone number of the person responsible for system operation and monitoring.

ii. The log shall include documentation of the responsible person's training.

2. Operational and Compliance Monitoring

a. Flow shall be continuously monitored and recorded at not greater than 15-minute intervals for total volume treated and discharged.

b. Influent and effluent pH must be continuously monitored and recorded at not greater than 15-minute intervals.

c. Influent and effluent turbidity (expressed in NTU) must be continuously monitored and recorded at not greater than 15-minute intervals.

d. The type and amount of chemical used for pH adjustment, if any, shall be monitored and recorded.

e. Dose rate of chemical used in the ATS system (expressed in mg/L) shall be monitored and reported 15-minutes after startup and every 8 hours of operation.

f. Laboratory duplicates – monthly laboratory duplicates for residual coagulant analysis must be performed and records shall be maintained onsite.

g. Effluent shall be monitored and recorded for residual chemical/additive levels.

h. If a residual chemical/additive test does not exist and the ATS is operating in a batch treatment mode of operation refer to the toxicity monitoring requirements below.

3. Toxicity Monitoring

A discharger operating in batch treatment mode shall perform toxicity testing in accordance with the following:

a. The discharger shall initiate acute toxicity testing on effluent samples representing effluent from each batch prior to discharge.[9] All bioassays shall be sent to a laboratory certified by the Department of Health Services (DHS) Environmental Laboratory Accreditation Program (ELAP). The required field of testing number for Whole Effluent Toxicity (WET) testing is E113.[10]

[9] This requirement only requires that the test be initiated prior to discharge.
[10] http://www.dhs.ca.gov/ps/ls/elap/pdf/FOT_Desc.pdf.

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b. Acute toxicity tests shall be conducted with the following species and protocols. The methods to be used in the acute toxicity testing shall be those outlined for a 96-hour acute test in "Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms, USEPA-841-R-02-012" for Fathead minnow, *Pimephales promelas or* Rainbow trout *Oncorhynchus mykiss* may be used as a substitute for fathead minnow.

c. All toxicity tests shall meet quality assurance criteria and test acceptability criteria in the most recent versions of the EPA test method for WET testing.[11]

4. Reporting and Recordkeeping

At a minimum, every 30 days a LRP representing the discharger shall access the State Water Boards Storm Water Mulit-Application and Report Tracking system (SMARTS) and electronically upload field data from the ATS. Records must be kept for three years after the project is completed .

5. Non-compliance Reporting

a. Any indications of toxicity or other violations of water quality objectives shall be reported to the appropriate regulatory agency as required by this General Permit.

b. Upon any measurements that exceed water quality standards, the system operator shall immediately notify his supervisor or other responsible parties, who shall notify the Regional Water Board.

c. If any monitoring data exceeds any applicable NEL in this General Permit, the discharger shall electronically submit a NEL Violation Report to the State Water Board within 24 hours after the NEL exceedance has been identified.

i. ATS dischargers shall certify each NEL Violation Report in accordance with the Special Provisions for Construction Activity in this General Permit.

ii. ATS dischargers shall retain an electronic or paper copy of each NEL Violation Report for a minimum of three years after the date the annual report is filed.

iii. ATS dischargers shall include in the NEL Violation Report:

(1) The analytical method(s), method reporting unit(s), and method detection limit(s) of each analytical parameter (analytical results that are less than the method detection limit shall be reported as "less than the method detection limit");

[11] http://www.epa.gov/waterscience/methods/wet/.

(2) The date, place, time of sampling, visual observation (inspections), and/or measurements, including precipitation; and

(3) A description of the current onsite BMPs, and the proposed corrective actions taken to manage the NEL exceedance.

iv. Compliance Storm Exemption - In the event that an applicable NEL has been exceeded during a storm event equal to or larger than the Compliance Storm Event, ATS dischargers shall report the on-site rain gauge reading and nearby governmental rain gauge readings for verification.

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Risk Determination Worksheet

Step 1 Determine Sediment Risk via one of the options listed:
1. GIS Map Method - EPA Rainfall Erosivity Calculator & GIS map
2. Individual Method - EPA Rainfall Erosivity Calculator & Individual Data

Step 2 Determine Receiving Water Risk via one of the options listed:
1. GIS map of Sediment Sensitive Watersheds provided (in development)
2. List of Sediment Sensitive Watersheds provided

Step 3 Determine Combined Risk Level

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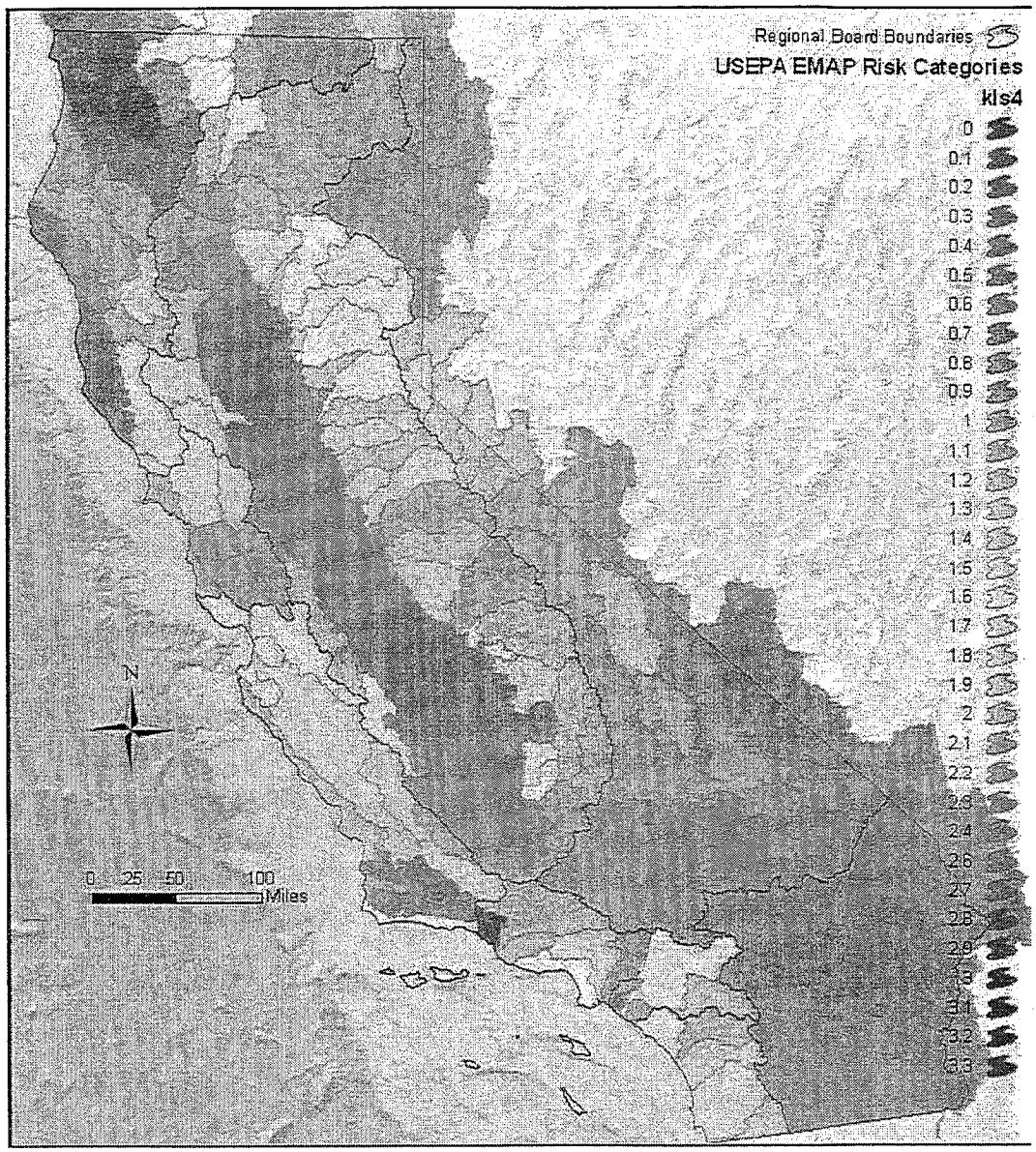
Sediment Risk Factor Worksheet	Entry
A) R Factor	
Analyses of data indicated that when factors other than rainfall are held constant, soil loss is directly proportional to a rainfall factor composed of total storm kinetic energy (E) times the maximum 30-min intensity (I30) (Wischmeier and Smith, 1958). The numerical value of R is the average annual sum of EI30 for storm events during a rainfall record of at least 22 years. "Isoerodent" maps were developed based on R values calculated for more than 1000 locations in the Western U.S. Refer to the link below to determine the R factor for the project site. http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm	
R Factor Value	0
B) K Factor (weighted average, by area, for all site soils)	
The soil-erodibility factor K represents: (1) susceptibility of soil or surface material to erosion, (2) transportability of the sediment, and (3) the amount and rate of runoff given a particular rainfall input, as measured under a standard condition. Fine-textured soils that are high in clay have low K values (about 0.05 to 0.15) because the particles are resistant to detachment. Coarse-textured soils, such as sandy soils, also have low K values (about 0.05 to 0.2) because of high infiltration resulting in low runoff even though these particles are easily detached. Medium-textured soils, such as a silt loam, have moderate K values (about 0.25 to 0.45) because they are moderately susceptible to particle detachment and they produce runoff at moderate rates. Soils having a high silt content are especially susceptible to erosion and have high K values, which can exceed 0.45 and can be as large as 0.65. Silt-size particles are easily detached and tend to crust, producing high rates and large volumes of runoff. Use Site-specific data must be submitted. Site-specific K factor guidance	
K Factor Value	0
C) LS Factor (weighted average, by area, for all slopes)	
The effect of topography on erosion is accounted for by the LS factor, which combines the effects of a hillslope-length factor, L, and a hillslope-gradient factor, S. Generally speaking, as hillslope length and/or hillslope gradient increase, soil loss increases. As hillslope length increases, total soil loss and soil loss per unit area increase due to the progressive accumulation of runoff in the downslope direction. As the hillslope gradient increases, the velocity and erosivity of runoff increases. Use the LS table located in separate tab of this spreadsheet to determine LS factors. Estimate the weighted LS for the site prior to construction. LS Table	
LS Factor Value	0
Watershed Erosion Estimate (=RxKxLS) in tons/acre	0
Site Sediment Risk Factor Low Sediment Risk: < 15 tons/acre Medium Sediment Risk: >=15 and <75 tons/acre High Sediment Risk: >= 75 tons/acre	**Low**

For the GIS Map Method, the R factor for the project is calculated using the online calculator at (see cell to right). The product of K and LS are shown on the figure below. To determine soil loss in tons per acre, multiply the R factor times the value for K times LS from the map.
http://cfpub.epa.gov/npdes/stormwater/LEW/lewCalculator.cfm



State Water Resources Control Board, January 15, 2008

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Receiving Water (RW) Risk Factor Worksheet	Entry	Score
A. Watershed Characteristics	yes/no	
A.1. Does the disturbed area discharge (either directly or indirectly) to a **303(d)-listed waterbody impaired by sediment**? (For help with impaired waterbodies please check the attached worksheet or visit the link below) or has a **USEPA approved TMDL implementation plan for sediment**?: 2006 Approved Sediment-impared WBs Worksheet http://www.waterboards.ca.gov/water_issues/programs/tmdl/303d_lists2006_epa.shtml	**Yes**	**High**
OR		
A.2. Does the disturbed area discharge to a waterbody with designated beneficial uses of SPAWN & COLD & MIGRATORY? http://www.ice.ucdavis.edu/geowbs/asp/wbguse.asp		

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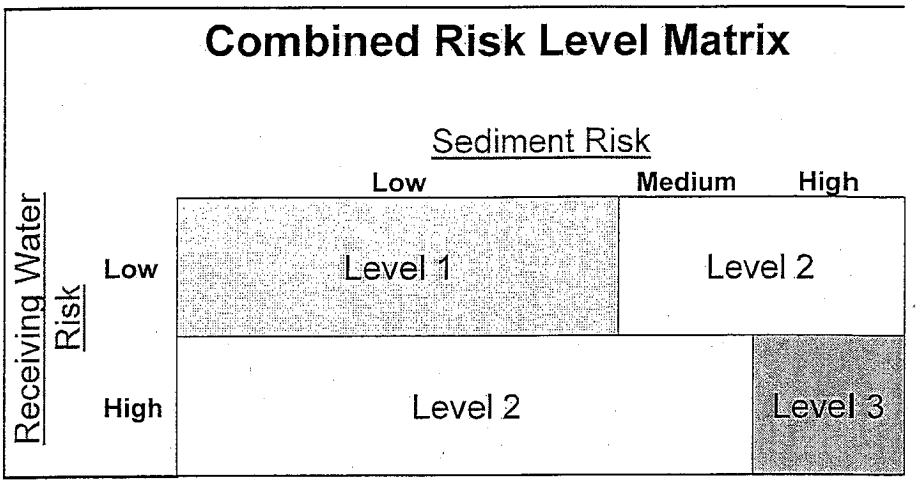


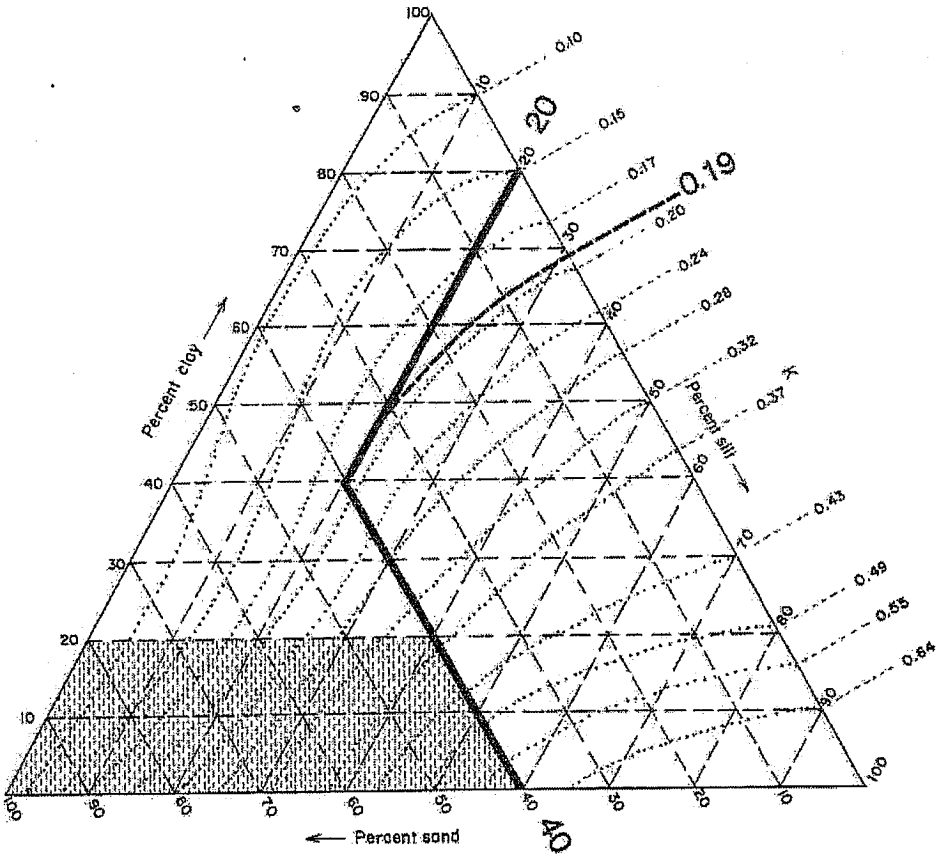
Project Sediment Risk: Low

Project RW Risk: High

Project Combined Risk: Level 3

Soil Erodibility Factor (K)

The K factor can be determined by using the nomograph method, which requires that a particle size analysis (ASTM D-422) be done to determine the percentages of sand, very fine sand, silt and clay. Use the figure below to determine appropriate K value.



Erickson triangular nomograph used to estimate soil erodibility (K) factor.
The figure above is the USDA nomograph used to determine the K factor for a soil, based on its texture (% silt plus very fine sand, % sand, % organic matter, soil structure, and permeability).
Nomograph from Erickson 1977 as referenced in Goldman et. al., 1986.

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Sheet Flow Length (ft)	Average Watershed Slope (%)														
	0.2	0.5	1.0	2.0	3.0	4.0	5.0	6.0	8.0	10.0	12.0	14.0	16.0	20.0	
<3	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.35	0.36	0.38	0.39	0.41	
6	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.37	0.41	0.45	0.49	0.56	
9	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.38	0.45	0.51	0.56	0.67	
12	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.39	0.47	0.55	0.62	0.76	
15	0.05	0.07	0.09	0.13	0.17	0.20	0.23	0.26	0.32	0.40	0.49	0.58	0.67	0.84	
25	0.05	0.07	0.10	0.16	0.21	0.26	0.31	0.36	0.45	0.57	0.71	0.85	0.98	1.24	
50	0.05	0.08	0.13	0.21	0.30	0.38	0.46	0.54	0.70	0.91	1.15	1.40	1.64	2.10	
75	0.05	0.08	0.14	0.25	0.36	0.47	0.58	0.69	0.91	1.20	1.54	1.87	2.21	2.86	
100	0.05	0.09	0.15	0.28	0.41	0.55	0.68	0.82	1.10	1.46	1.88	2.31	2.73	3.57	
150	0.05	0.09	0.17	0.33	0.50	0.68	0.86	1.05	1.43	1.92	2.51	3.09	3.68	4.85	
200	0.06	0.10	0.18	0.37	0.57	0.79	1.02	1.25	1.72	2.34	3.07	3.81	4.56	6.04	
250	0.06	0.10	0.19	0.40	0.64	0.89	1.16	1.43	1.99	2.72	3.60	4.48	5.37	7.16	
300	0.06	0.10	0.20	0.43	0.69	0.98	1.28	1.60	2.24	3.09	4.09	5.11	6.15	8.23	1
400	0.06	0.11	0.22	0.48	0.80	1.14	1.51	1.90	2.70	3.75	5.01	6.30	7.60	10.24	1
600	0.06	0.12	0.24	0.56	0.96	1.42	1.91	2.43	3.52	4.95	6.67	8.45	10.26	13.94	1
800	0.06	0.12	0.26	0.63	1.10	1.65	2.25	2.89	4.24	6.03	8.17	10.40	12.69	17.35	2
1000	0.06	0.13	0.27	0.69	1.23	1.86	2.55	3.30	4.91	7.02	9.57	12.23	14.96	20.57	2

LS Factors for Construction Sites. *Table from Renard et. al., 1997.*

WBID	REGION NUMBER	REGION NAME	WATER BODY TYPE ABBR	WATER BODY TYPE	WATER BODY NAME	CALWATER WATERSHED	ESTIMATED SIZE AFFECTED	LIST ABBR	UNIT	POLLUTANT CODE	POLLUTANT	SOURCE CODE	POTENTIAL SOURCES	PROPOSED TMDL COMPLETION	COMMENTS
CAE11530 1		North Coast	E	Estuaries	Bodega HU, Estero Americano HA, estuary	11530012	199	A	Acres	1100	Sedimentation/Siltation	1510	Range Grazing-Riparian	2019	Water Quality Attainment Strategy is attempting to increase voluntary measures for attainment of standards & objectives, as was done in the Estero de San Antonio/Stemple Creek T
CAE11530 1		North Coast	E	Estuaries	Bodega HU, Estero Americano HA, estuary	11530012	199	A	Acres	1100	Sedimentation/Siltation	7000	Hydromodification	2019	Water Quality Attainment Strategy, adopted by NCRWQCB in Dec, 97. Water Quality Attainment Strategy is attempting to increase voluntary measures for attainment of standards & objectives, as was done in the Estero de San Antonio/Stemple Creek T Water Quality Attainment Strategy, adopted by NCRWQCB in Dec, 97.
CAE11530 1		North Coast	E	Estuaries	Bodega HU, Estero Americano HA, estuary	11530012	199	A	Acres	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	Water Quality Attainment Strategy is attempting to increase voluntary measures for attainment of standards & objectives, as was done in the Estero de San Antonio/Stemple Creek T Water Quality Attainment Strategy, adopted by NCRWQCB in Dec, 97.
CAE11530 1		North Coast	E	Estuaries	Bodega HU, Estero Americano HA, estuary	11530012	199	A	Acres	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	Water Quality Attainment Strategy is attempting to increase voluntary measures for attainment of standards & objectives, as was done in the Estero de San Antonio/Stemple Creek T Water Quality Attainment Strategy, adopted by NCRWQCB in Dec, 97.
CAE11530 1		North Coast	E	Estuaries	Bodega HU, Estero Americano HA, estuary	11530012	199	A	Acres	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Water Quality Attainment Strategy is attempting to increase voluntary measures for attainment of standards & objectives, as was done in the Estero de San Antonio/Stemple Creek T Water Quality Attainment Strategy, adopted by NCRWQCB in Dec, 97.
CAE11530 1		North Coast	E	Estuaries	Bodega HU, Estero Americano HA, estuary	11530012	199	A	Acres	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	Water Quality Attainment Strategy is attempting to increase voluntary measures for attainment of standards & objectives, as was done in the Estero de San Antonio/Stemple Creek T Water Quality Attainment Strategy, adopted by NCRWQCB in Dec, 97.
CAR11111 1		North Coast	R	Rivers/Streams	Eel River HU, Lower Eel River HA, Eel River Delta	11110000	426	M	Miles	1100	Sedimentation/Siltation	1500	Range Grazing-Riparian and/or Upland	2019	
CAR11111 1		North Coast	R	Rivers/Streams	Eel River HU, Lower Eel River HA, Eel River Delta	11110000	426	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	
CAR11111 1		North Coast	R	Rivers/Streams	Eel River HU, Lower Eel River HA, Eel River Delta	11110000	426	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	1510	Range Grazing-Riparian	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	1520	Range Grazing-Upland	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	2100	Harvesting, Restoration, Residue Management	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	2300	Logging Road Construction/Maintenance	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	3200	Land Development	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	7000	Hydromodification	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	7550	Habitat Modification	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2004	
CAR11141 1		North Coast	R	Rivers/Streams	Eel River HU, Middle Main HA	11140000	674	M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2004	
CAR11162 1		North Coast	R	Rivers/Streams	Eel River HU, Upper Main HA (includes Tomle Creek)	11160000	1141	M	Miles	1100	Sedimentation/Siltation	1935	Agriculture-grazing	2019	USEPA will develop a TMDL for Eel River, Upper Main Fork.
CAR11162 1		North Coast	R	Rivers/Streams	Eel River HU, Upper Main HA (includes Tomle Creek)	11160000	1141	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	USEPA will develop a TMDL for Eel River, Upper Main Fork.
CAR11162 1		North Coast	R	Rivers/Streams	Eel River HU, Upper Main HA (includes Tomle Creek)	11160000	1141	M	Miles	1100	Sedimentation/Siltation	2100	Harvesting, Restoration, Residue Management	2019	USEPA will develop a TMDL for Eel River, Upper Main Fork.
CAR11162 1		North Coast	R	Rivers/Streams	Eel River HU, Upper Main HA (includes Tomle Creek)	11160000	1141	M	Miles	1100	Sedimentation/Siltation	2300	Logging Road Construction/Maintenance	2019	USEPA will develop a TMDL for Eel River, Upper Main Fork.
CAR11162 1		North Coast	R	Rivers/Streams	Eel River HU, Upper Main HA (includes Tomle Creek)	11160000	1141	M	Miles	1100	Sedimentation/Siltation	2400	Silvicultural Point Sources	2019	USEPA will develop a TMDL for Eel River, Upper Main Fork.
CAR11162 1		North Coast	R	Rivers/Streams	Eel River HU, Upper Main HA (includes Tomle Creek)	11160000	1141	M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	USEPA will develop a TMDL for Eel River, Upper Main Fork.
CAR11162 1		North Coast	R	Rivers/Streams	Eel River HU, Upper Main HA (includes Tomle Creek)	11160000	1141	M	Miles	1100	Sedimentation/Siltation	3100	Highway/Road/Bridge Construction	2019	USEPA will develop a TMDL for Eel River, Upper Main Fork.
CAR11162 1		North Coast	R	Rivers/Streams	Eel River HU, Upper Main HA (includes Tomle Creek)	11160000	1141	M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	USEPA will develop a TMDL for Eel River, Upper Main Fork.
CAR11162 1		North Coast	R	Rivers/Streams	Eel River HU, Upper Main HA (includes Tomle Creek)	11160000	1141	M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	USEPA will develop a TMDL for Eel River, Upper Main Fork.
CAR11162 1		North Coast	R	Rivers/Streams	Eel River HU, Upper Main HA (includes Tomle Creek)	11160000	1141	M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	USEPA will develop a TMDL for Eel River, Upper Main Fork.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Elk River	11000000	88	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	The Eureka Plain HU, Elk River, includes the following Calwater Planning Watersheds (PWS): 110.00021, 110.00030, 110.00032, and 110.00042. Sedimentation, threat sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Elk River	11000000	88	M	Miles	1100	Sedimentation/Siltation	2100	Harvesting, Restoration, Residue Management	2019	The Eureka Plain HU, Elk River, includes the following Calwater Planning Watersheds (PWS): 110.00021, 110.00030, 110.00032, and 110.00042. Sedimentation, threat sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Elk River	11000000	88	M	Miles	1100	Sedimentation/Siltation	2300	Logging Road Construction/Maintenance	2019	The Eureka Plain HU, Elk River, includes the following Calwater Planning Watersheds (PWS): 110.00021, 110.00030, 110.00032, and 110.00042. Sedimentation, threat sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Elk River	11000000	88	M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	The Eureka Plain HU, Elk River, includes the following Calwater Planning Watersheds (PWS): 110.00021, 110.00030, 110.00032, and 110.00042. Sedimentation, threat sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Elk River	11000000	88	M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	The Eureka Plain HU, Elk River, includes the following Calwater Planning Watersheds (PWS): 110.00021, 110.00030, 110.00032, and 110.00042. Sedimentation, threat sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Elk River	11000000	88	M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	The Eureka Plain HU, Elk River, includes the following Calwater Planning Watersheds (PWS): 110.00021, 110.00030, 110.00032, and 110.00042. Sedimentation, threat sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Elk River	11000000	88	M	Miles	1100	Sedimentation/Siltation	8600	Natural Sources	2019	The Eureka Plain HU, Elk River, includes the following Calwater Planning Watersheds (PWS): 110.00021, 110.00030, 110.00032, and 110.00042. Sedimentation, threat sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Elk River	11000000	88	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	The Eureka Plain HU, Elk River, includes the following Calwater Planning Watersheds (PWS): 110.00021, 110.00030, 110.00032, and 110.00042. Sedimentation, threat sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Freshwater Creek	11000000	84	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	The Eureka Plain HU, Freshwater Creek, includes the following Calwater Planning Watersheds (PWS): 110.00011, 110.00012, 110.00014, 110.00040, and 110.00050. Sedimentation, threat of sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Freshwater Creek	11000000	84	M	Miles	1100	Sedimentation/Siltation	2100	Harvesting, Restoration, Residue Management	2019	The Eureka Plain HU, Freshwater Creek, includes the following Calwater Planning Watersheds (PWS): 110.00011, 110.00012, 110.00014, 110.00040, and 110.00050. Sedimentation, threat of sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1		North Coast	R	Rivers/Streams	Eureka Plain HU, Freshwater Creek	11000000	84	M	Miles	1100	Sedimentation/Siltation	2300	Logging Road Construction/Maintenance	2019	The Eureka Plain HU, Freshwater Creek, includes the following Calwater Planning Watersheds (PWS): 110.00011, 110.00012, 110.00014, 110.00040, and 110.00050. Sedimentation, threat of sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.

WBID	REGION NUMBER	REGION NAME	WATER BODY TYPE ABBR	WATER BODY TYPE	WATER BODY NAME	CALWATER WATERSHED	ESTIMATED SIZE AFFECTED	UNIT ABBR	UNIT	POLLUTANT CODE	POLLUTANT	SOURCE CODE	POTENTIAL SOURCES	PROPOSED TMDL COMPLETION	COMMENTS
CAR11000 1	North Coast	R	Rivers/Streams	Eureka Plain HU, Freshwater Creek	11000000	84 M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	The Eureka Plain HU, Freshwater Creek, includes the following Calwater Planning Watersheds (PWS): 110.00011, 110.00012, 110.00014, 110.00040, and 110.00050. Sedimentation, threat of sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1	North Coast	R	Rivers/Streams	Eureka Plain HU, Freshwater Creek	11000000	84 M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	The Eureka Plain HU, Freshwater Creek, includes the following Calwater Planning Watersheds (PWS): 110.00011, 110.00012, 110.00014, 110.00040, and 110.00050. Sedimentation, threat of sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1	North Coast	R	Rivers/Streams	Eureka Plain HU, Freshwater Creek	11000000	84 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	The Eureka Plain HU, Freshwater Creek, includes the following Calwater Planning Watersheds (PWS): 110.00011, 110.00012, 110.00014, 110.00040, and 110.00050. Sedimentation, threat of sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1	North Coast	R	Rivers/Streams	Eureka Plain HU, Freshwater Creek	11000000	84 M	Miles	1100	Sedimentation/Siltation	8600	Natural Sources	2019	The Eureka Plain HU, Freshwater Creek, includes the following Calwater Planning Watersheds (PWS): 110.00011, 110.00012, 110.00014, 110.00040, and 110.00050. Sedimentation, threat of sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules.
CAR11000 1	North Coast	R	Rivers/Streams	Eureka Plain HU, Freshwater Creek	11000000	84 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	The Eureka Plain HU, Freshwater Creek, includes the following Calwater Planning Watersheds (PWS): 110.00011, 110.00012, 110.00014, 110.00040, and 110.00050. Sedimentation, threat of sedimentation, impaired irrigation water quality, impaired domestic supply water quality, impaired spawning habitat, increased rate and depth of flooding due to sediment, property damage. NCRWQCB and California Department of forestry staff are involved in ongoing efforts to attain adherance to Forest Practice Rules. If this listing is determined to be on tribal lands, USEPA should place this water body and pollutant on the section 303d list for the tribal lands. It is not the State Water Board's inten this listing effect other actions related to decommissioning and removal of dams on the Klamath River
CAR10511 1	North Coast	R	Rivers/Streams	Klamath River HU, Lower HA, Klamath Glen HSA	10511000	609 M	Miles	1100	Sedimentation/Siltation	9000	Source Unknown	2019	USEPA will develop TMDL for the Mad River. Sediment TMDLS will be developed for the area tributary to and including (1) the Mad River (North Fork), (2) the mad River (Upper), (3) the Mad River (Middle).
CAR10910 1	North Coast	R	Rivers/Streams	Mad River HU, Mad River	10900000	654 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	USEPA will develop TMDL for the Mad River. Sediment TMDLS will be developed for the area tributary to and including (1) the Mad River (North Fork), (2) the mad River (Upper), (3) the Mad River (Middle).
CAR10910 1	North Coast	R	Rivers/Streams	Mad River HU, Mad River	10900000	654 M	Miles	1100	Sedimentation/Siltation	5000	Resource Extraction	2019	USEPA will develop TMDL for the Mad River. Sediment TMDLS will be developed for the area tributary to and including (1) the Mad River (North Fork), (2) the mad River (Upper), (3) the Mad River (Middle).
CAR10910 1	North Coast	R	Rivers/Streams	Mad River HU, Mad River	10900000	654 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR11412 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Austin Creek HSA	11412000	81 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11412 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Austin Creek HSA	11412000	81 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11412 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Austin Creek HSA	11412000	81 M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11412 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Austin Creek HSA	11412000	81 M	Miles	1100	Sedimentation/Siltation	7300	Dam Construction	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11412 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Austin Creek HSA	11412000	81 M	Miles	1100	Sedimentation/Siltation	7400	Flow Regulation/Modification	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11412 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Austin Creek HSA	11412000	81 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	1200	Irrigated Crop Production	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	1300	Specialty Crop Production	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	1915	Agriculture-storm runoff	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	1935	Agriculture-grazing	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	3100	Highway/Road/Bridge Construction	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	3200	Land Development	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7000	Hydromodification	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7100	Channelization	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7300	Dam Construction	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7350	Upstream Impoundment	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7400	Flow Regulation/Modification	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7550	Habitat Modification	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7800	Drainage/Filling Of Wetlands	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11411 1	North Coast	R	Rivers/Streams	Russian River HU, Lower Russian River HA, Guerneville HSA	11411000	195 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11426 1	North Coast	R	Rivers/Streams	Russian River HU, Middle Russian River HA, Big Sulphur Creek HSA	11426000	85 M	Miles	1100	Sedimentation/Siltation	3210	Geothermal Development	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11426 1	North Coast	R	Rivers/Streams	Russian River HU, Middle Russian River HA, Big Sulphur Creek HSA	11426000	85 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11426 1	North Coast	R	Rivers/Streams	Russian River HU, Middle Russian River HA, Big Sulphur Creek HSA	11426000	85 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.

WBID	REGION NUMBER	REGION NAME	WATER BODY TYPE ABBR	WATER BODY TYPE	WATER BODY NAME	CALWATER WATERSHED	ESTIMATED SIZE AFFECTED	UNIT ABBR	UNIT	POLLUTANT CODE	POLLUTANT	SOURCE CODE	POTENTIAL SOURCES	PROPOSED TMDL COMPLETION	COMMENTS
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	1100	Nonirrigated Crop Production	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	1200	Irrigated Crop Production	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	1300	Specialty Crop Production	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	1510	Range Grazing-Riparian	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	1520	Range Grazing-Upland	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	1915	Agriculture-storm runoff	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	1935	Agriculture-grazing	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	3210	Geothermal Development	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	4501	Surface Runoff	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	5000	Resource Extraction	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	7100	Channelization	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	7500	Bridge Construction	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	7800	Drainage/Filling Of Wetlands	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	8600	Natural Sources	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11425 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Geyserville HSA	11425000	242 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment TMDL.
CAR11421 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	95 M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR11421 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	95 M	Miles	1100	Sedimentation/Siltation	3200	Land Development	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR11421 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	95 M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR11421 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	95 M	Miles	1100	Sedimentation/Siltation	4000	Urban Runoff/Storm Sewers	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	1200	Irrigated Crop Production	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	1300	Specialty Crop Production	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	1500	Range Grazing-Riparian and/or Upland	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	1510	Range Grazing-Riparian	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	1600	Intensive Animal Feeding Operations	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	1915	Agriculture-storm runoff	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	1935	Agriculture-grazing	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	2100	Harvesting, Restoration, Residue Management	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	3100	Highway/Road/Bridge Construction	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	3200	Land Development	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	4300	Other Urban Runoff	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11423 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	4501	Surface Runoff	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.

WBID	REGION NUMBER	REGION NAME	WATER BODY TYPE ABBR	WATER BODY TYPE	WATER BODY NAME	CALWATER WATERSHED	ESTIMATED SIZE AFFECTED	UNIT ABBR	UNIT	POLLUTANT CODE	POLLUTANT	SOURCE CODE	POTENTIAL SOURCES	PROPOSED TMDL COMPLETION	COMMENTS
CAR114231	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	7800	Removal of Riparian Vegetation	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR114231	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR114231	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	7800	Drainage/Filling Of Wetlands	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR114231	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	4300	Other Urban Runoff	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	4500	Highway/Road/Bridge Runoff	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	7000	Hydromodification	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	7100	Channelization	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	7800	Drainage/Filling Of Wetlands	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	8050	Erosion From Derelict Land	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	8300	Highway Maintenance and Runoff	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR114211	North Coast		R	Rivers/Streams	Laguna de Santa Rosa	11421000	96 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	Entire Russian River watershed (including Laguna de Santa Rosa) is listed for sedimentation.
CAR309111 3	Central Coast		R	Rivers/Streams	San Vicente Creek	30911023	9.11953 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	
CAR314103	Central Coast		R	Rivers/Streams	Santa Ynez River (below city of Lompoc to Ocean)	31410040	3.8 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	
CAR314103	Central Coast		R	Rivers/Streams	Santa Ynez River (below city of Lompoc to Ocean)	31410040	3.8 M	Miles	1100	Sedimentation/Siltation	4000	Urban Runoff/Storm Sewers	2019	
CAR314103	Central Coast		R	Rivers/Streams	Santa Ynez River (below city of Lompoc to Ocean)	31410040	3.8 M	Miles	1100	Sedimentation/Siltation	5000	Resource Extraction	2019	
CAR314103	Central Coast		R	Rivers/Streams	Santa Ynez River (Cachuma Lake to below city o Lompoc)	31440050	43 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	
CAR314103	Central Coast		R	Rivers/Streams	Santa Ynez River (Cachuma Lake to below city o Lompoc)	31440050	43 M	Miles	1100	Sedimentation/Siltation	4000	Urban Runoff/Storm Sewers	2019	
CAR314103	Central Coast		R	Rivers/Streams	Santa Ynez River (Cachuma Lake to below city o Lompoc)	31440050	43 M	Miles	1100	Sedimentation/Siltation	5000	Resource Extraction	2019	
CAR313003	Central Coast		R	Rivers/Streams	Sherman Canyon Creek	31300041	0.5496 M	Miles	1100	Sedimentation/Siltation	9000	Source Unknown	2019	
CAR304133	Central Coast		R	Rivers/Streams	Valencia Creek	30413023	6.19 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2008	
CAR304133	Central Coast		R	Rivers/Streams	Valencia Creek	30413023	6.19 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2008	
CAR304123	Central Coast		R	Rivers/Streams	Zayante Creek	30412040	9.20875 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	
CAR304123	Central Coast		R	Rivers/Streams	Zayante Creek	30412040	9.20875 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	
CAR304123	Central Coast		R	Rivers/Streams	Zayante Creek	30412040	9.20875 M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	
CAR304123	Central Coast		R	Rivers/Streams	Zayante Creek	30412040	9.20875 M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	
CAR304123	Central Coast		R	Rivers/Streams	Zayante Creek	30412040	9.20875 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAR304123	Central Coast		R	Rivers/Streams	Zayante Creek	30412040	9.20875 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR114231	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Mark West Creek HSA	11423000	99 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	1100	Nonirrigated Crop Production	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	1200	Irrigated Crop Production	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	1300	Specialty Crop Production	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	1400	Pasture Grazing-Riparian and/or Upland	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	1510	Range Grazing-Riparian	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	1520	Range Grazing-Upland	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	1940	Dairies	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	3100	Highway/Road/Bridge Construction	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	3200	Land Development	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	4000	Urban Runoff/Storm Sewers	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	4100	Urban Runoff--Non-Industrial Permitted	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	4300	Other Urban Runoff	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR114221	North Coast		R	Rivers/Streams	Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	4501	Surface Runoff	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.

WBID	REGION NUMBER	REGION NAME	WATER BODY TYPE ABBR	WATER BODY TYPE	WATER BODY NAME	CALWATER WATERSHED	ESTIMATED SIZE AFFECTED	UNIT ABBR	UNIT	POLLUTANT CODE	POLLUTANT	SOURCE CODE	POTENTIAL SOURCES	PROPOSED TMDL COMPLETION	COMMENTS
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	7000	Hydromodification	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	7100	Channelization	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	7500	Bridge Construction	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	7550	Habitat Modification	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	7800	Drainage/Filling Of Wetlands	2015	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	9000	Natural Sources	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11422 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Santa Rosa Creek	11422000	87 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	Entire Russian River watershed (including Santa Rosa Creek) is listed for sedimentation.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	1015	Agriculture-storm runoff	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	2300	Logging Road Construction/Maintenance	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	3100	Highway/Road/Bridge Construction	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7000	Hydromodification	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7100	Channelization	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7300	Dam Construction	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7350	Upstream Impoundment	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7400	Flow Regulation/Modification	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7550	Habitat Modification	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7800	Drainage/Filling Of Wetlands	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11424 1	North Coast	R	Rivers/Streams		Russian River HU, Middle Russian River HA, Warm Springs HSA	11424000	255 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	Sediment impacts in Russian River tributaries prompted listing entire Russian River watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7000	Hydromodification	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7100	Channelization	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7300	Dam Construction	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7400	Flow Regulation/Modification	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7500	Bridge Construction	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7550	Habitat Modification	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7800	Drainage/Filling Of Wetlands	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11432 1	North Coast	R	Rivers/Streams		Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.

WBID	REGION NUMBER	REGION NAME	WATER BODY TYPE ABBR	WATER BODY TYPE	WATER BODY NAME	CALWATER WATERSHED	ESTIMATED SIZE AFFECTED	UNIT ABBR	UNIT	POLLUTANT CODE	POLLUTANT	SOURCE CODE	POTENTIAL SOURCES	PROPOSED TMDL COMPLETION	COMMENTS
CAR11432 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Coyote Valley HSA	11432000	171 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11433 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Forsythe Creek HSA	11433000	122 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11433 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Forsythe Creek HSA	11433000	122 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	5000	Resource Extraction	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	7550	Habitat Modification	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	7800	Damage/Filling Of Wetlands	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	8300	Highway Maintenance and Runoff	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAR11431 1	North Coast		R	Rivers/Streams	Russian River HU, Upper Russian River HA, Ukiah HSA	11431000	450 M	Miles	1100	Sedimentation/Siltation	8500	Natural Sources	2019	Russian River Watershed tributary sediment impairments led to listing of entire watershed for sediment.
CAB20114 2	San Francisco Bay		B	Bays and Harbors	Tomales Bay	20114033	8545.46 A	Acres	1100	Sedimentation/Siltation	1000	Agriculture	2009	TMDL will be developed as part of ongoing watershed management effort. Tributary streams, Lagunitas Creek and Walker Creek, must be managed first. Additional monitoring assessment needed.
CAB20114 2	San Francisco Bay		B	Bays and Harbors	Tomales Bay	20114033	8545.46 A	Acres	1100	Sedimentation/Siltation	7350	Upstream Impoundment	2008	TMDL will be developed as part of ongoing watershed management effort. Tributary streams, Lagunitas Creek and Walker Creek, must be managed first. Additional monitoring assessment needed.
CAR20240 2	San Francisco Bay		R	Rivers/Streams	Petaluma Creek	20240031	3.62274 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	Impairment to steelhead habita
CAR20113 2	San Francisco Bay		R	Rivers/Streams	Lagunitas Creek	20113020	16.75 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2009	Tributary to Tomales Bay. TMDLs will be developed as part of evolving watershed management effort. Additional monitoring and assessment nee
CAR20113 2	San Francisco Bay		R	Rivers/Streams	Lagunitas Creek	20113020	16.75 M	Miles	1100	Sedimentation/Siltation	4000	Urban Runoff/Storm Sewers	2009	Tributary to Tomales Bay. TMDLs will be developed as part of evolving watershed management effort. Additional monitoring and assessment nee
CAR20650 2	San Francisco Bay		R	Rivers/Streams	Napa River	20650010	65.33 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2006	TMDL will be developed as part of ongoing watershed management effort. Additional monitoring and assessment nee
CAR20650 2	San Francisco Bay		R	Rivers/Streams	Napa River	20650010	65.33 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2006	TMDL will be developed as part of ongoing watershed management effort. Additional monitoring and assessment nee
CAR20650 2	San Francisco Bay		R	Rivers/Streams	Napa River	20650010	65.33 M	Miles	1100	Sedimentation/Siltation	3200	Land Development	2006	TMDL will be developed as part of ongoing watershed management effort. Additional monitoring and assessment nee
CAR20650 2	San Francisco Bay		R	Rivers/Streams	Napa River	20650010	65.33 M	Miles	1100	Sedimentation/Siltation	4000	Urban Runoff/Storm Sewers	2006	TMDL will be developed as part of ongoing watershed management effort. Additional monitoring and assessment nee
CAR20240 2	San Francisco Bay		R	Rivers/Streams	Pescadero Creek	20240013	26.03 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	If California Department of Fish and Game and the National Marine Fisheries Service find that for this water body fish populations are not impacted, the State Water Board supp removing this water body and pollutant from the list.
CAR20630 2	San Francisco Bay		R	Rivers/Streams	Petaluma River	20630020	21.566 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	
CAR20630 2	San Francisco Bay		R	Rivers/Streams	Petaluma River	20630020	21.566 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	
CAR20630 2	San Francisco Bay		R	Rivers/Streams	Petaluma River	20630020	21.566 M	Miles	1100	Sedimentation/Siltation	4000	Urban Runoff/Storm Sewers	2019	
CAR20550 2	San Francisco Bay		R	Rivers/Streams	San Francisquito Creek	20550040	12.05 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2008	Impairment to steelhead habita
CAR20230 2	San Francisco Bay		R	Rivers/Streams	San Gregorio Creek	20230014	11.14 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	Impairment to steelhead habita
CAR20540 2	San Francisco Bay		R	Rivers/Streams	Sonoma Creek	20540050	30.23 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2008	TMDL will be developed as part of ongoing watershed management effort. Additional monitoring and assessment nee
CAR20540 2	San Francisco Bay		R	Rivers/Streams	Sonoma Creek	20540050	30.23 M	Miles	1100	Sedimentation/Siltation	3000	Construction/Land Development	2008	TMDL will be developed as part of ongoing watershed management effort. Additional monitoring and assessment nee
CAR20540 2	San Francisco Bay		R	Rivers/Streams	Sonoma Creek	20540050	30.23 M	Miles	1100	Sedimentation/Siltation	3200	Land Development	2008	TMDL will be developed as part of ongoing watershed management effort. Additional monitoring and assessment nee
CAR20540 2	San Francisco Bay		R	Rivers/Streams	Sonoma Creek	20540050	30.23 M	Miles	1100	Sedimentation/Siltation	4000	Urban Runoff/Storm Sewers	2008	TMDL will be developed as part of ongoing watershed management effort. Additional monitoring and assessment nee
CAR20112 2	San Francisco Bay		R	Rivers/Streams	Walker Creek	20112013	15.8352 M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2009	Tributary to Tomales Bay. TMDLs will be developed as part of evolving watershed management effort. Additional monitoring and assessment nee
CAB30600 3	Central Coast		B	Bays and Harbors	Moss Landing Harbor	30600014	79.2726 A	Acres	1100	Sedimentation/Siltation	1000	Agriculture	2019	
CAB30600 3	Central Coast		B	Bays and Harbors	Moss Landing Harbor	30600014	79.2726 A	Acres	1100	Sedimentation/Siltation	1200	Irrigated Crop Production	2019	
CAB30600 3	Central Coast		B	Bays and Harbors	Moss Landing Harbor	30600014	79.2726 A	Acres	1100	Sedimentation/Siltation	1915	Agriculture-storm runoff	2019	
CAB30600 3	Central Coast		B	Bays and Harbors	Moss Landing Harbor	30600014	79.2726 A	Acres	1100	Sedimentation/Siltation	7000	Hydromodification	2019	
CAB30600 3	Central Coast		B	Bays and Harbors	Moss Landing Harbor	30600014	79.2726 A	Acres	1100	Sedimentation/Siltation	7200	Dredging	2019	
CAB30600 3	Central Coast		B	Bays and Harbors	Moss Landing Harbor	30600014	79.2726 A	Acres	1100	Sedimentation/Siltation	7810	Channel Erosion	2019	
CAB30600 3	Central Coast		B	Bays and Harbors	Moss Landing Harbor	30600014	79.2726 A	Acres	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAB30600 3	Central Coast		B	Bays and Harbors	Moss Landing Harbor	30600014	79.2726 A	Acres	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAE30600 3	Central Coast		E	Estuaries	Elkhorn Slough	30600014	2033.73 A	Acres	1100	Sedimentation/Siltation	1000	Agriculture	2015	
CAE30600 3	Central Coast		E	Estuaries	Elkhorn Slough	30600014	2033.73 A	Acres	1100	Sedimentation/Siltation	1200	Irrigated Crop Production	2015	
CAE30600 3	Central Coast		E	Estuaries	Elkhorn Slough	30600014	2033.73 A	Acres	1100	Sedimentation/Siltation	1915	Agriculture-storm runoff	2015	
CAE30600 3	Central Coast		E	Estuaries	Elkhorn Slough	30600014	2033.73 A	Acres	1100	Sedimentation/Siltation	7810	Channel Erosion	2015	
CAE30600 3	Central Coast		E	Estuaries	Elkhorn Slough	30600014	2033.73 A	Acres	1100	Sedimentation/Siltation	9100	Nonpoint Source	2015	
CAE30600 3	Central Coast		E	Estuaries	Moro Cojo Slough	30913011	62.4949 A	Acres	1100	Sedimentation/Siltation	1000	Agriculture	2019	
CAE30600 3	Central Coast		E	Estuaries	Moro Cojo Slough	30913011	62.4949 A	Acres	1100	Sedimentation/Siltation	1200	Irrigated Crop Production	2019	
CAE30600 3	Central Coast		E	Estuaries	Moro Cojo Slough	30913011	62.4949 A	Acres	1100	Sedimentation/Siltation	1915	Agriculture-storm runoff	2019	
CAE30600 3	Central Coast		E	Estuaries	Moro Cojo Slough	30913011	62.4949 A	Acres	1100	Sedimentation/Siltation	3000	Construction/Land Development	2019	
CAE30600 3	Central Coast		E	Estuaries	Moro Cojo Slough	30913011	62.4949 A	Acres	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAE30413 3	Central Coast		E	Estuaries	Soquel Lagoon	30413014	1.15873 A	Acres	1100	Sedimentation/Siltation	3000	Construction/Land Development	2011	
CAR30413 3	Central Coast		R	Rivers/Streams	Aptos Creek	30413023	8.40589 M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2008	
CAR30413 3	Central Coast		R	Rivers/Streams	Aptos Creek	30413023	8.40589 M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2008	
CAR30412 3	Central Coast		R	Rivers/Streams	Bean Creek	30412041	8.90707 M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Bean Creek	30412041	8.90707 M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Bean Creek	30412041	8.90707 M	Miles	1100	Sedimentation/Siltation	5000	Resource Extraction	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Bean Creek	30412041	8.90707 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Bean Creek	30412041	8.90707 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Bear Creek(Santa Cruz County	30412030	6.31531 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Bear Creek(Santa Cruz County	30412030	6.31531 M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Bear Creek(Santa Cruz County	30412030	6.31531 M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Bear Creek(Santa Cruz County	30412030	6.31531 M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Bear Creek(Santa Cruz County	30412030	6.31531 M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Boulder Creek	30412020	7.55558 M	Miles	1100	Sedimentation/Siltation	1300	Specialty Crop Production	2019	
CAR30412 3	Central Coast		R	Rivers/Streams	Boulder Creek	30412020	7.55558 M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	

WBID	REGION NUMBER	REGION NAME	WATER BODY TYPE ABBR	WATER BODY TYPE	WATER BODY NAME	CALWATER WATERSHED	ESTIMATED SIZE AFFECTED	UNIT ABBR	UNIT	POLLUTANT CODE	POLLUTANT	SOURCE CODE	POTENTIAL SOURCES	PROPOSED TMDL COMPLETION	COMMENTS
CAR30412	3	Central Coast	R	Rivers/Streams	Boulder Creek	30412020	7.55958	M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Boulder Creek	30412020	7.55958	M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Boulder Creek	30412020	7.55958	M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Boulder Creek	30412020	7.55958	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Branciforte Creek	30412051	5.78	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Branciforte Creek	30412051	5.78	M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Branciforte Creek	30412051	5.78	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR31300	3	Central Coast	R	Rivers/Streams	Casmalia Canyon Creek	31300040	4.95262	M	Miles	1100	Sedimentation/Siltation	9000	Source Unknown	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Fall Creek	30412022	5.07242	M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Fall Creek	30412022	5.07242	M	Miles	1100	Sedimentation/Siltation	7550	Habitat Modification	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Fall Creek	30412022	5.07242	M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Fall Creek	30412022	5.07242	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Kings Creek	30412011	4.36837	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Kings Creek	30412011	4.36837	M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Kings Creek	30412011	4.36837	M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Kings Creek	30412011	4.36837	M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Kings Creek	30412011	4.36837	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Love Creek	30412021	3.78816	M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Love Creek	30412021	3.78816	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Love Creek	30412021	3.78816	M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Love Creek	30412021	3.78816	M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Love Creek	30412021	3.78816	M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Love Creek	30412021	3.78816	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Mountain Charlie Gulch	30412040	3.92844	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Mountain Charlie Gulch	30412040	3.92844	M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Mountain Charlie Gulch	30412040	3.92844	M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Mountain Charlie Gulch	30412040	3.92844	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Newell Creek (Upper	30412031	3.50199	M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Newell Creek (Upper	30412031	3.50199	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Newell Creek (Upper	30412031	3.50199	M	Miles	1100	Sedimentation/Siltation	3110	Road Construction	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Newell Creek (Upper	30412031	3.50199	M	Miles	1100	Sedimentation/Siltation	3215	Disturbed Sites (Land Develop.)	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Newell Creek (Upper	30412031	3.50199	M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Newell Creek (Upper	30412031	3.50199	M	Miles	1100	Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAR30412	3	Central Coast	R	Rivers/Streams	Newell Creek (Upper	30412031	3.50199	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR40422	4	Los Angeles	R	Rivers/Streams	Las Virgenes Creek	40422010	11.62	M	Miles	1100	Sedimentation/Siltation	9000	Source Unknown	2019	
CAR40421	4	Los Angeles	R	Rivers/Streams	Malibu Creek	40421000	10.85	M	Miles	1100	Sedimentation/Siltation	9000	Source Unknown	2019	
CAR40424	4	Los Angeles	R	Rivers/Streams	Medea Creek Reach 1 (Lake to Confl. with Lindero)	40424000	2.57	M	Miles	1100	Sedimentation/Siltation	9000	Source Unknown	2019	
CAR40312	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 2 (estuary to Potrero Rd was Calleguas Creek Reaches 1 and 2 on 1998 303d list)	40312000	4.31213	M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40312	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 2 (estuary to Potrero Rd was Calleguas Creek Reaches 1 and 2 on 1998 303d list)	40312000	4.31213	M	Miles	1100	Sedimentation/Siltation	8600	Natural Sources	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40312	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 3 (Potrero Road upstream to confluence with Conejo Creek on 1998 303d list)	40312000	3.46697	M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40312	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 3 (Potrero Road upstream to confluence with Conejo Creek on 1998 303d list)	40312000	3.46697	M	Miles	1100	Sedimentation/Siltation	8600	Natural Sources	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40311	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 4 (was Revolon Slough Main Branch: Mugu Lagoon to Central Avenue on 1998 303d list)	40311000	7.18751	M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40311	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 4 (was Revolon Slough Main Branch: Mugu Lagoon to Central Avenue on 1998 303d list)	40311000	7.18751	M	Miles	1100	Sedimentation/Siltation	8600	Natural Sources	2005	For 2005, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40361	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 5 (was Beardsley Channel on 1998 303d list)	40311000	4.34088	M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40361	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 5 (was Beardsley Channel on 1998 303d list)	40311000	4.34088	M	Miles	1100	Sedimentation/Siltation	8600	Natural Sources	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40362	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 6 (was Arroyo Las Posas Reaches 1 and 2 on 1998 303d list)	40362000	15.2966	M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40362	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 6 (was Arroyo Las Posas Reaches 1 and 2 on 1998 303d list)	40362000	15.2966	M	Miles	1100	Sedimentation/Siltation	8600	Natural Sources	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40362	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 7 (was Arroyo Simi Reaches 1 and 2 on 1998 303d list)	40367000	13.9129	M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40362	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 7 (was Arroyo Simi Reaches 1 and 2 on 1998 303d list)	40367000	13.9129	M	Miles	1100	Sedimentation/Siltation	8600	Natural Sources	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40367	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 8 (was Tapo Canyon Reach 1)	40366000	7.18869	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40364	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 11 (Arroyo Santa Rosa was part of Conejo Creek Reach 3 on 1998 303d list)	40365000	8.68888	M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2005	For 2006, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40364	4	Los Angeles	R	Rivers/Streams	Calleguas Creek Reach 11 (Arroyo Santa Rosa was part of Conejo Creek Reach 3 on 1998 303d list)	40365000	8.68888	M	Miles	1100	Sedimentation/Siltation	8600	Natural Sources	2005	For 2005, sedimentation/siltation was moved by USEPA from the being addressed list back to the 303(d) list pending completion and USEPA approval of a TMDL.
CAR40423	4	Los Angeles	R	Rivers/Streams	Medea Creek Reach 2 (Abv Confl. with Lindero	40423000	5.41	M	Miles	1100	Sedimentation/Siltation	9000	Source Unknown	2019	
CAR40424	4	Los Angeles	R	Rivers/Streams	Triunfo Canyon Creek Reach 1	40424000	2.51	M	Miles	1100	Sedimentation/Siltation	9000	Source Unknown	2019	
CAR40424	4	Los Angeles	R	Rivers/Streams	Triunfo Canyon Creek Reach 2	40424000	3.32	M	Miles	1100	Sedimentation/Siltation	9000	Source Unknown	2019	
CAR52641	5	Central Valley	R	Rivers/Streams	Fall River (Pit)	52641031	8.61219	M	Miles	1100	Sedimentation/Siltation	2105	Historical Land Management Activities	2016	The sedimentation is accumulated sand size sediment in the upper Fall River. The historic land management activities include logging, grazing, channelization, roads, and railroads.
CAR51732	5	Central Valley	R	Rivers/Streams	Hambug Creek	51732030	2.20272	M	Miles	1100	Sedimentation/Siltation	5000	Resource Extraction	2012	All resource extraction sources are abandoned mine
CAR55911	5	Central Valley	R	Rivers/Streams	Panoche Creek (Silver Creek to Belmont Avenue)	55112000	17.6357	M	Miles	1100	Sedimentation/Siltation	1000	Agriculture	2007	
CAR55911	5	Central Valley	R	Rivers/Streams	Panoche Creek (Silver Creek to Belmont Avenue)	55112000	17.6357	M	Miles	1100	Sedimentation/Siltation	1935	Agriculture-grazing	2007	

WBID	REGION NUMBER	REGION NAME	WATER BODY TYPE ABBR	WATER BODY TYPE	WATER BODY NAME	CALWATER WATERSHED	ESTIMATED SIZE AFFECTED	UNIT ABBR	UNIT	POLLUTANT CODE	POLLUTANT	SOURCE CODE	POTENTIAL SOURCES	PROPOSED TMDL COMPLETION	COMMENTS
CAR55911 5		Central Valley	R	Rivers/Streams	Panoche Creek (Silver Creek to Belmont Avenue)	55112000	17.6357 M	Miles	1100		Sedimentation/Siltation	3100	Highway/Road/Bridge Construction	2007	
CAL6303006		Lahontan	L	Lakes/Reservoirs	Bridgeport Reservoi	63030050	2614.34 A	Acres	1100		Sedimentation/Siltation	1350	Grazing-Related Sources	2006	
CAL6303006		Lahontan	L	Lakes/Reservoirs	Bridgeport Reservoi	63030050	2614.34 A	Acres	1100		Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2006	
CAL6303006		Lahontan	L	Lakes/Reservoirs	Bridgeport Reservoi	63030050	2614.34 A	Acres	1100		Sedimentation/Siltation	7820	Erosion/Siltation	2006	
CAL6303006		Lahontan	L	Lakes/Reservoirs	Bridgeport Reservoi	63030050	2614.34 A	Acres	1100		Sedimentation/Siltation	8540	Sediment Resuspension	2006	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	1350	Grazing-Related Sources	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	2000	Silviculture	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	3100	Highway/Road/Bridge Construction	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	3200	Land Development	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	4000	Urban Runoff/Storm Sewers	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	4300	Other Urban Runoff	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	4500	Highway/Road/Bridge Runoff	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	4600	Urban Runoff--Erosion and Sedimentation	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	7000	Hydromodification	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	7100	Channelization	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	7600	Removal of Riparian Vegetation	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	7810	Channel Erosion	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	7820	Erosion/Siltation	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	8100	Atmospheric Deposition	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	8540	Sediment Resuspension	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	8600	Natural Sources	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	8700	Recreational and Tourism Activities (non-boating)	2007	
CAL6343006		Lahontan	L	Lakes/Reservoirs	Tahoe, Lake	63430010	85364.1 A	Acres	1100		Sedimentation/Siltation	9100	Nonpoint Source	2007	
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	1500	Range Grazing-Riparian and/or Upland	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	2000	Silviculture	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	3000	Construction/Land Development	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	4581	Surface Runoff	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	5000	Resource Extraction	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	7000	Hydromodification	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	7820	Erosion/Siltation	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	8100	Atmospheric Deposition	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	8600	Natural Sources	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	8700	Recreational and Tourism Activities (non-boating)	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR634206		Lahontan	R	Rivers/Streams	Blackwood Creek	63420021	5.87001 M	Miles	1100		Sedimentation/Siltation	9100	Nonpoint Source	2008	Creek affected by past gravel quarry operations and other watershed disturbance including grazing and timber han
CAR635206		Lahontan	R	Rivers/Streams	Bronco Creek	63520053	1.34403 M	Miles	1100		Sedimentation/Siltation	2000	Silviculture	2006	Watershed disturbance in naturally highly erosive watershe
CAR635206		Lahontan	R	Rivers/Streams	Bronco Creek	63520053	1.34403 M	Miles	1100		Sedimentation/Siltation	8600	Natural Sources	2006	Watershed disturbance in naturally highly erosive watershe
CAR635206		Lahontan	R	Rivers/Streams	Bronco Creek	63520053	1.34403 M	Miles	1100		Sedimentation/Siltation	9100	Nonpoint Source	2006	Watershed disturbance in naturally highly erosive watershe
CAR630406		Lahontan	R	Rivers/Streams	Clearwater Creel	63040051	12.4874 M	Miles	1100		Sedimentation/Siltation	1500	Range Grazing-Riparian and/or Upland	2006	Listed on basis of limited information; additional monitoring may support delisti
CAR630406		Lahontan	R	Rivers/Streams	Clearwater Creel	63040051	12.4874 M	Miles	1100		Sedimentation/Siltation	3000	Construction/Land Development	2006	Listed on basis of limited information; additional monitoring may support delisti
CAR630406		Lahontan	R	Rivers/Streams	Clearwater Creel	63040051	12.4874 M	Miles	1100		Sedimentation/Siltation	8300	Highway Maintenance and Runoff	2006	Listed on basis of limited information; additional monitoring may support delisti
CAR630106		Lahontan	R	Rivers/Streams	East Walker River, below Bridgeport Reservo	63030050	8.00973 M	Miles	1100		Sedimentation/Siltation	1350	Grazing-Related Sources	2019	
CAR630106		Lahontan	R	Rivers/Streams	East Walker River, below Bridgeport Reservo	63030050	8.00973 M	Miles	1100		Sedimentation/Siltation	4500	Highway/Road/Bridge Runoff	2019	
CAR630106		Lahontan	R	Rivers/Streams	East Walker River, below Bridgeport Reservo	63030050	8.00973 M	Miles	1100		Sedimentation/Siltation	4600	Urban Runoff--Erosion and Sedimentation	2019	
CAR630106		Lahontan	R	Rivers/Streams	East Walker River, below Bridgeport Reservo	63030050	8.00973 M	Miles	1100		Sedimentation/Siltation	7350	Upstream Impoundment	2019	
CAR630106		Lahontan	R	Rivers/Streams	East Walker River, below Bridgeport Reservo	63030050	8.00973 M	Miles	1100		Sedimentation/Siltation	7820	Erosion/Siltation	2019	
CAR635206		Lahontan	R	Rivers/Streams	Gray Creek (Nevada County	63520052	2.8033 M	Miles	1100		Sedimentation/Siltation	2000	Silviculture	2006	Sediment from disturbance of naturally highly erosive watershe
CAR635206		Lahontan	R	Rivers/Streams	Gray Creek (Nevada County	63520052	2.8033 M	Miles	1100		Sedimentation/Siltation	8600	Natural Sources	2006	Sediment from disturbance of naturally highly erosive watershe
CAR635206		Lahontan	R	Rivers/Streams	Gray Creek (Nevada County	63520052	2.8033 M	Miles	1100		Sedimentation/Siltation	9100	Nonpoint Source	2006	Sediment from disturbance of naturally highly erosive watershe
CAR634106		Lahontan	R	Rivers/Streams	Heavenly Valley Creek (USFS boundary to Trout Creek)	63410031	1.44732 M	Miles	1100		Sedimentation/Siltation	3000	Construction/Land Development	2019	
CAR634106		Lahontan	R	Rivers/Streams	Heavenly Valley Creek (USFS boundary to Trout Creek)	63410031	1.44732 M	Miles	1100		Sedimentation/Siltation	3200	Land Development	2019	
CAR634106		Lahontan	R	Rivers/Streams	Heavenly Valley Creek (USFS boundary to Trout Creek)	63410031	1.44732 M	Miles	1100		Sedimentation/Siltation	7000	Hydromodification	2019	
CAR634106		Lahontan	R	Rivers/Streams	Heavenly Valley Creek (USFS boundary to Trout Creek)	63410031	1.44732 M	Miles	1100		Sedimentation/Siltation	7550	Habitat Modification	2019	
CAR634106		Lahontan	R	Rivers/Streams	Heavenly Valley Creek (USFS boundary to Trout Creek)	63410031	1.44732 M	Miles	1100		Sedimentation/Siltation	8700	Recreational and Tourism Activities (non-boating)	2019	
CAR634106		Lahontan	R	Rivers/Streams	Heavenly Valley Creek (USFS boundary to Trout Creek)	63410031	1.44732 M	Miles	1100		Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAR630306		Lahontan	R	Rivers/Streams	Hot Springs Canyon Creel	63030042	2.8612 M	Miles	1100		Sedimentation/Siltation	1500	Range Grazing-Riparian and/or Upland	2008	Listed on basis of limited data; further monitoring may support delisti
CAR635206		Lahontan	R	Rivers/Streams	Squaw Creek	63520011	5.8 M	Miles	1100		Sedimentation/Siltation	3000	Construction/Land Development	2006	
CAR635206		Lahontan	R	Rivers/Streams	Squaw Creek	63520011	5.8 M	Miles	1100		Sedimentation/Siltation	4300	Other Urban Runoff	2006	
CAR635206		Lahontan	R	Rivers/Streams	Squaw Creek	63520011	5.8 M	Miles	1100		Sedimentation/Siltation	7000	Hydromodification	2006	
CAR635206		Lahontan	R	Rivers/Streams	Squaw Creek	63520011	5.8 M	Miles	1100		Sedimentation/Siltation	7800	Drainage/Filling Of Wetlands	2006	
CAR635206		Lahontan	R	Rivers/Streams	Squaw Creek	63520011	5.8 M	Miles	1100		Sedimentation/Siltation	8300	Highway Maintenance and Runoff	2006	
CAR635206		Lahontan	R	Rivers/Streams	Squaw Creek	63520011	5.8 M	Miles	1100		Sedimentation/Siltation	8600	Natural Sources	2006	
CAR635206		Lahontan	R	Rivers/Streams	Squaw Creek	63520011	5.8 M	Miles	1100		Sedimentation/Siltation	8700	Recreational and Tourism Activities (non-boating)	2006	
CAR635206		Lahontan	R	Rivers/Streams	Squaw Creek	63520011	5.8 M	Miles	1100		Sedimentation/Siltation	9100	Nonpoint Source	2006	
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	1500	Range Grazing-Riparian and/or Upland	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	2000	Silviculture	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	3000	Construction/Land Development	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	3100	Highway/Road/Bridge Construction	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	7700	Streambank Modification/Destabilization	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	7810	Channel Erosion	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	7820	Erosion/Siltation	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	8600	Natural Sources	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	8700	Recreational and Tourism Activities (non-boating)	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	8710	Snow-skiing activities	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR635106		Lahontan	R	Rivers/Streams	Truckee River	63510010	39.1307 M	Miles	1100		Sedimentation/Siltation	9100	Nonpoint Source	2006	Watershed disturbance including ski resorts, silvicultural activities, urban development, reservoir construction and management, highly erosive subwatersh
CAR634206		Lahontan	R	Rivers/Streams	Ward Creek	63420020	5.675 M	Miles	1100		Sedimentation/Siltation	2000	Silviculture	2008	
CAR634206		Lahontan	R	Rivers/Streams	Ward Creek	63420020	5.675 M	Miles	1100		Sedimentation/Siltation	3200	Land Development	2008	
CAR634206		Lahontan	R	Rivers/Streams	Ward Creek	63420020	5.675 M	Miles	1100		Sedimentation/Siltation	4000	Urban Runoff/Storm Sewers	2008	

WBID	REGION NUMBER	REGION NAME	WATER BODY TYPE ABBR	WATER BODY TYPE	WATER BODY NAME	CALWATER WATERSHED	ESTIMATED SIZE AFFECTED	UNIT ABBR	UNIT	POLLUTANT CODE	POLLUTANT	SOURCE CODE	POTENTIAL SOURCES	PROPOSED TMDL COMPLETION	COMMENTS
CAR634206	6	Lahontan	R	Rivers/Streams	Ward Creek	63420020	5.675	M	Miles	1100	Sedimentation/Siltation	4500	Highway/Road/Bridge Runoff	2008	
CAR634206	6	Lahontan	R	Rivers/Streams	Ward Creek	63420020	5.675	M	Miles	1100	Sedimentation/Siltation	7810	Channel Erosion	2008	
CAR634206	6	Lahontan	R	Rivers/Streams	Ward Creek	63420020	5.675	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2008	
CAR632106	6	Lahontan	R	Rivers/Streams	Wolf Creek (Alpine County)	63210031	11.8207	M	Miles	1100	Sedimentation/Siltation	1500	Range Grazing-Riparian and/or Upland	2019	
CAR632106	6	Lahontan	R	Rivers/Streams	Wolf Creek (Alpine County)	63210031	11.8207	M	Miles	1100	Sedimentation/Siltation	2000	Silviculture	2019	
CAR632106	6	Lahontan	R	Rivers/Streams	Wolf Creek (Alpine County)	63210031	11.8207	M	Miles	1100	Sedimentation/Siltation	9100	Nonpoint Source	2019	
CAL8017118		Santa Ana	L	Lakes/Reservoirs	Big Bear Lake	80171000	2865.01	A	Acres	1100	Sedimentation/Siltation	3000	Construction/Land Development	2006	
CAL8017118		Santa Ana	L	Lakes/Reservoirs	Big Bear Lake	80171000	2865.01	A	Acres	1100	Sedimentation/Siltation	8710	Snow skiing activities	2006	
CAL8017118		Santa Ana	L	Lakes/Reservoirs	Big Bear Lake	80171000	2865.01	A	Acres	1100	Sedimentation/Siltation	9105	Unknown Nonpoint Source	2006	
CAR803171 8		Santa Ana	R	Rivers/Streams	Rathbone (Rathbun) Creel	80171000	4.68	M	Miles	1100	Sedimentation/Siltation	8710	Snow skiing activities	2005	
CAR803171 8		Santa Ana	R	Rivers/Streams	Rathbone (Rathbun) Creel	80171000	4.68	M	Miles	1100	Sedimentation/Siltation	9105	Unknown Nonpoint Source	2005	
CAE904319		San Diego	E	Estuaries	Agua Hedionda Lagoor	90431000	6.83167	A	Acres	1100	Sedimentation/Siltation	9201	Nonpoint/Point Source	2019	
CAE904219		San Diego	E	Estuaries	Buena Vista Lagoor	90421000	202.295	A	Acres	1100	Sedimentation/Siltation	9201	Nonpoint/Point Source	2019	
CAE906109		San Diego	E	Estuaries	Los Penasquitos Lagoor	90610000	468.916	A	Acres	1100	Sedimentation/Siltation	9201	Nonpoint/Point Source	2019	
CAE904619		San Diego	E	Estuaries	San Elijo Lagoor	90461000	555.804	A	Acres	1100	Sedimentation/Siltation	9201	Nonpoint/Point Source	2019	Estimated size of impairment is 150 acres

ESS-TMDL

Post-Construction Water Balance Calculator

User may make changes from any cell that is orange or brown in color (similar to the cells to the immediate right). Cells in green are calculated for you.		(Step 1a) If you know the 85th percentile storm event for your location enter it in the box below	(Step 1b) If you can not answer 1a then select the county where the project is located (click on the cell to the right for drop-down): This will determine the average 85th percentile 24 hr. storm event for your site, which will appear under precipitation to left.	SACRAMENTO
			(Step 1c) If you would like a more percise value select the location closest to your site. If you do not recognize any of these locations, leave this drop-down menu at location. The average value for the County will be used.	SACRAMENTO FAA ARPT

Project Information		Runoff Calculations		
Project Name:	Optional	(Step 2) Indicate the Soil Type (dropdown menu to right):	Group C Soils	Low infiltration, Sandy clay loam, infiltration rate 0.05 to 0.15 inch/hr when wet.
Waste Discharge Identification (WDID):	Optional	(Step 3) Indicate the existing dominant non-built land Use Type (dropdown menu to right):	Wood & Grass: <50% ground cover	
Date:	Optional	(Step 4) Indicate the proposed dominant non-built land Use Type (dropdown menu to right):	Lawn, Grass, or Pasture covering more than 75% of the open space	
Sub Drainage Area Name (from map):	Optional		Complete Either Sq Ft	Acres
Runoff Curve Numbers		(Step 5) Total Project Site Area:		5.00
Existing Pervious Runoff Curve Number	82	(Step 6) Sub-watershed Area:		5.00
Proposed Development Pervious Runoff Curve Number	74	Percent of total project :		100%
Design Storm				
Based on the County you indicated above, we have included the 85 percentile average 24 hr event - P85 (in)^ for your area.	0.62 in			
The Amount of rainfall needed for runoff to occur (Existing runoff curve number -P from existing RCN (in)^)	0.44 in	(Step 7) Sub-watershed Conditions	Complete Either Sq Ft	Acres / Calculated Acres
P used for calculations (in) (the greater of the above two criteria)	0.62 in	Sub-watershed Area (acres)		5.00
^Available at www.cabmphandbooks.com		Existing Rooftop Impervious Coverage		0 / 0.00
		Existing Non-Rooftop Impervious Coverage		0 / 0.00
		Proposed Rooftop Impervious Coverage		0 / 0.00
		Proposed Non-Rooftop Impervious Coverage		0 / 0.00
		Credits	Acres	Square Feet
		Porous Pavement	0.00	0
		Tree Planting	0.00	0
Pre-Project Runoff Volume (cu ft)	247 Cu.Ft.	Downspout Disconnection	0.00	0
Project-Related Runoff Volume Increase w/o credits (cu ft)	0 Cu.Ft.	Impervious Area Disconnection	0.00	0
		Green Roof	0.00	0
		Stream Buffer	0.00	0
Project-Related Volume Increase with Credits (cu ft)	0 Cu.Ft.	Vegetated Swales	0.00	0
		Subtotal	0.00	0
		Subtotal Runoff Volume Reduction Credit	0 Cu. Ft.	
You have achieved your minimum requirements		(Step 8) Impervious Volume Reduction Credits	Volume (cubic feet)	
		Rain Barrels/Cisterns	0 Cu. Ft.	
		Soil Quality	0 Cu. Ft.	
		Subtotal Runoff Volume Reduction	0 Cu. Ft.	
		Total Runoff Volume Reduction Credit	0 Cu. Ft.	

Porous Pavement Credit Worksheet

Please fill out a porous pavement credit worksheet for each project sub-watershed.

For the PROPOSED Development:

Proposed Porous Pavement	Runoff Reduction*	Fill in either Acres or SqFt		
		In SqFt.	In Acres	Equivalent Acres
Area of Brick without Grout on less than 12 inches of base with at least 20% void space over soil	0.45			0.00
Area of Brick without Grout on more than 12 inches of base with at least 20% void space over soil	0.90			0.00
Area of Cobbles less than 12 inches deep and over soil	0.30			0.00
Area of Cobbles less than 12 inches deep and over soil	0.60			0.00
Area of Reinforced Grass Pavement on less than 12 inches of base with at least 20% void space over soil	0.45			0.00
Area of Reinforced Grass Pavement on at least 12 inches of base with at least 20% void space over soil	0.90			0.00
Area of Porous Gravel Pavement on less than 12 inches of base with at least 20% void space over soil	0.38			0.00
Area of Porous Gravel Pavement on at least 12 inches of base with at least 20% void space over soil	0.75			0.00
Area of Poured Porous Concrete or Asphalt Pavement with less than 4 inches of gravel base (washed stone)	0.40			0.00
Area of Poured Porous Concrete or Asphalt Pavement with 4 to 8 inches of gravel base (washed stone)	0.60			0.00
Area of Poured Porous Concrete or Asphalt Pavement with 8 to 12 inches of gravel base (washed stone)	0.80			0.00
Area of Poured Porous Concrete or Asphalt Pavement with 12 or more inches of gravel base (washed stone)	1.00			0.00

=1-Rv

Return to Calculator

**Using Site Design Techniques to meet Development Standards for Stormwater Quality (BASMAA 2003)

**NCDENR Stormwater BMP Manual (2007)

Tree Planting Credit Worksheet
Please fill out a tree canopy credit worksheet for each project sub-watershed.

Tree Canopy Credit Criteria	Number of Trees Planted	Credit (acres)
Number of proposed evergreen trees to be planted (credit = number of trees x 0.005)*	0	0.00
Number of proposed deciduous trees to be planted (credit = number of trees x 0.0025)*		0.00
	Square feet Under Canopy	
Square feet under an existing tree canopy, that will remain on the property, with an average diameter at 4.5 ft above grade (i.e., diameter at breast height or DBH) is LESS than 12 in diameter.		0.00
Square feet under an existing tree canopy that will remain on the property, with an average diameter at 4.5 ft above grade (i.e., diameter at breast height or DBH) is 12 in diameter or GREATER.		0.00
Please describe below how the project will ensure that these trees will be maintained.		

Return to Calculator

* credit amount based on credits from Stormwater Quality Design Manual for the Sacramento and South Placer Regions

0

Downspout Disconnection Credit Worksheet
Please fill out a downspout disconnection credit worksheet for each project subwatershed. If you answer yes to all questions, all rooftop area draining to each downspout will be subtracted from your proposed rooftop impervious coverage.

Downspout Disconnection Credit Criteria					
Do downspouts and any extensions extend at least six feet from a basement and two feet from a crawl space or concrete slab?				○ Yes	◉ No
Is the area of rooftop connecting to each disconnected downspout 600 square feet or less?				○ Yes	◉ No
Is the roof runoff from the design storm event fully contained in a raised bed or planter box or does it drain as sheet flow to a landscaped area large enough to contain the roof runoff from the design storm event?				○ Yes	◉ No
The Stream Buffer and/or Vegetated Swale credits **will not** be taken in this sub-watershed area?				○ Yes	◉ No
Percentage of existing	0.00	Acres	of rooftop surface has disconnected downspouts		
Percentage of the proposed	0.00	Acres	of rooftop surface has disconnected downspouts	50	
				Return to Calculator	

Impervious Area Disconnection Credit Worksheet

Please fill out an impervious area disconnection credit worksheet for each project sub-watershed. If you answer yes to all questions, all non-rooftop impervious surface area will be subtracted from your proposed non-rooftop impervious coverage.

Non-Rooftop Disconnection Credit Criteria	Response
Is the maximum contributing impervious flow path length less than 75 feet or, if equal or greater than 75 feet, is a storage device (e.g. French drain, bioretention area, gravel trench) implemented to achieve the required disconnection length?	◉ Yes ○ No
Is the impervious area to any one discharge location less than 5,000 square feet?	◉ Yes ○ No
The Stream Buffer credit **will not** be taken in this sub-watershed area?	◉ Yes ○ No

Percentage of existing	0.00	Acres non-rooftop surface area disconnected	
Percentage of the proposed	0.00	Acres non-rooftop surface area disconnected	70

Return to Calculator

Green Roof Credit Worksheet

Please fill out a greenroof credit worksheet for each project sub-watershed. If you answer yes to all questions, 70% of the greenroof area will be subtracted from your proposed rooftop impervious coverage.

Green Roof Credit Criteria				Response
Is the roof slope less than 15% or does it have a grid to hold the substrate in place until it forms a thick vegetation mat?				◉Yes ○No
Has a professional engineer assessed the necessary load reserves and designed a roof structure to meet state and local codes?				◉Yes ○No
Is the irrigation needed for plant establishment and/or to sustain the green roof during extended dry periods, is the source from stored, recycled, reclaimed, or reused water?				◉Yes ○No
Percentage of existing	0.00	Acres	rooftop surface area in greenroof	
Percentage of the proposed	0.00	Acres	rooftop surface area in greenroof	

Return to Calculator

Stream Buffer Credit Worksheet

Please fill out a stream buffer credit worksheet for each project sub-watershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout and/or Impervious Area Disconnection credits.

Stream Buffer Credit Criteria				Response
Does runoff enter the floodprone width* or within 500 feet (whichever is larger) of a stream channel as sheet flow**?				○Yes ◉No
Is the contributing overland slope 5% or less, or if greater than 5%, is a level spreader used?				○Yes ◉No
Is the buffer area protected from vehicle or other traffic barriers to reduce compaction?				○Yes ◉No
Will the stream buffer be maintained in an ungraded and uncompacted condition and will the vegetation be maintained in a natural condition?				○Yes ◉No
Percentage of existing	0.00	Acres	impervious surface area draining into a stream buffer:	
Percentage of the proposed	0.00	Acres	impervious surface area that will drain into a stream buffer:	
Please describe below how the project will ensure that the buffer areas will remain in ungraded and uncompacted condition and that the vegetation will be maintained in a natural condition.				

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* floodprone width is the width at twice the bankfull depth.
** the maximum contributing length shall be 75 feet for impervious area

Vegetated Swale Credit Worksheet

Please fill out a vegetated swale worksheet for each project subwatershed. If you answer yes to all questions, you may subtract all impervious surface draining to each stream buffer that has not been addressed using the Downspout Disconnection credit.

Vegetated Swale Credit Criteria

Have all vegetated swales been designed in accordance with Treatment Control BMP 30 (TC-30 - Vegetated Swale) from the California Stormwater BMP Handbook, New Development and Redevelopment (available at www.cabmphandbooks.com)?	○ Yes ◉ No
Is the maximum flow velocity for runoff from the design storm event less than or equal to 1.0 foot per second?	○ Yes ◉ No

Percentage of existing	0.00	Acres of impervious area draining to a vegetated swale	
Percentage of the proposed	0.00	Acres of impervious area draining to a vegetated swale	

Return to Calculator

Rain Barrel/Cistern Credit Worksheet

Please fill out a rain barrel/cistern worksheet for each project sub-watershed.

Rain Barrel/Cistern Credit Criteria	Response
Total number of rain barrel(s)/cisterns	
Average capacity of rain barrel(s)/cistern(s) (in gallons)	
Total capacity rain barrel(s)/cistern(s) (in cu ft) [1]	0

[1] accounts for 10% loss

Return to Calculator

Please fill out a soil quality worksheet for each project sub-watershed.

	Response
Will the landscaped area be lined with an impervious membrane?	
Will the soils used for landscaping meet the ideal bulk densities listed in Table 1 below? [1]	○ Yes ◉ No
If you answered yes to the question above, and you know the area-weighted bulk density within the top 12 inches for soils used for landscaping (in g/cm^3)*, fill in the cell to the right and skip to cell G11. If not select from the drop-down menu in G10.	1.3
If you answered yes to the question above, but you do not know the exact bulk density, which of the soil types in the drop down menu to the right best describes the top 12 inches for soils used for landscaping (in g/cm^3).	Sandy loams, loams
What is the average depth of your landscaped soil media meeting the above criteria (inches)?	12
What is the total area of the landscaped areas meeting the above criteria (in acres)?	2.97

Return to Calculator

Table 1

Sands, loamy sands	<1.6
Sandy loams, loams	<1.4
Sandy clay loams, loams, clay loams	<1.4
Silts, silt loams	<1.3
Silt loams, silty clay loams	<1.1
Sandy clays, silty clays, some clay loams (35-45% clay)	<1.1
Clays (>45% clay)	<1.1

[1] USDA NRCS. "Soil Quality Urban Technical Note No.2-Urban Soil Compaction". March 2000. http://soils.usda.gov/sqi/management/files/sq_utn_2.pdf

* To determine how to calculate density see: http://www.globe.gov/tctg/bulkden.pdf?sectionID=94

Porosity (%) 50.94%

Mineral grains in many soils are mainly quartz and feldspar, so 2.65 a good average for particle density. To determine percent porosity, use the formula: Porosity (%) = (1-Bulk Density/2.65) X 100

APPENDIX 2:
Post-Construction Water Balance Performance Standard Spreadsheet

The discharger shall submit with their Notice of Intent (NOI) the following information to demonstrate compliance with the New and Re-Development Water Balance Performance Standard.

Map Instructions

The discharger must submit a small-scale topographic map of the site to show the existing contour elevations, pre- and post-construction drainage divides, and the total length of stream in each watershed area. Recommended scales include 1 in. = 20 ft., 1 in. = 30 ft., 1 in. = 40 ft., or 1 in = 50 ft. The suggested contour interval is usually 1 to 5 feet, depending upon the slope of the terrain. The contour interval may be increased on steep slopes. Other contour intervals and scales may be appropriate given the magnitude of land disturbance.

Spreadsheet Instructions

The intent of the spreadsheet is to help dischargers calculate the project-related increase in runoff volume and select impervious area and runoff reduction credits to reduce the project-related increase in runoff volume to pre-project levels.

The discharger has the option of using the spreadsheet (**Appendix 2.1**) or a more sophisticated, watershed process-based model (e.g. Storm Water Management Model, Hydrological Simulation Program Fortran) to determine the project-related increase in runoff volume.

In* Appendix 4.1, *you must complete the worksheet for each land use/soil type combination for each project sub-watershed.

Steps 1 through 9 pertain specifically to the Runoff Volume Calculator:

Step 1: Enter the county where the project is located in cell H3.

Step 2: Enter the soil type in cell H6.

Step 3: Enter the existing pervious (dominant) land use type in cell H7.

Step 4: Enter the proposed pervious (dominant) land use type in cell H8.

Step 5: Enter the total project site area in cell H11 or J11.

Step 6: Enter the sub-watershed area in cell H12 or J12.

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Step 7: Enter the existing rooftop area in cell H17 or J17, the existing non-rooftop impervious area in cell H18 or J18, the proposed rooftop area in cell H19 or J19, and the proposed non-rooftop impervious area in cell H20 or J20

Step 8: Work through each of the impervious area reduction credits and claim credits where applicable. Volume that cannot be addressed using non-structural practices must be captured in structural practices and approved by the Regional Water Board.

Step 9: Work through each of the impervious volume reduction credits and claim credits where applicable. Volume that cannot be addressed using non-structural practices must be captured in structural practices and approved by the Regional Water Board.

Non-structural Practices Available for Crediting

- ***Porous Pavement***
- ***Tree Planting***
- ***Downspout Disconnection***
- ***Impervious Area Disconnection***
- ***Green Roof***
- ***Stream Buffer***
- ***Vegetated Swales***
- ***Rain Barrels and Cisterns***
- ***Landscaping Soil Quality***

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APPENDIX 3
Bioassessment Monitoring Guidelines

Bioassessment monitoring is required for projects that meet all of the following criteria:

1. The project is rated Risk Level 3 or LUP Type 3
2. The project directly discharges runoff to a freshwater wadeable stream (or streams) that is either: (a) listed by the State Water Board or USEPA as impaired due to sediment, and/or (b) tributary to any downstream water body that is listed for sediment; and/or have the beneficial use SPAWN & COLD & MIGRATORY
3. Total project-related ground disturbance exceeds 30 acres.

For all such projects, the discharger shall conduct bioassessment monitoring, as described in this section, to assess the effect of the project on the biological integrity of receiving waters.
Bioassessment shall include:

1. The collection and reporting of specified instream biological data
2. The collection and reporting of specified instream physical habitat data

Bioassessment Exception

If a site qualifies for bioassessment, but construction commences out of an index period for the site location, the discharger shall:

1. Receive Regional Water Board approval for the sampling exception
2. Make a check payable to: Cal State Chico Foundation (SWAMP Bank Account) or San Jose State Foundation (SWAMP Bank Account) and include the WDID# on the check for the amount calculated for the exempted project.
3. Send a copy of the check to the Regional Water Board office for the site's region
4. Invest **7,500.00 X The number of samples required** into the SWAMP program as compensation (upon Regional Water Board approval).
5. Conduct bioassessment monitoring, as described in Appendix 4
6. Include the collection and reporting of specified instream biological data and physical habitat
7. Use the bioassessment sample collection and Quality Assurance & Quality Control (QA/QC) protocols developed by the State of California's Surface Water Ambient Monitoring Program (SWAMP)

Site Locations and Frequency

Macroinvertebrate samples shall be collected both before ground disturbance is initiated and after the project is completed. The "after" sample(s) shall be collected after at least one winter season resulting in surface runoff has transpired after project-related ground disturbance has ceased. "Before" and "after" samples shall be collected both upstream and downstream of the project's

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discharge. Upstream samples should be taken immediately before the sites outfall and downstream samples should be taken immediately after the outfall (when safe to collect the samples). Samples should be collected for each freshwater wadeable stream that is listed as impaired due to sediment, or tributary to a water body that is listed for sediment. Habitat assessment data shall be collected concurrently with all required macroinvertebrate samples.

Index Period (Timing of Sample Collection)
Macroinvertebrate sampling shall be conducted during the time of year (i.e., the "index period") most appropriate for bioassessment sampling, depending on ecoregion. This map is posted on the State Water Board's Website: http://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.shtml

Field Methods for Macroinvertebrate Collections
In collecting macroinvertebrate samples, the discharger shall use the "Reachwide Benthos (Multi-habitat) Procedure" specified in *Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California* (Ode 2007).[1]

Physical - Habitat Assessment Methods
The discharger shall conduct, concurrently with all required macroinvertebrate collections, the "Full" suite of physical habitat characterization measurements as specified in *Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California* (Ode 2007), and as summarized in the Surface Water Ambient Monitoring Program's *Stream Habitat Characterization Form — Full Version.*

Laboratory Methods
Macroinvertebrates shall be identified and classified according to the Standard Taxonomic Effort (STE) Level I of the Southwestern Association of Freshwater Invertebrate Taxonomists (SAFIT),[2] and using a fixed-count of 600 organisms per sample.

Quality Assurance
The discharger or its consultant(s) shall have and follow a quality assurance (QA) plan that covers the required bioassessment monitoring. The QA plan shall include, or be supplemented to include, a specific requirement for external QA checks (i.e., verification of taxonomic identifications and correction of data where errors are identified). External QA checks shall be performed on one of the

[1] This document is available on the Internet at: http://www.swrcb.ca.gov/swamp/docs/phab_sopr6.pdf.
[2] The current SAFIT STEs (28 November 2006) list requirements for both the Level I and Level II taxonomic effort, and are located at: http://www.swrcb.ca.gov/swamp/docs/safit/ste_list.pdf. When new editions are published by SAFIT, they will supersede all previous editions. All editions will be posted at the State Water Board's SWAMP website.

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discharger's macroinvertebrate samples collected per calendar year, or ten percent of the samples per year (whichever is greater). QA samples shall be randomly selected. The external QA checks shall be paid for by the discharger, and performed by the California Department of Fish and Game's Aquatic Bioassessment Laboratory. An alternate laboratory with equivalent or better expertise and performance may be used if approved in writing by State Water Board staff.

Sample Preservation and Archiving

The original sample material shall be stored in 70 percent ethanol and retained by the discharger until: 1) all QA analyses specified herein and in the relevant QA plan are completed; and 2) any data corrections and/or re-analyses recommended by the external QA laboratory have been implemented. The remaining subsampled material shall be stored in 70 percent ethanol and retained until completeness checks have been performed according to the relevant QA plan. The identified organisms shall be stored in 70 percent ethanol, in separate glass vials for each final ID taxon. (For example, a sample with 45 identified taxa would be archived in a minimum of 45 vials, each containing all individuals of the identified taxon.) Each of the vials containing identified organisms shall be labeled with taxonomic information (i.e., taxon name, organism count) and collection information (i.e., site name/site code, waterbody name, date collected, method of collection). The identified organisms shall be archived (i.e., retained) by the discharger for a period of not less than three years from the date that all QA steps are completed, and shall be checked at least once per year and "topped off" with ethanol to prevent desiccation. The identified organisms shall be relinquished to the State Water Board upon request by any State Water Board staff.

Data Submittal

The macroinvertebrate results (i.e., taxonomic identifications consistent with the specified SAFIT STEs, and number of organisms within each taxa) shall be submitted to the State Water Board in electronic format. The State Water Board's Surface Water Ambient Monitoring Program (SWAMP) is currently developing standardized formats for reporting bioassessment data. All bioassessment data collected after those formats become available shall be submitted using the SWAMP formats. Until those formats are available, the biological data shall be submitted in MS-Excel (or equivalent) format.[3]

The physical/habitat data shall be reported using the standard format titled *SWAMP Stream Habitat Characterization Form — Full Version.*[4]

[3] Any version of Excel, 2000 or later, may be used.
[4] Available at: http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/fieldforms_fullversion052908.pdf

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Invasive Species Prevention

In conducting the required bioassessment monitoring, the discharger and its consultants shall take precautions to prevent the introduction or spread of aquatic invasive species. At minimum, the discharger and its consultants shall follow the recommendations of the California Department of Fish and Game to minimize the introduction or spread of the New Zealand mudsnail.[5]

[5] Instructions for controlling the spread of NZ mudsnails, including decontamination methods, can be found at: http://www.dfg.ca.gov/invasives/mudsnail/
More information on AIS More information on AIS
http://www.waterboards.ca.gov/water_issues/programs/swamp/ais/

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Appendix 4 Sediment TMDLs

Implemented Sediment TMDLs in California. Construction was listed as a source in all fo these TMDLs in relation to road construction. Although construction was mentioned as a source, it was not given a specific allocation amount. The closest allocation amount would be for the road activity management WLA. **Implementation Phase** – Adoption process by the Regional Board, the State Water Resources Control Board, the Office of Administrative Law, and the US Environmental Protection Agency completed and TMDL being implemented.

A. Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.albionfinaltmdl	R	Albion River	Sedimentation	Road Construction	2001	43 acres	See A (table 6)

B Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.EelR-middle.mainSed.temp	R	Middle Main Eel River and Tributaries (from Dos Rios to the South Fork)	Sedimentation Road	Construction	2005-2006 521	mi^2	100

C Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.EelRsouth.sed.temp	R	South Fork Eel River	Sedimentation	Road Construction	12 1999	See chart	473

D Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.bigfinaltmdl	R Big	River	Sedimentation	Road Construction	12 2001	181 mi^2 watershed drainage	TMDL = loading capacity = nonpoint sources + background =

							393 t mi2 yr

E Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.EelR-lower.Sed.temp-121807-signed	R	Lower Eel River	Sedimentation	Road Construction	12 2007	300 square-mile watershed	898

F Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.EelR-middle.Sed.temp-	R	Middle Fork Eel River	Sedimentation	Road Construction	12 2003	753 mi^2 (approx. 482,000 acres)	82

G Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres Mi^2	WLA tons mi^2 yr
1 R1.epa.EelRnorth-Sed.temp.final-121807-signed	R	North Fork Eel River	Sedimentation	Road Construction	12 30 2002	289 (180,020 acres)	20

H Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres Mi^2	WLA tons mi^2 yr
1 R1.epa.EelR-upper.mainSed.temp-	R	Upper Main Eel River and Tributaries (including Tomki Creek, Outlet Creek and Lake Pillsbury)	Sedimentation	Road Construction	12 29 2004	688 (approx. 440,384 acres)	14

I Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres	WLA tons mi^2 yr
1 R1.epa.gualalafinaltmdl	R	Gualala River	Sedimentation	Road Construction	Not sure	300 (191,145 acres)	7

J Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.Mad-sed.turbidity	R	Mad River	Sedimentation	Road Construction	12 21 2007	480	174

K Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.mattole.sediment	R	Mattole River	Sedimentation	Road Construction	12 30 2003	296	27 or 520+27 = 547

L Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.navarro.sed.temp	R	Navarro River	Sedimentation	Road Construction	Not sure	315 (201,600 acres).	50

M Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.noyo.sediment	R	Noyo River	Sedimentation	Road Construction	12 16 1999	113 (72,323 acres)	68 (three areas measured) Table 16 in the TMDL

N Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.RedwoodCk.sed	Cr	Redwood Creek	Sedimentation	Road Construction	12 30 1998	278	1900 Total allocation

O Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA – Roads tons mi^2 yr
1 R1.epa.tenmile.sed	R	Ten Mile River	Sedimentation	Road Construction	2000	120	9

P Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA management tons mi^2 yr
1 R1.epa.trinity.sed	R	Trinity River	Sedimentation	Road Construction	12 20 2001	2000 of 3000 covered in this TMDL	See rows below
1	Cr	Horse Linto Creek	Sedimentation	Road Construction	12 20 2001	64	528
1	Cr	Mill creek and Tish Tang	Sedimentation	Road Construction	12 20 2001	39	210
1	Cr	Willow Creek	Sedimentation	Road Construction	12 20 2001	43	94
1	Cr	Campbell Creek and Supply Creek	Sedimentation	Road Construction	12 20 2001	11	1961
1	Cr	Lower Mainstem and Coon Creek	Sedimentation	Road Construction	12 20 2001	32	63
1 R		Reference Subwatershed [1]	Sedimentation	Road Construction	12 20 2001	434	24
1	Cr	Canyon Creek	Sedimentation	Road	12 20 2001	64	326

				Construction			
1 R		Upper Tributaries[2]	Sedimentation	Road Construction	12 20 2001	72	67
1 R		Middle Tributaries[3]	Sedimentation	Road Construction	12 20 2001	54	53
1 R		Lower Tributaries[4]	Sedimentation	Road Construction	12 20 2001	96	55
1	Cr	Weaver and Rush Creeks	Sedimentation	Road Construction	12 20 2001	72	169
1 Cr		Deadwood Creek Hoadley Gulch Poker Bar	Sedimentation	Road Construction	12 20 2001	47	68
1	L	Lewiston Lake	Sedimentation	Road Construction	12 20 2001	25	49
1 Cr		Grassvalley Creek	Sedimentation	Road Construction	12 20 2001	37	44
1	Cr	Indian Creek	Sedimentation	Road Construction	12 20 2001	34	81
1	Cr	Reading and Browns Creek	Sedimentation	Road Construction	12 20 2001	104	66
1 Cr		Reference Subwatersheds[5]	Sedimentation	Road Construction	12 20 2001	235	281
1	L, Cr	Westside tributaries[6]	Sedimentation	Road Construction	12 20 2001	93	105
1 R,	Cr, G	Upper trinity[7]	Sedimentation	Road Construction	12 20 2001	161	690
1 R,	Cr, G	East Fork Tributaries[8]	Sedimentation	Road Construction	12 20 2001	115	65
1	R, L	Eastside Tributaries[9]	Sedimentation	Road Construction	12 20 2001	89	60

1 New River, Big French, Manzanita, North Fork, East Fork, North Fork
2 Dutch, Soldier, Oregon gulch, Conner Creek
3 Big Bar, Prairie Creek, Little French Creek
4 Swede, Italian, Canadian, Cedar Flat, Mill, McDonald, Hennessy, Quimby, Hawkins, Sharber
5 Stuarts Fork, Swift Creek, Coffee Creek
6 Stuart Arm, Stoney Creek, Mule Creek, East Fork, Stuart Fork, West Side Trinity Lake, Hatchet Creek, Buckeye Creek,
7 Upper Trinity River, Tangle Blue, Sunflower, Graves, Bear Upper Trinity Mainstream, Ramshorn Creek, Ripple Creek, Minnehaha Creek, Snowslide Gulch, Scorpion Creek
8 East Fork Trinity, Cedar Creek, Squirrel Gulch

9 East Side Tributaries, Trinity Lake

Q Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.trinity.so.sed	R, Cr	South Fork Trinity River and Hayfork Creek	Sedimentation	Road Construction	12 1998	Not given, 19 miles long	33 (road total)

R Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
1 R1.epa.vanduzen.sed	R, Cr	Van Duzen River and Yager Creek	Sedimentation	Various	12 16 1999	429	1353 total allocation
1		Upper Basin	Sedimentation	Road Construction			7
1		Middle Basin	Sedimentation	Road Construction			22
1		Lower Basin	Sedimentation	Road Construction			20

S Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
6 R6.blackwood.sed Cr		Blackwood Creek (Placer County)	Bedded Sediment	Various	9 2007	11	17272 total

T Region	Type	Name	Pollutant Stressor	Potential Sources	TMDL Completion Date	Watershed Acres mi^2	WLA tons mi^2 yr
6 R6.SquawCk.sed R		Squaw Creek (Placer County)	Sedimentation /controllable sources	Various – basin plan amendment	4 13 2006	8.2	10,900

Adopted TMDLs for Construction Sediment Sources

Region	Type	Name	Pollutant Stressor	Potential Sources	**TMDL Completion Date**	**Watershed Area** mi^2	Waste load Allocation tons mi^2 yr
8 R		Newport Bay San Diego Creek Watershed	Sedimentation	Construction Land Development	1999 2.24	(1432 acres)	125,000 tons per Year (no more than 13,000 tons per year from construction sites)

Appendix 4 Non Sediment TMDLs

Region 1 Lost River-DIN and CBOD

Region 1 Source: Cal Trans Construction TMDL Completion Date: 12 30 2008 TMDL Type: River, Lake Watershed Area= 2996 mi^2	Pollutant Stressors/WLA	
	Dissolved inorganic nitrogen (DIN) (metric tons/yr)	**Carbonaceous biochemical oxygen demand (CBOD) (metric tons/yr)**
Lost River from the Oregon border to Tule Lake	.1 .2	
Tule Lake Refuge	.1	.2
Lower Klamath Refuge	.1	.2

Region 2 San Francisco Bay-Mercury

Region 2 Source:Non-Urban Stormwater Runoff TMDL Type: Bay	**Name**	**Pollutant Stressor/WLA**	**TMDL Completion Date**
	San Francisco Bay	Mercury 25 kg/year	08 09 2006

2851-1452

Region 4 Machado Lake Nutrients - Resolution No. 2008-006 (Effective Date - March 11, 2009)

General Construction Stormwater Permit WLAs	Years After Effective Date	Total Phosphorus (mg/L)	Total Nitrogen (TKN + NO3-N + NO2-N) (mg/L)
Interim WLAs[1]	At Effective Date	1.25	3.50
Interim WLAs[2] 5	years	1.25	2.45
Final WLAs[2]	9.5 years	0.10	1.00

[1] The compliance points for effective date interim WLAs are measured in the lake.
[2] No compliance points are specified for general construction stormwater permits for the year 5 interim WLAs and final WLAs

Region 4 Ballona Creek-Metals and Selenium – Resolution No. 2007-015 (Effective Date October 29, 2008)

Wet Weather WLAs

Region 4 Source: NPDES General Construction TMDL Completion Date: 10 29 2008 TMDL Type: Creek	Copper (Cu)		Lead (Pb)		Selenium (Se)		Zinc (Zn)	
	g/day	g/day/acre	g/day	g/day/acre	g/day	g/day/acre	g/day	g/day/acre
Ballona Creek	4.94E-07 x Daily storm volume (L)	2.20E-10 x Daily storm volume (L)	1.62E-06 x Daily storm volume (L)	7.20E-10 x Daily storm volume (L)	1.37E-07 x Daily storm volume (L)	6.10E-11 x Daily storm volume (L)	3.27E-06 x Daily storm volume (L)	1.45E-09 x Daily storm volume (L)

Wet-weather WLA Implementation

- Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the final waste load allocations assigned to construction storm water permittees.
- Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL.
- General construction storm water permittees will be considered in compliance with final waste load allocations if they implement these Regional Board approved BMPs. All permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with final waste load allocations.

Dry-weather WLAs

A waste load allocation of zero is assigned to all general construction storm water permits during dry weather.

Dry-weather WLA Implementation

Non-storm water flows authorized by the General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order No. 99-08 DWQ), or any successor order, are exempt from the dry-weather waste load allocation equal to zero as long as they comply with the provisions of sections C.3 and A.9 of the Order No. 99-08 DWQ, which state that these authorized non-storm discharges shall be:

(1) infeasible to eliminate
(2) comply with BMPs as described in the Storm Water Pollution Prevention Plan prepared by the permittee, and
(3) not cause or contribute to a violation of water quality standards, or comparable provisions in any successor order.

Unauthorized non-storm water flows are already prohibited by Order No. 99-08 DWQ.

Region 4 Los Angeles River and Tributaries-Metals– Resolution No. 2007-014 (Effective Date October 29, 2008)

Wet Weather WLAs

	Cadmium (Cd)		Copper (Cu)		Lead (Pb)		Zinc (Zn)	
	kg/day	g/day/acre	kg/day	g/day/acre	kg/day	g/day/acre	kg/day	g/day/acre
5.9x10	$^{-11}$ x Daily storm volume (L)	7.6×10^{-12} x Daily storm volume (L)	3.2×10^{-10} x Daily storm volume (L)	4.2×10^{-11} x Daily storm volume (L)	1.2×10^{-9} x Daily storm volume (L)	1.5×10^{-10} x Daily storm volume (L)	3.01×10^{-9} x Daily storm volume (L)	3.9×10^{-10} x Daily storm volume (L)

Wet-weather WLA Implementation

- Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the final waste load allocations assigned to construction storm water permittees.
- Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL.
- General construction storm water permittees will be considered in compliance with final waste load allocations if they implement these Regional Board approved BMPs. All permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with final waste load allocations.

Dry-weather WLAs

A waste load allocation of zero is assigned to all general construction storm water permits during dry weather.

Dry-weather WLA Implementation

Non-storm water flows authorized by the General Permit for Storm Water Discharges Associated with Construction Activity (Water Quality Order No. 99-08 DWQ), or any successor order, are exempt from the dry-weather waste load allocation equal to zero as

long as they comply with the provisions of sections C.3 and A.9 of the Order No. 99-08 DWQ, which state that these authorized non-storm discharges shall be:

(1) infeasible to eliminate
(2) comply with BMPs as described in the Storm Water Pollution Prevention Plan prepared by the permittee, and
(3) not cause or contribute to a violation of water quality standards, or comparable provisions in any successor order.

Unauthorized non-storm water flows are already prohibited by Order No. 99-08 DWQ.

Region 4 Calleguas Creek Metals TMDL – Resolution No. 2006-012
(Effective Date - March 26, 2007)

Interim Limits and Final WLAs for Total Recoverable Copper, Nickel, and Selenium

Interim limits and waste load allocations are applied to receiving water.

A. Interim Limits

Constituents	Calleguas and Conejo Creek			Revolon Slough		
	Dry CMC (ug/L)	Dry CCC (ug/L)	Wet CMC (ug/L)	Dry CMC (ug/L)	Dry CCC (ug/L)	Wet CMC (ug/L)
Copper*	23	19	204	23	19	204
Nickel	15	13	(a)	15	13	(a)
Selenium	(b)	(b)	(b)	14	13	(a)

(a) The current loads do not exceed the TMDL under wet conditions; interim limits are not required.
(b) Selenium allocations have not been developed for this reach as it is not on the 303(d) list.
(c) Attainment of interim limits will be evaluated in consideration of background loading data, if available.

B. Final WLAs for Total Recoverable Copper, Nickel, and Selenium

Dry-Weather WLAs in Water Column

Flow Range	Calleguas and Conejo Creek			Revolon Slough		
	Low Flow	Average Flow	Elevated Flow	Low Flow	Average Flow	Elevated Flow
Copper1 (lbs/day)	0.04*WER - 0.02	0.12*WER - 0.02	0.18*WER - 0.03	0.03*WER - 0.01	0.06*WER - 0.03	0.13*WER - 0.02
Nickel (lbs/day)	0.100	0.120	0.440	0.050	0.069	0.116
Selenium (lbs/day)	(a)	(a)	(a)	0.004	0.003	0.004

[1] If site-specific WERs are approved by the Regional Board, TMDL waste load allocations shall be implemented in accordance with the approved WERs using the equations set forth above. Regardless of the final WERs, total copper loading shall not exceed current loading.

(a) Selenium allocations have not been developed for this reach as it is not on the 303(d) list.

Wet-Weather WLAs in Water Column

Constituent	Calleguas Creek	Revolon Slough
Copper[1] (lbs/day)	(0.00054*Q^2*0.032*Q - 0.17)*WER - 0.06	(0.0002*Q2+0.0005*Q)*WER
Nickel[2] (lbs/day)	0.014*Q^2+0.82*Q	0.027*Q^2+0.47*Q
Selenium[2] (lbs/day)	(a)	0.027*Q^2+0.47*Q

[1] If site-specific WERs are approved by the Regional Board, TMDL waste load allocations shall be implemented in accordance with the approved WERs using the equations set forth above. Regardless of the final WERs, total copper loading shall not exceed current loading.

[2] Current loads do not exceed loading capacity during wet weather. Sum of all loads cannot exceed loads presented in the table

(a) Selenium allocations have not been developed for this reach as it is not on the 303(d) list.

Q: Daily storm volume.

Interim Limits and Final WLAs for Mercury in Suspended Sediment

Flow Range	Calleguas Creek		Revolon Slough	
	Interim (lbs/yr)	Final (lbs/yr)	Interim (lbs/yr)	Final (lbs/yr)
0-15,000 MGY	3.3	0.4	1.7	0.1
15,000-25,000 MGY	10.5	1.6	4	0.7
Above 25,000 MGY	64.6	9.3	10.2	1.8

MGY: million gallons per year.

In accordance with current practice, a group concentration-based WLA has been developed for all permitted stormwater discharges, including municipal separate storm sewer systems (MS4s), Caltrans, general industrial and construction stormwater permits, and Naval Air Weapons Station Point Mugu. Dischargers will have a required 25%, 50% and 100% reduction in the difference between the current loadings and the load allocations at 5, 10 and 15 years after the effective date, respectively. Achievement of required reductions will be evaluated based on progress towards BMP implementation as outlined in the urban water quality management plans (UWQMPs). If the interim reductions are not met, the dischargers will submit a report to the Executive Officer detailing why the reductions were not met and the steps that will be taken to meet the required reductions.

Region 4 Calleguas Creek-OC Pesticides, PCBs, and Siltation (Resolution 2005-010)
Effective Date - March 24, 2006

Interim Requirements

Region 4 Calleguas Creek Source: Minor NPDES point sources/WDRs TMDL Completion Date: 3 24 2006 TMDL Type:Creek	**Pollutant Stressor**	**WLA Daily Max (µg/L)**	**WLA Monthly Ave (µg/L)**
	Chlordane 1.2		0.59
	4,4-DDD 1.7		0.84
	4,4-DDE 1.2		0.59
	4,4-DDT 1.2		0.59
	Dieldrin 0.28		0.14
	PCB's 0.34		0.17
	Toxaphene 0.33		0.16

Region 4 Calleguas Creek-Calleguas Creek Toxicicity (Resolution 2005-009)
Effective Date - March 24, 2006

Minor sources include NPDES permittees other than POTWs and MS4s, discharging to the Calleguas Creek Watershed. A wasteload of 1.0 TUc is allocated to the minor point sources discharging to the Calleguas Creek Watershed. Additionally, the following wasteloads for chlorpyrifos and diazinon are established. Final WLAs apply as of March 24, 2006.

Chlorpyrifos WLAs, ug/L
Final WLA
(4 day)
0.014
Diazinon WLAs, ug/L
Final WLA
Acute and Chronic
0.10

Region 4 Calleguas Creek-Salts (Resolution 2007-016)
Effective Date – December 2, 2008

Final Dry Weather Pollutant WLA (mg/L)					
Region 4 Calleaguas Creek Source Permitted Stormwater Dischargers TMDL Completion Date: 12 2 2008 TMDL Type:Creek	**Critical Condition Flow Rate (mgd)**	**Chloride (lb/day)**	**TDS (lb/day)**	**Sulfate (lb/day)**	**Boron (lb/day)**
Simi	1.39	1738 9849 2897 12			
Las Posas	0.13	157 887 261 N/A			
Conejo	1.26	1576 8931 2627 N/A			
Camarillo	0.06	72	406 119 N/A		
Pleasant Valley (Calleguas)	0.12	150 850 250 N/A			
Pleasant Valley (Revolon)	0.25	314	1778	523	2

Dry Weather Interim Pollutant WLA (mg/L)				
	Chloride (mg/L)	**TDS (mg/L)**	**Sulfate (mg/L)**	**Boron (mg/L)**

Simi 230.0		1720.0	1289.0	1.3
Las Posas	230	1720	1289	1.3
Conejo 230		1720	1289	1.3
Camarillo 230		1720	1289	1.3
Pleasant Valley (Calleguas)	230	1720	1289	1.3
Pleasant Valley (Revolon)	230	1720	1289	1.3

- Dry- weather waste load allocations apply in the receiving water at the base of each subwatershed. Dry weather allocations apply when instream flow rates are below the 86th percentile flow and there has been no measurable precipitation in the previous 24 hours.
- Because wet weather flows transport a large mass of salts at low concentrations, these dischargers meet water quality objectives during wet weather. No wet weather allocations are assigned.

Ballona Creek Toxic Pollutants (Resolution No. 2005-008)
Effective Date - January 11, 2006

Each storm water permittee enrolled under the general construction or industrial storm water permits will receive an individual waste load allocation on a per acre basis, based on the acreage of their facility.

Metals per Acre WLAs for Individual General Construction or Industrial Storm Water Permittees (g/yr/ac)

Cadmium	Copper	Lead	Silver	Zinc
0.1	3 4 0.1			13

Organics per Acre WLAs for Individual General Construction or Industrial Storm Water Permittees (mg/yr/ac)

Chlordane	DDTs	Total PCBs	Total PAHs
0.04	0.14	2	350

Waste load allocations will be incorporated into the State Board general permit upon renewal or into a watershed spec ific general construction storm water permit developed by the Regional Board.

Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the waste load allocations assigned to construction storm water permittees. Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the

effective date of the TMDL. General construction storm water permittees will be considered in compliance with waste load allocations if they implement these Regional Board approved BMPs.

All general construction permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with waste load allocations.

Region 4 Marina Del Rey Harbor Toxic Pollutants TMDL (Resolution No. 2005-012)
Effective Date March 22, 2006

Each storm water permittee enrolled under the general construction or industrial storm water permits will receive an individual waste load allocation on a per acre basis, based on the acreage of their facility.

Metals per Acre WLAs for Individual General Construction or Industrial Storm Water Permittees (g/yr/ac)

Copper	Lead	Zinc
2.3	3.1	10

Organics per acre WLAs for Individual General Construction or Industrial Storm Water Permittees (mg/yr/ac)

Chlordane	Total PCBs
0.03	1.5

Waste load allocations will be incorporated into the State Board general permit upon renewal or into a watershed specific general construction storm water permit developed by the Regional Board.

Within seven years of the effective date of the TMDL, the construction industry will submit the results of BMP effectiveness studies to determine BMPs that will achieve compliance with the waste load allocations assigned to construction storm water permittees. Regional Board staff will bring the recommended BMPs before the Regional Board for consideration within eight years of the effective date of the TMDL. General construction storm water permittees will be considered in compliance with waste load allocations if they implement these Regional Board approved BMPs.

All general construction permittees must implement the approved BMPs within nine years of the effective date of the TMDL. If no effectiveness studies are conducted and no BMPs are approved by the Regional Board within eight years of the effective date of

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the TMDL, each general construction storm water permit holder will be subject to site-specific BMPs and monitoring requirements to demonstrate compliance with waste load allocations.

Region 4 San Gabriel River and Tributaries-Metals and Selenium (EPA-established TMDL – Effective date: 3/26/07)

Wet-weather allocations

Waterbody	Copper	Lead	Zinc
San Gabriel River Reach 2*		0.8 kg/d	
Coyote Creek**	0.513 kg/d	2.07 kg/d	3.0 kg/d

*Mass-based allocations are based on a flow of 260 cfs (daily storm volume = 6.4×10^8 liters)

**Mass-based allocations are based on a flow of 156 cfs (daily storm volume = 3.8×10^8 liters)

Dry-weather allocations

The dry-weather copper waste load allocation for general construction storm water permittees that discharge to San Gabriel Reach 1, Coyote Creek, and the Estuary is zero.

The dry-weather selenium allocation for general construction storm water permittees that discharge to San Jose Creek Reach 1 and Reach 2 is 5 µg/L (total recoverable metals).

Region 4 Upper Santa Clara River Chloride TMDL Adopted by Resolution No 2006-016 Effective Date June 12, 2008

"Other NPDES dischargers" have a chloride WLA equal to 100 mg/L.

This TMDL was revised by Resolution No 2008-012, which, when it becomes effective, includes the following conditional WLAs for "Other minor NPDES discharges":

Reach	Concentration-based Conditional WLA for Chloride (mg/L)*
6	150 (12-month Average), 230 (Daily Maximum)
5	150 (12-month Average), 230 (Daily Maximum)
4B	117 (3-month Average), 230 (Daily Maximum)

*The conditional WLAs for chloride for all point sources shall apply only when chloride load reductions and/or chloride export projects are in operation by the Santa Clarita Valley Sanitation District according to the implementation plan for the TMDL. If these conditions are not met, WLAs shall be based on existing water quality objectives for chloride of 100 mg/L.

Region 4 The Harbor Beaches of Ventura County-Bacteria (Adopted by Resolution No. 2007-017)
Effective Date – December 18, 2008

Current and future enrollees in the Statewide Construction Activity Storm Water General Permit in the Channel Islands Harbor subwatershed are assigned WLAs of zero (0) days of allowable exceedances of the single sample limits and the rolling 30-day geometric mean limits.

Single Sample Limits are:
a. Total coliform density shall not exceed 10,000/100 ml.
b. Fecal coliform density shall not exceed 400/100 ml.
c. Enterococcus density shall not exceed 104/100 ml.
d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Rolling 30-day Geometric Mean Limits are:
a. Total coliform density shall not exceed 1,000/100 ml.
b. Fecal coliform density shall not exceed 200/100 ml.
c. Enterococcus density shall not exceed 35/100 ml.

Los Angeles Harbor Bacteria TMDL (Adopted by Resolution No. 2004-001)
Effective Date – March 10, 2005

Current and future enrollees in the Statewide Construction Activity Storm Water General Permit in the watershed are assigned WLAs of zero (0) days of allowable exceedances of the single sample limits and the rolling 30-day geometric mean.

Single Sample Limits are:
a. Total coliform density shall not exceed 10,000/100 ml.
b. Fecal coliform density shall not exceed 400/100 ml.
c. Enterococcus density shall not exceed 104/100 ml.
d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Rolling 30-day Geometric Mean Limits are:
a. Total coliform density shall not exceed 1,000/100 ml.
b. Fecal coliform density shall not exceed 200/100 ml.
c. Enterococcus density shall not exceed 35/100 ml.

Ballona Creek Bacteria TMDL (Adopted by Resolution No. 2006-011)
Effective Date – April 27, 2007

Current and future enrollees in the Statewide Construction Activity Storm Water General Permit in the watershed are assigned WLAs of zero (0) days of allowable exceedances of the single sample limits and the rolling 30-day geometric mean.

Single Sample Limits are:
a. Total coliform density shall not exceed 10,000/100 ml.
b. Fecal coliform density shall not exceed 400/100 ml.
c. Enterococcus density shall not exceed 104/100 ml.
d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Rolling 30-day Geometric Mean Limits are:
a. Total coliform density shall not exceed 1,000/100 ml.
b. Fecal coliform density shall not exceed 200/100 ml.
c. Enterococcus density shall not exceed 35/100 ml.

Region 4 Resolution No. 03-009 Los Angeles River and Tributaries-Nutrients

Minor Point Sources
Waste loads are allocated to minor point sources enrolled under NPDES or WDR permits including but not limited to Tapia WRP, Whittier Narrows WRP, Los Angeles Zoo WRP, industrial and construction stormwater, and municipal storm water and urban runoff from municipal separate storm sewer systems (MS4s)

Region 4 Minor Point Sources for NPDES/WDR Permits TMDL Effective Date: 3 23 2004 TMDL Type: River	Pollutant Stressor/WLA				
	Total Ammonia (NH_3)		**Nitrate-nitrogen (NO_3-N)**	**Nitrite-nitrogen (NO_2-N)**	**NO_3-N + NO_3-N**
	1 Hr Ave mg/l	30 Day Ave mg/l	30 Day Ave mg/l		30 Day Ave mg/l
LA River Above Los Angeles-Glendale WRP (LAG)	4.7 1.6 8.0			1.0	8.0
LA River Below LAG	8.7	2.4	8.0	1.0	8.0
Los Angeles Tributaries 10.1		2.3	8.0	1.0	8.0

Malibu Creek Attachment A to Resolution No. 2004-019R-Bacteria

Effective date: 1 24 2006. The WLAs for permittees under the NPDES General Stormwater Construction Permit are zero (0) days of allowable exceedances for the single sample limits and the rolling 30-day geometric mean.

Single Sample Limits are:
a. Total coliform density shall not exceed 10,000/100 ml.
b. Fecal coliform density shall not exceed 400/100 ml.
c. Enterococcus density shall not exceed 104/100 ml.
d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Rolling 30-day Geometric Mean Limits are:
a. Total coliform density shall not exceed 1,000/100 ml.
b. Fecal coliform density shall not exceed 200/100 ml.
c. Enterococcus density shall not exceed 35/100 ml.

Region 4 Marina del Rey Harbor, Mothers' Beach and Back Basins
Attachment A to Resolution No. 2003-012-Bacteria

Effective date: 3 18 2004. Discharges from general construction storm water permits are not expected to be a significant source of bacteria. Therefore, the WLAs for these discharges are zero (0) days of allowable exceedances for the single sample limits and the rolling 30-day geometric mean. Any future enrollees under a general NPDES permit, general industrial storm water permit or general construction storm water permit within the MdR Watershed will also be subject to a WLA of zero days of allowable exceedances.

Single Sample Limits are:
a. Total coliform density shall not exceed 10,000/100 ml.
b. Fecal coliform density shall not exceed 400/100 ml.
c. Enterococcus density shall not exceed 104/100 ml.
d. Total coliform density shall not exceed 1,000/100 ml, if the ratio of fecal-to-total coliform exceeds 0.1.

Rolling 30-day Geometric Mean Limits are:
a. Total coliform density shall not exceed 1,000/100 ml.
b. Fecal coliform density shall not exceed 200/100 ml.
c. Enterococcus density shall not exceed 35/100 ml.

Santa Clara River Nutrients TMDL (Adopted by Resolution No. 2003-011
Effective Date - March 23, 2004

Concentration-based wasteloads are allocated to municipal, industrial and construction stormwater sources regulated under NPDES permits. For stormwater permittees discharging into Reach 7, the thirty-day WLA for ammonia as nitrogen is 1.75 mg/L and the one-hour WLA for ammonia as nitrogen is 5.2 mg/L; the thirty-day average WLA for nitrate plus nitrite as nitrogen is 6.8 mg/L. For stormwater permittees discharging into Reach 3, the thirty-day WLA for ammonia as nitrogen is 2.0 mg/L and the one-hour WLA for ammonia as nitrogen is 4.2 mg/L; the thirty-day average WLA for nitrate plus nitrite nitrogen is 8.1 mg/L.

21-256

Region 8 RESOLUTION NO. R8-2007- 0024

Total Maximum Daily Loads (TMDLs) for San Diego Creek,
Upper and Lower Newport Bay, Orange County, California

Region 8 NPDES Construction Permit TMDL Completion Date: 1 24 1995	Organochlorine Compounds							
	Total DDT		**Chlordane**		**Total PCBs**		**Toxaphene**	
TMDL Type: River. Cr, Bay	g/day	g/yr	g/day	g/yr	g/day	g/yr	g/day	g/yr
San Diego Creek	.27	99.8	**.18***	**64.3***	**.09***	**31.5***	.004 1.5	
Upper Newport Bay	.11	40.3 .06		23.4 .06		23.2	X	X
Lower Newport Bay	.04	14.9	.02 8.6 .17	60.7			X	X

*Red= Informational WLA only, not for enforcement purposes

Organochlorine Compounds TMDLs Implementation Tasks and Schedule

Regional Board staff shall develop a SWPPP Improvement Program that identifies the Regional Board's expectations with respect to the content of SWPPPs, including documentation regarding the selection and implementation of BMPs, and a sampling and analysis plan. The Improvement Program shall include specific guidance regarding the development and implementation of monitoring plans, including the constituents to be monitored, sampling frequency and analytical protocols. The SWPPP Improvement Program shall be completed by (*the date of OAL approval of this BPA*). ***No later than two months*** from completion of the Improvement Program, Board staff shall assure that the requirements of the Program are communicated to interested parties, including dischargers with existing authorizations under the General Construction Permit. Existing, authorized dischargers shall revise their project SWPPPs as needed to address the Program requirements as soon as possible but ***no later than (three months of completion of the SWPPP Improvement Program)***. Applicable SWPPPs that do not adequately address the Program requirements shall be considered inadequate and enforcement by the Regional Board shall proceed accordingly. The Caltrans and Orange County MS4 permits shall be revised as needed to assure that the permittees communicate the Regional Board's SWPPP expectations, based on the SWPPP Improvement Program, with the Standard Conditions of Approval.

APPENDIX 5:
Glossary

Active Areas of Construction
All areas subject to land surface disturbance activities related to the project including, but not limited to, project staging areas, immediate access areas and storage areas. All previously active areas are still considered active areas until final stabilization is complete. [The construction activity Phases used in this General Permit are the Preliminary Phase, Grading and Land Development Phase, Streets and Utilities Phase, and the Vertical Construction Phase.]

Active Treatment System (ATS)
A treatment system that employs chemical coagulation, chemical flocculation, or electrocoagulation to aid in the reduction of turbidity caused by fine suspended sediment.

Acute Toxicity Test
A chemical stimulus severe enough to rapidly induce a negative effect; in aquatic toxicity tests, an effect observed within 96 hours or less is considered acute.

Air Deposition
Airborne particulates from construction activities. .

Approved Signatory
A person who has legal authority to sign, certify, and electronically submit Permit Registration Documents and Notices of Termination on behalf of the Legally Responsible Person.

Beneficial Uses
As defined in the California Water Code, beneficial uses of the waters of the state that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Available Technology Economically Achievable (BAT)
As defined by USEPA, BAT is a technology-based standard established by the Clean Water Act (CWA) as the most appropriate means available on a national basis for controlling the direct discharge of toxic and nonconventional pollutants to navigable waters. The BAT effluent limitations guidelines, in general, represent the best existing performance of treatment technologies that are economically achievable within an industrial point source category or subcategory.

Best Conventional Pollutant Control Technology (BCT)

14-1595

As defined by USEPA, BCT is a technology-based standard for the discharge from existing industrial point sources of conventional pollutants including biochemical oxygen demand (BOD), total suspended sediment (TSS), fecal coliform, pH, oil and grease.

Best Professional Judgment (BPJ)
The method used by permit writers to develop technology-based NPDES permit conditions on a case-by-case basis using all reasonably available and relevant data.

Best Management Practices (BMPs)
BMPs are scheduling of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants. BMPs also include treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

Chain of Custody (COC)
Form used to track sample handling as samples progress from sample collection to the analytical laboratory. The COC is then used to track the resulting analytical data from the laboratory to the client. COC forms can be obtained from an analytical laboratory upon request.

Coagulation
The clumping of particles in a discharge to settle out impurities, often induced by chemicals such as lime, alum, and iron salts.

Common Plan of Development
Generally a contiguous area where multiple, distinct construction activities may be taking place at different times under one plan. A plan is generally defined as any piece of documentation or physical demarcation that indicates that construction activities may occur on a common plot. Such documentation could consist of a tract map, parcel map, demolition plans, grading plans or contract documents. Any of these documents could delineate the boundaries of a common plan area. However, broad planning documents, such as land use master plans, conceptual master plans, or broad-based CEQA or NEPA documents that identify potential projects for an agency or facility are not considered common plans of development.

Daily Average Discharge
The discharge of a pollutant measured during any 24-hour period that reasonably represents a calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged during the day. For pollutants with limitations expressed in other units of measurement (e.g., concentration) the daily discharge is calculated as the average measurement of the pollutant

A-1559

throughout the day (40 CFR 122.2). In the case of pH, the pH must first be converted from a log scale.

Debris
Litter, rubble, discarded refuse, and remains of destroyed inorganic anthropogenic waste.

Direct Discharge
A discharge that is routed directly to waters of the United States by means of a pipe, channel, or ditch (including a municipal storm sewer system), or through surface runoff.

Discharger
The Legally Responsible Person (see definition) or entity subject to this General Permit.

Dose Rate (for ATS)
In exposure assessment, dose (e.g. of a chemical) per time unit (e.g. mg/day), sometimes also called dosage.

Drainage Area
The area of land that drains water, sediment, pollutants, and dissolved materials to a common outlet.

Effluent
Any discharge of water by a discharger either to the receiving water or beyond the property boundary controlled by the discharger.

Effluent Limitation
Any numeric or narrative restriction imposed on quantities, discharge rates, and concentrations of pollutants which are discharged from point sources into waters of the United States, the waters of the contiguous zone, or the ocean.

Erosion
The process, by which soil particles are detached and transported by the actions of wind, water, or gravity.

Erosion Control BMPs
Vegetation, such as grasses and wildflowers, and other materials, such as straw, fiber, stabilizing emulsion, protective blankets, etc., placed to stabilize areas of disturbed soils, reduce loss of soil due to the action of water or wind, and prevent water pollution.

Field Measurements
Testing procedures performed in the field with portable field-testing kits or meters.

14-1600

Final Stabilization
All soil disturbing activities at each individual parcel within the site have been completed in a manner consistent with the requirements in this General Permit.

First Order Stream
Stream with no tributaries.

Flocculants
Substances that interact with suspended particles and bind them together to form flocs.

Good Housekeeping BMPs
BMPs designed to reduce or eliminate the addition of pollutants to construction site runoff through analysis of pollutant sources, implementation of proper handling/disposal practices, employee education, and other actions.

Grading Phase (part of the Grading and Land Development Phase)
Includes reconfiguring the topography and slope including; alluvium removals; canyon cleanouts; rock undercuts; keyway excavations; land form grading; and stockpiling of select material for capping operations.

Hydromodification
Hydromodification is the alteration of the hydrologic characteristics of coastal and non-coastal waters, which in turn could cause degradation of water resources. Hydromodification can cause excessive erosion and/or sedimentation rates, causing excessive turbidity, channel aggradation and/or degradation.

Identified Organisms
Organisms within a sub-sample that is specifically identified and counted.

Inactive Areas of Construction
Areas of construction activity that are not active and those that have been active and are not scheduled to be re-disturbed for at least 14 days.

Index Period
The period of time during which bioassessment samples must be collected to produce results suitable for assessing the biological integrity of streams and rivers. Instream communities naturally vary over the course of a year,and sampling during the index period ensures that samples are collected during a time frame when communities are stable so that year-to-year consistency is obtained. The index period approach provides a cost-effective alternative to year-round sampling. Furthermore, sampling within the appropriate index period will yield results that are comparable to the assessment thresholds or criteria for a given region, which are established for the same index period. Because index

14-1601

periods differ for different parts of the state, it is essential to know the index period for your area.

K Factor
The soil erodibility factor used in the Revised Universal Soil Loss Equation (RUSLE). It represents the combination of detachability of the soil, runoff potential of the soil, and the transportability of the sediment eroded from the soil.

Legally Responsible Person
The person who possesses the title of the land or the leasehold interest of a mineral estate upon which the construction activities will occur for the regulated site. For linear underground/overhead projects, it is in the person in charge of the utility company, municipality, or other public or private company or agency that owns or operates the LUP.

Likely Precipitation Event
Any weather pattern that is forecasted to have a 50% or greater chance of producing precipitation in the project area. The discharger shall obtain likely precipitation forecast information from the National Weather Service Forecast Office (e.g., by entering the zip code of the project's location at http://www.srh.noaa.gov/forecast).

Maximum Allowable Threshold Concentration (MATC)
The allowable concentration of residual, or dissolved, coagulant/flocculant in effluent. The MATC shall be coagulant/flocculant-specific, and based on toxicity testing conducted by an independent, third-party laboratory. A typical MATC would be:

The MATC is equal to the geometric mean of the NOEC (No Observed Effect Concentration) and LOEC (Lowest Observed Effect Concentration) Acute and Chronic toxicity results for most sensitive species determined for the specific coagulant. The most sensitive species test shall be used to determine the MATC.

Natural Channel Evolution
The physical trend in channel adjustments following a disturbance that causes the river to have more energy and degrade or aggrade more sediment. Channels have been observed to pass through 5 to 9 evolution types. Once they pass though the suite of evolution stages, they will rest in a new state of equilibrium.

Non-Storm Water Discharges
Discharges are discharges that do not originate from precipitation events. They can include, but are not limited to, discharges of process water, air conditioner condensate, non-contact cooling water, vehicle wash water, sanitary wastes, concrete washout water, paint wash water, irrigation water, or pipe testing water.

Non-Visible Pollutants

14-1502

Pollutants associated with a specific site or activity that can have a negative impact on water quality, but cannot be seen though observation (ex: chlorine). Such pollutants being discharged are not authorized.

Numeric Action Level (NAL)
Level is used as a warning to evaluate if best management practices are effective and take necessary corrective actions. Not an effluent limit.

Original Sample Material
The material (i.e., macroinvertebrates, organic material, gravel, etc.) remaining after the subsample has been removed for identification.

pH
Unit universally used to express the intensity of the acid or alkaline condition of a water sample. The pH of natural waters tends to range between 6 and 9, with neutral being 7. Extremes of pH can have deleterious effects on aquatic systems.

Post-Construction BMPs
Structural and non-structural controls which detain, retain, or filter the release of pollutants to receiving waters after final stabilization is attained.

Preliminary Phase (Pre-Construction Phase - Part of the Grading and Land Development Phase)
Construction stage including rough grading and/or disking, clearing and grubbing operations, or any soil disturbance prior to mass grading.

Project

Qualified SWPPP Developer
Individual who is authorized to develop and revise SWPPPs.

Qualified SWPPP Practitioner
Individual assigned responsibility for non-storm water and storm water visual observations, sampling and analysis, and responsibility to ensure full compliance with the permit and implementation of all elements of the SWPPP, including the preparation of the annual compliance evaluation and the elimination of all unauthorized discharges.

Qualifying Rain Event
Any event that produces 0.5 inches or more precipitation with a 48 hour or greater period between rain events.

R Factor
Erosivity factor used in the Revised Universal Soil Loss Equation (RUSLE). The R factor represents the erosivity of the climate at a particular location. An

14-1603

average annual value of R is determined from historical weather records using erosivity values determined for individual storms. The erosivity of an individual storm is computed as the product of the storm's total energy, which is closely related to storm amount, and the storm's maximum 30-minute intensity.

Rain Event Action Plan (REAP)
Written document, specific for each rain event, that when implemented is designed to protect all exposed portions of the site within 48 hours of any likely precipitation event.

Remaining Sub sampled Material
The material (e.g., organic material, gravel, etc.) that remains after the organisms to be identified have been removed from the subsample for identification. (Generally, no macroinvertebrates are present in the remaining subsampled material, but the sample needs to be checked and verified using a complete Quality Assurance (QA) plan)

Routine Maintenance
Activities intended to maintain the original line and grade, hydraulic capacity, or original purpose of a facility.

Runoff Control BMPs
Measures used to divert runon from offsite and runoff within the site.

Run-on
Discharges that originate offsite and flow onto the property of a separate project site.

Revised Universal Soil Loss Equation (RUSLE)
Empirical model that calculates average annual soil loss as a function of rainfall and runoff erosivity, soil erodibility, topography, erosion controls, and sediment controls.

Sampling and Analysis Plan
Document that describes how the samples will be collected, under what conditions, where and when the samples will be collected, what the sample will be tested for, what test methods and detection limits will be used, and what methods/procedures will be maintained to ensure the integrity of the sample during collection, storage, shipping and testing (i.e., quality assurance/quality control protocols).

Sediment
Solid particulate matter, both mineral and organic, that is in suspension, is being transported, or has been moved from its site of origin by air, water, gravity, or ice and has come to rest on the earth's surface either above or below sea level.

14-1604

Sedimentation
Process of deposition of suspended matter carried by water, wastewater, or other liquids, by gravity. It is usually accomplished by reducing the velocity of the liquid below the point at which it can transport the suspended material.

Sediment Control BMPs
Practices that trap soil particles after they have been eroded by rain, flowing water, or wind. They include those practices that intercept and slow or detain the flow of storm water to allow sediment to settle and be trapped (e.g., silt fence, sediment basin, fiber rolls, etc.).

Settleable Solids (SS)
Solid material that can be settled within a water column during a specified time frame. It is typically tested by placing a water sample into an Imhoff settling cone and then allowing the solids to settle by gravity for a given length of time. Results are reported either as a volume (mL/L) or a mass (mg/L) concentration.

Sheet Flow
Flow of water that occurs overland in areas where there are no defined channels where the water spreads out over a large area at a uniform depth.

Site

Soil Amendment
Any material that is added to the soil to change its chemical properties, engineering properties, or erosion resistance that could become mobilized by storm water.

Streets and Utilities Phase
Construction stage including excavation and street paving, lot grading, curbs, gutters and sidewalks, public utilities, public water facilities including fire hydrants, public sanitary sewer systems, storm sewer system and/or other drainage improvements.

Structural Controls
Any structural facility designed and constructed to mitigate the adverse impacts of storm water and urban runoff pollution

Suspended Sediment Concentration (SSC)
The measure of the concentration of suspended solid material in a water sample by measuring the dry weight of all of the solid material from a known volume of a collected water sample. Results are reported in mg/L.

Total Suspended Solids (TSS)
The measure of the suspended solids in a water sample includes inorganic substances, such as soil particles and organic substances, such as algae,

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aquatic plant/animal waste, particles related to industrial/sewage waste, etc. The TSS test measures the concentration of suspended solids in water by measuring the dry weight of a solid material contained in a known volume of a sub-sample of a collected water sample. Results are reported in mg/L.

Toxicity
The adverse response(s) of organisms to chemicals or physical agents ranging from mortality to physiological responses such as impaired reproduction or growth anomalies.

Turbidity
The cloudiness of water quantified by the degree to which light traveling through a water column is scattered by the suspended organic and inorganic particles it contains. The turbidity test is reported in Nephelometric Turbidity Units (NTU) or Jackson Turbidity Units (JTU).

Vertical Construction Phase
The Build out of structures from foundations to roofing, including rough landscaping.

Waters of the United States
Generally refers to surface waters, as defined by the federal Environmental Protection Agency in 40 C.F.R. § 122.2.[1]

Water Quality Objectives (WQO)
Water quality objectives are defined in the California Water Code as limits or levels of water quality constituents or characteristics, which are established for the reasonable protection of beneficial uses of water or the prevention of nuisance within a specific area.

[1] The application of the definition of "waters of the United States" may be difficult to determine; there are currently several judicial decisions that create some confusion. If a landowner is unsure whether the discharge must be covered by this General Permit, the landowner may wish to seek legal advice.

14-1606

APPENDIX 6:
Acronym List

ASBS	Areas of Special Biological Significance
ASTM	American Society of Testing and Materials; Standard Test Method for Particle-Size Analysis of Soils
ATS	Active Treatment System
BASMAA	Bay Area Storm water Management Agencies Association
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
BPJ	Best Professional Judgment
CAFO	Confined Animal Feeding Operation
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	NPDES General Permit for Storm Water Discharges Associated with Construction Activities
CIWQS	California Integrated Water Quality System
CKD	Cement Kiln Dust
COC	Chain of Custody
CPESC	Certified Professional in Erosion and Sediment Control
CPSWQ	Certified Professional in Storm Water Quality
CSMP	Construction Site Monitoring Program
CTB	Cement Treated Base
CTR	California Toxics Rule
CWA	Clean Water Act
CWC	California Water Code
CWP	Center for Watershed Protection
DADMAC	Diallyldimethyl-ammonium chloride
DDNR	Delaware Department of Natural Resources
DFG	Department of Fish and Game
DHS	Department of Health Services
DWQ	Division of Water Quality
EC	Electrical Conductivity
ELAP	Environmental Laboratory Accreditation Program
EPA	Environmental Protection Agency
ESA	Environmentally Sensitive Area
ESC	Erosion and Sediment Control
HSPF	Hydrologic Simulation Program Fortran
JTU	Jackson Turbidity Units
LID	Low Impact Development
LOEC	Lowest Observed Effect Concentration
LRP	Legally Responsible Person
LUP	Linear Underground/Overhead Projects

14-1607

MATC	Maximum Allowable Threshold Concentration
MDL	Method Detection Limits
MRR	Monitoring and Reporting Requirements
MS4	Municipal Separate Storm Sewer System
MUSLE	Modified Universal Soil Loss Equation
NAL	Numeric Action Level
NEL	Numeric Effluent Limitation
NICET	National Institute for Certification in Engineering Technologies
NOAA	National Oceanic and Atmospheric Administration
NOEC	No Observed Effect Concentration
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NTR	National Toxics Rule
NTU	Nephelometric Turbidity Units
O&M	Operation and Maintenance
PAC	Polya luminum chloride
PAM	Polyacryla mide
PASS	Polya luminum chloride Silica/sulfate
POC	Pollutants of Concern
PoP	Probability of Precipitation
POTW	Publicly Owned Treatment Works
PRDs	Permit Registration Documents
PWS	Planning Watershed
QAMP	Quality Assurance Management Plan
QA/QC	Quality Assurance/Quality Control
REAP	Rain Event Action Plan
Regional Board	Regional Water Quality Control Board
ROWD	Report of Waste Discharge
RUSLE	Revised Universal Soil Loss Equation
RW	Receiv ing Water
SMARTS	Storm water Multi Application Reporting and Tracking System
SS	Settleable Solids
SSC	Suspended Sediment Concentration
SUSMP	Standard Urban Storm Water Mitigation Plan
SW	Storm Water
SWARM	Storm Water Annual Report Module
SWAMP	Surface Water Ambient Monitoring Program
SWMM	Storm Water Management Model
SWMP	Storm Water Management Program
SWPPP	Storm Water Pollution Prevention Plan
TC	Treatment Control
TDS	Total Dissolved Solids

14-1608

TMDL	Total Maximum Daily Load
TSS Total	Suspended Solids
USACOE	U.S. Army Corps of Engineers
USC United	States Code
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
WDID Waste	Discharge Identification Number
WDR Waste	Discharge Requirements
WLA Waste	Load Allocation
WET Whole	Effluent Toxicity
WRCC	Western Regional Climate Center
WQBEL	Water Quality Based Effluent Limitation
WQO Water	Quality Objective
WQS Water	Quality Standard

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APPENDIX 7:
State and Regional Water Resources Control Board Contacts

NORTH COAST REGION (1)
5550 Skylane Blvd, Ste. A
Santa Rose, CA 95403
(707) 576-2220 FAX: (707)523-0135

SAN FRANCISCO BAY REGION (2)
1515 Clay Street, Ste. 1400
Oakland, CA 94612
(510) 622-2300 FAX: (510) 622-2640

CENTRAL COAST REGION (3)
895 Aerovista Place, Ste 101
San Luis Obispo, CA 93401
(805) 549-3147 FAX: (805) 543-0397

LOS ANGELES REGION (4)
320 W. 4th Street, Ste. 200
Los Angeles, CA 90013
(213) 576-6600 FAX: (213) 576-6640

CENTRAL VALLEY REGION (5S)
11020 Sun Center Dr., #200
Rancho Cordova, CA 95670-6114
(916) 464-3291 FAX: (916) 464-4645

FRESNO BRANCH OFFICE (5F)
1685 E St.
Fresno, CA 93706
(559) 445-5116 FAX: (559) 445-5910

REDDING BRANCH OFFICE (5R)
415 Knollcrest Drive, Ste. 100
Redding, CA 96002
(530) 224-4845 FAX: (530) 224-4857

LAHONTAN REGION (6 SLT)
2501 Lake Tahoe Blvd.
South Lake Tahoe, CA 96150
(530) 542-5400 FAX: (530) 544-2271

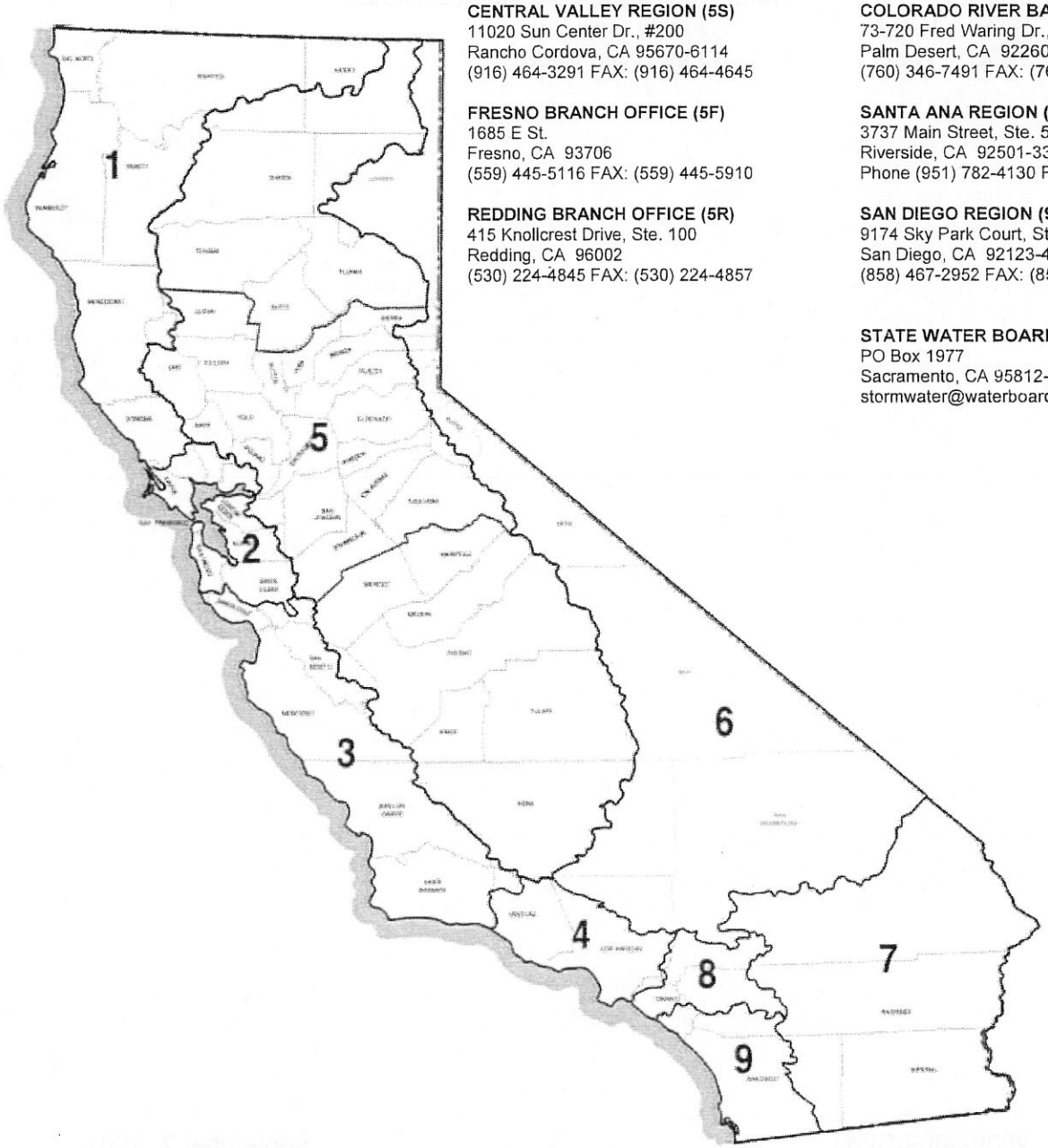
VICTORVILLE OFFICE (6V)
14440 Civic Drive, Ste. 200
Victorville, CA 92392-2383
(760) 241-6583 FAX: (760) 241-7308

COLORADO RIVER BASIN REGION (7)
73-720 Fred Waring Dr., Ste. 100
Palm Desert, CA 92260
(760) 346-7491 FAX: (760) 341-6820

SANTA ANA REGION (8)
3737 Main Street, Ste. 500
Riverside, CA 92501-3339
Phone (951) 782-4130 FAX: (951) 781-6288

SAN DIEGO REGION (9)
9174 Sky Park Court, Ste. 100
San Diego, CA 92123-4340
(858) 467-2952 FAX: (858) 571-6972

STATE WATER BOARD
PO Box 1977
Sacramento, CA 95812-1977
stormwater@waterboards.ca.gov



14-1610

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

Ms. Jeanine Townsend
Clerk to the Board
State Water Resources Control Board
1001 I Street, 24th Floor [95814]
P.O. Box 100
Sacramento, CA 95812-0100

re: SWRCB/OCC File A-1780

Dear Ms. Townsend:

The following comments are provided by United States Environmental Protection Agency, Region 9 (EPA) regarding the above-referenced matter, challenging the modified Los Angeles County Municipal Separate Storm Sewer System (MS4) permit issued by the Los Angeles Regional Water Quality Control Board on September 14, 2006. This permit modification incorporates Total Maximum Daily Load (TMDL) dry weather wasteload allocations. EPA supported the September 14, 2006 permit modification.

EPA is in agreement with the draft Proposed Order dated May 4, 2009, which proposes that the State Water Resources Control Board deny the petition challenging this permit modification.

EPA agrees the modified permit's provisions are sufficiently clear. We also agree that the modified permit's provisions specifically regulate dry weather discharges from the Los Angeles County MS4. As is described in the draft proposed Order, these dry weather discharges are not stormwater flows. However, these flows are discharges from the MS4 and are appropriately regulated under the MS4 requirements of section 402(p)(3)(B) of the Clean Water Act. Were these dry weather discharges not regulated via the MS4 permit, they would be unauthorized discharges and thus prohibited under the Clean Water Act.

EPA agrees the modified permit is consistent with the wasteload allocations (WLAs) established in the bacteria TMDL for Santa Monica Bay beaches. As pointed out in the draft Proposed Order, it is appropriate here to incorporate these WLAs as numeric permit limits, particularly as these dry weather discharges are subject to the prohibition in section 402(p)(3)(B)(ii) of the Clean Water Act as non-stormwater.

We therefore support the draft Proposed Order's denial of the petition.

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In addition, although not directly related to the dry weather discharges at issue here, we would like to point out that the permitting authority also has the discretion to express permit conditions for municipal stormwater discharges as numeric limits where appropriate. The draft Proposed Order makes reference to a November 22, 2002 EPA Guidance document entitled, "Establishing Total Maximum Daily Loads (TMDLs) Wasteload Allocations for Storm Water Sources and NPDES Permit Requirements Based on those WLAs." This guidance discusses the circumstances where permit writers can include non numeric effluent limits pursuant to 40 CFR 122.4(k). Apparently the petitioners cited a provision in this guidance to support their argument that municipal stormwater permits should not include numeric effluent limits. However, this guidance also states that when a non-numeric limit (i.e. Best Management Practice, or BMP-based, limit) is imposed in a permit, "the permit's administrative record, including the fact sheet when one is required, needs to support that the BMPs are expected to be sufficient to implement the WLA in the TMDL." In our review of MS4 permits, we have found that permitting agencies typically do not have the necessary supporting documentation in the permit's administrative record to demonstrate that BMPs are expected to be sufficient to implement WLAs. It would be consistent with EPA's regulations and the recommendations in this guidance for a permitting agency to decide it is appropriate to use numeric effluent limits.

When considering the national stormwater program, it's important to recognize that EPA's November 22, 2002 guidance reasonably reflected program knowledge after approximately a decade of implementing the Clean Water Act's stormwater provisions. The guidance envisioned that adjustments such as more stringent controls might be necessary in the future to protect water quality. It is now over six and a half years later. In States like California where the fourth generation Phase I municipal stormwater permits are being issued, we see that municipal stormwater discharges continue to be a significant cause of water quality impairments. Thus we support the State of California in its efforts to include clear and enforceable MS4 permit conditions to ensure water quality is protected.

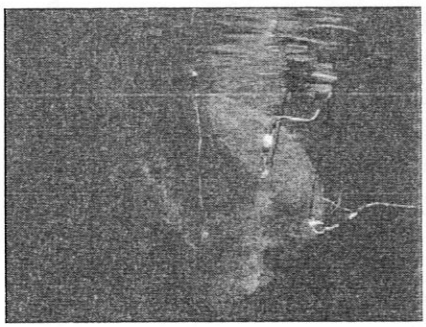
To reiterate, we support the May 4, 2009 draft Proposed Order upholding the incorporation of dry weather WLAs into the Los Angeles Regional Water Board's MS4 permit for LA County.

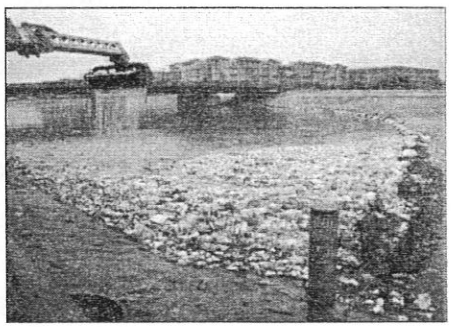
Sincerely,

Alexis Strauss 3 June 2009

Alexis Strauss, Director
Water Division

An Implementation Strategy for the California Ocean Protection Council Resolution to Reduce and Prevent Ocean Litter





Prepared by:
California Ocean Protection Council

in consultation with
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Ballona Creek trash removal – Bill MacDonald, Algalita Marine Research Foundation

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Introduction

OCEAN LITTER – QUANTITY, IMPACTS, AND COSTS

Ocean litter – also commonly referred to as "marine debris" – is a persistent and growing problem worldwide.[1] The general composition of ocean litter is predominantly plastic, measuring 60-80% on average in ocean litter studies, although it has reached 90-95% in some areas (Table 1).[2] Ocean litter tends to accumulate in regions of the ocean where winds and currents converge, such as in the center of gyres. In the Northwest Pacific Gyre, for example, studies show high concentrations of plastics in an area roughly one to two times the size of Texas.[3] Plastics are found in lower concentrations where currents flow consistently in one direction, such as in the southeast Bering Sea and within the California Current, but can still account for a large portion (up to 38%) of collected mass.[4]

Table 1. Scientific studies examining marine debris and plastic content[5]

Location	Study area	Debris identified as plastic (%)
North Pacific Ocean	Surface waters	60 – 70
Kodiak Island, Alaska	Seabed	47 – 56
Tokyo Bay, Japan	Seabed	80 – 85
Bay of Biscay, NE Atlantic Ocean	Seabed	92
NW Mediterranean Sea	Seabed	77
European coasts	Seabed	70+
Two gulfs in western Greece	Seabed	79 – 83
Four harbors, USA, Atlantic Ocean	Harbor	73 – 92
Cape Cod, Massachusetts	Harbor/beach	90

Despite the MARPOL international treaty prohibition on dumping plastics at sea,[6] debris in the oceans is increasing at an alarming rate. Plastic debris in the area north of Hawaii in the Northwest Pacific Gyre has increased 5-fold in the last 10 years.[7] Similarly, off Japan's coast, researchers found that floating particles of plastic debris increased 10-fold in 10 years from the 1970s through 1980s, and then 10-fold again every 2-3 years in the 1990s.[8] In the Southern Ocean, the amount of plastic debris increased 100 times during the early 1990s.[9] Around the British Isles, surveys have shown a 3- to 4-fold increase in the volume of plastic fibers in seawater from the 1960s to the 1990s.[10] The increase occurred during a worldwide quadrupling of plastic fiber production. Approximately 80% of the debris comes from land-based sources, particularly trash and plastic litter in urban runoff.[11]

During the last 10 years, the Southern California Coastal Water Research Project (SCCWRP) and the Algalita Marine Research Foundation (AMRF) have conducted studies to identify and quantify ocean litter in four marine habitats: the beach, the ocean bottom, the ocean water column, and the ocean surface. The ocean bottom is dominated by larger material, such as fishing gear and beverage containers. The water column contains mostly plastic fragments, small enough to be suspended by ocean currents. The ocean surface contains fragments and whole items of floating plastic trash. The beach environment contains a combination of different materials that differ in size and composition according to distance from the water's edge. The

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environmental impacts associated with ocean litter vary by habitat, with aesthetic issues being more important on beaches and threats to the food web being a larger concern for the material found in the water column and on the ocean surface.[12]

Ocean litter has been shown to affect at least 267 species worldwide, including sea turtles, seabirds and marine mammals. The impacts include fatalities as a result of ingestion, starvation, suffocation, infection, drowning, and entanglement.[13] Studies of the impacts of plastic bags have identified the following problems: death of whales by ingestion,[14] use by birds as nesting material[15] and blockage of sea turtle hatchling migration.[16] Seabirds that feed on or near the ocean surface are especially prone to ingesting plastic debris that floats. The laysan albatross, black-footed albatross and northern fulmar frequently ingest a wide array of plastics including bottle caps, cigarette lighters, toys, party balloons, and other fragments of consumer goods. Adults feed these items to their chicks that then often die of starvation because their stomachs become filled with debris.[17] One study found approximately 98% of chicks sampled contained plastic and the quantity of plastic being ingested by seabirds was increasing.[18] Other species of sea bird – such as phalaropes, shearwaters and auklets – ingest small fragments of plastic consumer products and pre-production industrial plastic pellets.[19]

Because persistent organic pollutants in the marine environment attach to plastic debris, plastic pellets and fragments have been found to be a transport mechanism for toxic substances in the marine environment.[20] Floating and migrating debris has also been found to transport invasive marine species.[21]

Economic impacts associated with ocean litter are also significant. Public agencies in California spend millions annually on litter cleanup.[22] In the 2005-2006 fiscal year, Caltrans spent $55 million to remove litter and debris from roadsides and highways, some of which would have otherwise drained to the ocean. The County of Los Angeles (L.A.) Department of Public Works and the Flood Control District spend $18 million annually on street sweeping, catch basin cleanouts, cleanup programs, and litter prevention and education efforts.[23] In addition to cleaning trash out of sewer systems, catch basins and other structures designed to trap trash from storm water, some coastal communities spend considerable funds on beach cleaning. For example, L.A. County collects over 4,000 tons of trash annually on its beaches, and in 1994, spent over $4 million to clean 31 miles of beaches.[24]

In 2001, the L.A. Regional Water Quality Control Board adopted a trash Total Maximum Daily Load (TMDL) for the Los Angeles River and Ballona Creek that requires municipalities and Caltrans to implement a 10-year plan to reduce the amount of trash discharged to these water-bodies to a level of zero. Caltrans' projected annual costs for complying with this TMDL for highways is $300 million while the City of L.A. projects that its TMDL compliance costs are $125 million per year.[25] To date, Southern California cities have spent in excess of $1.7 billion in meeting TMDLs for trash in impaired waterways.[26]

The National Ocean Economics Program calculated the value of California's "ocean-dependent economy" at $46 billion. The largest portion of this figure was attributable to recreation.[27] While California has never assessed the loss of tourism dollars associated with littered beaches and coastal areas, data from other states indicate that these impacts can be significant. A release

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of trash from New York landfills to the ocean caused major debris incidents on New Jersey beaches and resulted in an estimated revenue loss of $1 billion, primarily due to decreased coastal visitation in 1987 and 1988.

This implementation strategy is aimed at all ocean litter, but with a particular focus on plastic litter. First, as the statistics cited show, the majority of ocean litter is made of plastic. Second, while all litter is undesirable, paper is made of wood pulp that naturally biodegrades in the ocean. Plastic, on the other hand, is engineered to resist biodegradation so the problems it causes persist long after the original product served its intended purpose.

OPC RESOLUTION TO REDUCE AND PREVENT OCEAN LITTER

Recognizing the need for immediate and decisive action, the Ocean Protection Council (OPC) adopted a resolution on "Reducing and Preventing Marine Debris" (hereafter, "the OPC Resolution") on February 8, 2007. This implementation strategy is designed to provide a pathway to implementing the recommendations in the OPC Resolution.

The OPC Resolution recognizes that ocean litter poses serious threats to the health of California's coastal waters and the ocean, significantly impacts marine wildlife, requires state and local agencies to spend millions of dollars each year to clean beaches, rivers, and storm water, and poses threats to public health and welfare.

The OPC Resolution called for the OPC to chair a Marine Debris Steering Committee (hereafter, "Steering Committee") to prepare a plan to implement the OPC Resolution.[28] The Steering Committee, comprised of representatives from state agencies – including the California Coastal Commission (CCC), California Integrated Waste Management Board (CIWMB), Department of Conservation (DOC), Department of Toxic Substances Control (DTSC), State Water Resources Control Board (SWRCB or Water Board), California State Parks, and Department of Transportation (Caltrans) – along with Keep California Beautiful, was charged with reporting back to the OPC on its recommendations. This document is composed of those recommendations.

OVERVIEW OF THE IMPLEMENTATION STRATEGY

This Implementation Strategy organizes specific actions to reduce ocean litter into four objectives (Box 1). Each objective is accompanied by specific actions and implementation tasks, as well as the obstacles related to each action. A chart of the actions, implementation tasks and obstacles is provided under each objective. The chart also indicates which section of the OPC Resolution would be addressed by the proposed action. Implementers of the actions contained in this strategy will be asked to report back to the OPC on their progress.

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Box 1. Objectives of the Implementation Strategy to Reduce and Prevent Ocean Litter	
Objective	**Goal**
1. Reduce single-use plastic packaging and promote sustainable alternatives	Change producer behavior
2. Prevent and control litter and plastic debris	Change individual behavior
3. Cleanup and remove litter	Engage communities
4. Coordinate efforts with other jurisdictions in the Pacific region	Engage other regions

THREE PRIORITY ACTIONS FOR MEASURABLE SUCCESS

This implementation strategy recommends many actions that the Steering Committee views as necessary to accomplish the goals of the OPC Resolution. However, there are a few key priority actions that the Steering Committee proposes as essential to achieving measurable success.

Because the majority of the ocean litter problem (80%) comes from land-based sources,[29] the greatest potential for success in reducing ocean litter involves eliminating litter sources on land. The biggest component of land-based sources of ocean litter is packaging waste.[30] Accordingly, efforts should focus on reducing or preventing packaging waste at the source, from the producer to the consumer.

The Steering Committee has identified three priority actions for reducing and preventing litter, including packaging waste. The first is Extended Producer Responsibility (EPR) – also known as "producer take-back" – for packaging waste. The second is prohibitions on specific types of packaging that commonly become litter, such as single-use grocery bags. The third is fees on commonly littered items; these fees encourage both manufacturers and consumers to seek out less litter-prone product alternatives.

Each of these three priority implementation measures is discussed below. Implementing these three strategies will help reduce the majority of ocean litter, but will not entirely solve the problem. The other actions listed under the objectives in this document complement these priorities and form a more comprehensive solution to the problem of ocean litter.

Priority Action #1 – Implement a producer take-back (EPR) program for convenience food packaging

EPR for packaging places the responsibility for collection and disposal of packaging waste on those throughout the distribution chain, including producers of packaging and manufacturers of products that use packaging. By placing physical or financial responsibility for collection and disposal of these wastes on the producer, EPR motivates producers to reduce waste in order to avoid the costs associated with managing packaging waste.

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Producers can finance this increased responsibility as a general cost of doing business, through cost internalization or by recovering costs through arrangements with their distributors and retailers. The first national implementation of EPR for packaging occurred in Germany where a 14% reduction in packaging waste was achieved in the first four years of the program.[31] By comparison, the U.S. Environmental Protection Agency (U.S. EPA) reports that from 1960 to 2006 packaging waste generation in the United States increased from 27,000 to 79,000 tons (293%).[32] Food containers and packaging are the largest component of the municipal solid waste stream (80 million tons or 31.7 %).[33] Although market research shows plastics comprised 17% of all food and beverage packaging in 2006,[34] debris studies conducted on Orange County beaches identified plastic food and beverage packaging as the most prevalent items collected after plastic pellets.[35] Similar results were found in a year-long study conducted on Santa Cruz County beaches in which plastic items were the most numerous items collected. [36]

Policies aimed at preventing convenience food packaging waste from being generated will reduce ocean litter, and will also reduce greenhouse gas emissions, resource depletion and fossil fuel dependency. The OPC believes that CIWMB should have the authority to adopt EPR regulations and oversee product-specific stewardship programs. Under such regulations, producers would develop product stewardship programs that have common features such as target-setting and public accountability but which would be tailored to reflect market conditions for that product category. The OPC believes that CIWMB should prioritize EPR for packaging waste, to the extent feasible.

Priority Action #2 – Prohibit single-use products that pose significant ocean litter impacts where a feasible less damaging alternative is available (see Objective 1)

Single-use plastic bags and other packaging, such as polystyrene food take-out containers, are increasingly being targeted for bans by coastal communities in California and elsewhere as studies show these items to be significant components of litter and beach debris. Plastic bags are also known to pose a significant threat to marine wildlife, as discussed above. Communities that have banned these products often argue that the utility and convenience value of the product are outweighed by its negative environmental impacts. Better, safer alternatives to single-use plastic bags and polystyrene take-out containers are available, including reusable bags and containers, and should be encouraged.

- **Polystyrene Food Packaging Prohibition**

  Increasingly, coastal communities in the United States and other countries are prohibiting the free distribution of packaging items made with polystyrene. Polystyrene is a type of plastic frequently used in food packaging such as clear plastic cups, trays and clamshells (commonly used for sandwiches and salads). Foamed plastics, such as expanded polystyrene (EPS) and Styrofoam™ (extruded polystyrene), are also frequently used in food packaging due to their light weight and insulating qualities. According to the CIWMB, Californians use 165,000 tons of polystyrene each year for packaging and food service purposes alone, with no meaningful recycling of food service polystyrene. [37] In 1999, an estimated 300,000 tons of polystyrene (0.8% of total waste) was disposed of in landfills, with a total disposal cost of $30 million.[38] Because this material is non-

biodegradable, it lasts for hundreds of years and if carried downstream to sea, can float hundreds of miles in the ocean. A 1998–2000 Caltrans study found that polystyrene represented 15% of the total volume of litter recovered from storm drains. [39] Studies have increasingly found that this type of expanded plastic can have detrimental effects on marine wildlife, as discussed above.

Prohibitions on both polystyrene and foamed plastic food container packaging have been implemented in many jurisdictions throughout California. The 2008 San Francisco Litter Audit revealed a 36% reduction in polystyrene litter since the material was banned there in 2007. [40] It is clear that prohibitions on polystyrene take-out food packaging are being used increasingly to reduce local litter problems, and that statewide action is necessary to make these local efforts more effective in neighboring cities and unincorporated areas. The OPC believes that a statewide prohibition on polystyrene take-out food packaging should be adopted. As the details of the prohibition are developed, the impacts on jobs and the economy should be considered as the implementation schedules are developed.

- **Plastic Bag Fee**

According to the Progressive Bag Alliance and CIWMB, 19 billion plastic grocery bags are distributed in California each year and, as of 2001, fewer than 5% are recycled.[41] Even if individuals choose to re-use these bags once or twice, the remainder still becomes either landfill or litter. The 2007 International Coastal Cleanup (ICC) report produced by the Ocean Conservancy found that bags were the fourth most common debris item collected worldwide during the coastal cleanup event behind cigarettes, food wrappers/containers, and caps/lids. [42] However, according to the ICC report, bags were by far the most common dangerous debris item (i.e., capable of harming wildlife and humans) collected worldwide.

Another volunteer bleach cleanup event organized by the Ocean Conservancy and funded by the U.S. EPA revealed that during the survey period from 2001-2006 the amount of general source items surveyed (including plastic bags, bands, plastic beverage bottles, plastic food bottles, plastic bleach/cleaner bottles, and other plastic bottles) increased 5.4% each year over the five-year period.[43] This increase was observed despite results showing no significant change in the amount of other types of beach litter collected. This study examined mostly beaches in rural areas that are not as heavily influenced by urban run-off.

In 2007, Governor Schwarzenegger signed AB 2449 (Levine) that requires grocery stores to offer more recycling opportunities as an incentive to increase the very low recycling rate of plastic bags. The City of San Francisco had poor results with a voluntary bag recycling program and in 2007 prohibited the distribution of single-use plastic bags. The OPC believes that California should require a fee for all single-use plastic and paper bags as a further incentive for people to switch to reusable canvas and other durable bags. If the fee does not result in a significant decrease in the use of plastic bags, other tools, including a ban on plastic bags, ought to be considered.

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Priority Action #3 – Assess fees on commonly littered items (see Objective 2)

In addition to a fee on bags as described above, a litter fee should be imposed on commonly littered items that are unsuitable for an EPR program or a ban. Cigarettes might be a suitable candidate for a litter fee. Cigarette butts constitute a significant percentage of the litter collected from California's beaches. A ban on these filters would be inappropriate since they perform an important function. However, if an additional cost in the form of a litter fee were assessed on cigarettes and other materials commonly found in marine debris, such as convenience food packaging, consumers would be more aware of the economic, and perhaps environmental, costs associated with them. In addition, fee revenues can be used to clean up litter so that the costs are borne by those who choose to consume the products that contribute most to ocean litter. The funds from litter fees should also be directed to support the following types of activities:

- Increased enforcement of litter laws;
- Litter cleanup efforts, including a community service option for convicted litterers;
- Cost-effective integrated waste management and storm water pollution program assistance for local governments;
- Market development grants to create recycling opportunities and recycled-content markets;
- Public education and outreach campaigns, including environmental education;
- Funding for research on alternative products, safer product additives and product re-design; and
- Hazardous waste source reduction, green chemistry and green engineering design.

MEASURING SUCCESS

The Steering Committee views these three priority actions as the primary tools that will be needed to address major sources of ocean litter. Preventing packaging waste from being generated and banning or placing a fee on items that are prevalent in ocean litter are more cost-effective than cleaning up litter. These actions can also reduce resource consumption, greenhouse gas production and other pollution associated with the production of these products.

Yet, even with reductions in packaging and specific items that become ocean litter, littering will continue to happen without changes in behavior by litterers. Therefore, it is important to focus also on litter enforcement and education. The other tools described in this document that address litter – including education and outreach and increased litter cleanup – also contribute to the goal of completely eliminating ocean litter. Funds from the litter fee can be directed to these activities.

A programmatic solution ought to include the proposed actions and also set forth specific goals, detailed funding plans, timelines for implementing and completing the actions, and appropriate metrics for success.

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Objective 1: REDUCE SINGLE-USE PACKAGING AND PROMOTE SUSTAINABLE ALTERNATIVES – *Change Producer Behavior*

Litter prevention is a high priority because the alternative – collection and disposal of litter – is costly. In addition, litter is detrimental to human health and the environment. Accordingly, the OPC Resolution seeks to reduce ocean litter by implementing methods to prevent certain wastes (primarily packaging waste) from being generated, which follows an approach to waste described in California's Integrated Waste Management Act (IWMA, AB 939). The OPC Resolution directs the Steering Committee to consider the following approaches to changing producer behavior in order to accomplish this objective:

1. Reduce the generation of single-use plastic packaging and containers (Resolution item #9)
2. Reduce plastic waste through packaging redesign (Resolution item #3)
3. Prepare a phased ban on toxic additives in packaging (Resolution item #11)
4. Prevent pollution from plastic resin pellets and powders used in manufacturing plastics (Resolution item #2)

The strategy for implementing each of these four elements of this objective is described briefly below and specific actions are outlined in the chart that follows.

REDUCING PACKAGING WASTE GENERATION

OPC Resolution item #9 directs the Steering Committee to develop a plan for reducing single-use plastic packaging and containers. The focus of this Resolution item is on single-use fast-food and convenience market packaging and containers. These items constitute a large percentage of ocean litter from land-based sources.[44] Surveys show that take-out food packaging and food-ware items are the most significant category of roadside litter.[45] This objective can be achieved by implementing ways to encourage or require the fast food and convenience store industries to use less packaging and containers or use products that minimize harm to the environment.

The Steering Committee recommends two priority actions for reducing packaging waste, as described above: (1) Extended Producer Responsibility (EPR) for convenience food packaging, and (2) prohibiting certain products that contribute extensively to ocean litter.

Action: Implement a producer take-back (EPR) program for convenience food packaging

The CIWMB states that "(p)lastics production continues to far outpace plastics recycling, and plastics are displacing some other more recyclable materials. Waste management systems have not been able to keep pace with the rapid increase in plastics use."[46] Generation versus recycling rates for plastics in California are not available but U.S. EPA statistics show that nationwide, plastic packaging generation in the waste stream greatly exceeds recycling (Figure 1).

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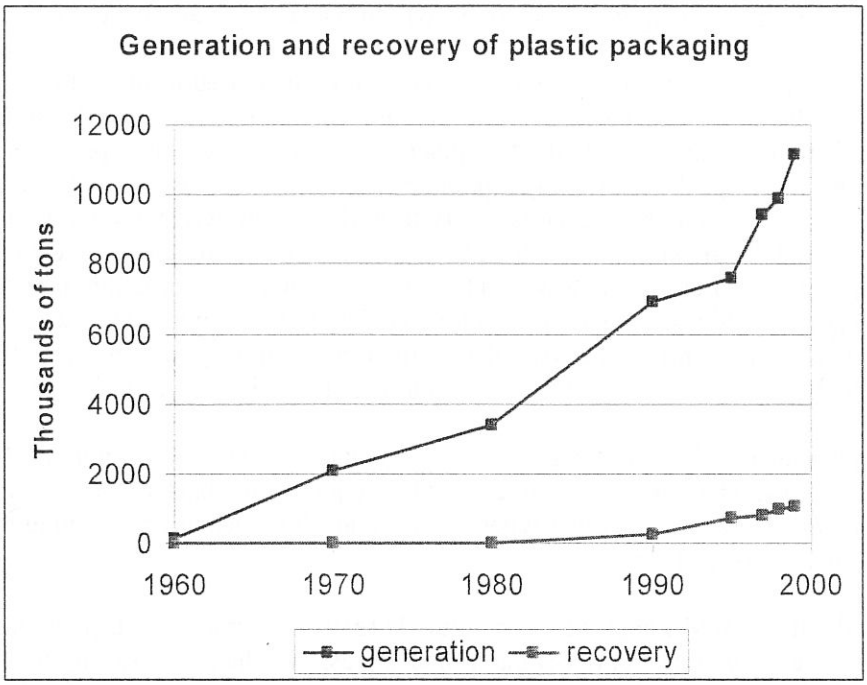

Figure 1. Generation and recovery of plastic packaging in the solid waste stream in the United States showing a large portion of packaging is not recovered. Data from 1999 U.S. EPA report. [47]

An Extended Producer Responsibility (EPR) or "take-back" program assigns the costs or physical management of waste to the producer (for packaging in the European Union, "producers" are packaging manufacturers, fillers and distributors). By assuming the costs of a product at the end of that product's useful life, a producer has an incentive to reduce the amount of product waste it generates. The producer will be encouraged to make design and manufacturing changes that will lead to waste reduction, lower toxics content, increased recycled content, and improved recyclability. Reducing the amount of product waste generated reduces the amount of product waste that has the potential to become ocean litter. Preventing product waste from being generated has many additional benefits. It saves energy and other resources, reduces damage associated with resource extraction, reduces pollution including greenhouse gas production, and reduces waste management costs.

EPR for packaging has been implemented effectively in at least 33 countries to date. For example, packaging waste was reduced by 14% in Germany during the first four years of its EPR program (1991-1995) and by 1998, total packaging in Germany was reduced by a volume of 1 million tons.[48] Use of composites was reduced by 50% and plastics packaging fell from 40% (by volume) to 27% in favor of paper/carton and tinplate. Plastic packaging moved away from polyvinyl chloride (PVC) to other more easily recycled plastics, such as polyethylene (PE) and polypropylene (PP). Significant design changes were made to reduce the amount of packaging material and quantities of packaging layers. Container shapes and sizes were altered to reduce volume, and thin-walled films and containers were introduced. [49] Germany is not the only EPR country to achieve a reduction in packaging waste: The Netherlands achieved its goal of reducing packaging by 10% from 1986 through 2001.[50] Using packaging take back, other EU countries

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have achieved a slowing in the rate of growth of packaging waste generation.

The U.S. EPA notes that per capita waste generation increased from 2.7 to 4.4 pounds per day between 1960 and 2001 and states that "the most effective way to stop this trend is by preventing waste from being generated in the first place."[51] In the United States, producer take-back programs are becoming increasingly popular. Some are voluntary, such as the consortium of producers involved in the Rechargeable Battery Recycling (RBRC) program that takes back batteries and cell phones, and the thermostat mercury recycling program. California has take-back programs for electronic waste and automotive batteries, a program that has achieved a 99% recovery rate.[52] Similar programs are being considered for universal waste (waste with a hazardous component). In the state of Washington, a company must be part of a producer-funded take-back program to sell electronics; similar legislation is proposed in 15 U.S. states.

Another relevant take-back program is one mandated by AB 2449 (Levine) for plastic carry-out bags. The law, which went into effect in 2007, requires take-back of bags by large grocery stores and pharmacies, as well as other types of bags and films such as dry cleaning bags, newspaper bags, bread bags, and wraps.

Recently, the CIWMB approved a Strategic Directive on Producer Responsibility that states that "It is a core value of the CIWMB that producers assume the responsibility for the safe stewardship of their materials in order to promote environmental sustainability."[53] The CIWMB recently adopted an EPR framework as an overall policy priority.

Many local governments nationwide have passed EPR resolutions that resolve to have all city or county purchasing encourage producer take-back in contracts, favor leasing over purchasing (one form of take-back), and urge state legislators to pursue statewide EPR policies. In California, 40 jurisdictions have passed EPR resolutions, as well as the California Council of Directors of Environmental Health and the Regional Council of Rural Counties, including: the City of Elk Grove, the City of Fresno, Contra Costa County, Solano County, San Bernardino County, Santa Clara County, the City of Oakland, Sonoma County, Santa Cruz County, Marin County, Morgan Hill, and the City and County of San Francisco, with the latest being the City of San Juan Capistrano on August 5, 2008.[54]

The OPC believes that CIWMB should have the authority to adopt EPR regulations and that CIWMB should prioritize EPR for packaging waste to the extent feasible.

Action: Prohibit single-use products that pose significant ocean litter impacts where a feasible less damaging alternative is available

- **Polystyrene Food Packaging Prohibition**

In 2001, researchers from SCCWRP and the Southern California Marine Institute published a study titled "Composition and Distribution of Beach Debris in Orange County, California." It found that foamed plastics, also known as expanded polystyrene (EPS) and Styrofoam™ (extruded polystyrene), were second only to pre-production plastic pellets as the most abundant debris item on Orange County beaches.[55] Expanded polystyrene and Styrofoam are made by

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applying heat and blowing a chemical agent to turn the polystyrene into foam. These plastics are often used in food packaging for their light weight and insulating qualities; however, their durability and tendency to float have led to negative impacts in marine environments, as discussed above. Prohibitions of polystyrene food containers would not reduce all polystyrene debris on California beaches due to its presence in other types of packaging; however, thousands of pounds would be reduced.

In response to these findings, the following communities in California have banned polystyrene food packaging: San Francisco, Los Angeles County, Monterey County, San Mateo County, Santa Cruz County, Sonoma County, and Ventura County. Expanded Polystyrene (EPS) prohibitions have been implemented in the cities of: Calabasas, Capitola, San Francisco, Malibu, Huntington Beach, Aliso Viejo, San Juan Capistrano, Berkeley, Oakland, Emeryville, Ventura, Sonoma, and Freeport. A 2008 audit of San Francisco litter revealed a 36% reduction in polystyrene litter since polystyrene was banned in 2007. [56] A statewide prohibition on polystyrene would likewise reduce the amount of polystyrene littered in streets and swept down storm drains that could litter the ocean surface and negatively impact marine wildlife. The OPC believes that a statewide prohibition on polystyrene take-out food packaging should be adopted.

- **Plastic Bag Fee**

California retailers distribute more than 19 billion plastic retail carryout bags annually; of this amount, fewer than 5% are currently recycled in California.[57] The 2007 International Coastal Cleanup (ICC) report produced by the Ocean Conservancy reported that bags were the fourth most common debris item collected worldwide during the ICC event, accounting for 8.1% of total coastal litter and 6.2% of underwater litter by weight.[58] However, according to the ICC report, bags made up over half the total amount of the ten most common dangerous debris items – or items capable of harming wildlife and humans – such as syringes, rope and fishing gear collected worldwide. In California, where cleanup data are verified by the California Coastal Commission, plastic bags were the fourth most collected item during ICC with 64,355 lbs out of 474,585 lbs, or 13.5% of the litter collected from shoreline activities (land-based litter) and 6% of the total litter (963,024 lbs, which includes ocean litter). A waste characterization study conducted by the City of Los Angeles in June 2004 found that plastic bags made up 25% by weight (and 19% by volume) of litter found in 30 storm drain catch basins.[59]

Single-use carry-out bags are banned or available for a fee in many countries in response to litter and ocean litter concerns. Taiwan, China, Bangladesh, Tanzania, Kenya, Rwanda, Germany, and Sweden have implemented different types of prohibitions on plastic bags, as have 30 towns in Alaska. Ireland, Denmark, Italy, Belgium, and Switzerland have instituted a fee on plastic carryout bags, with Ireland's 20 cent (Euro) fee resulting in a more than 90% reduction in the use of plastic bags since the fee was imposed in March 2002.[60] In the United States, statewide bans or fees are being considered in Alaska, Massachusetts, New York, New Jersey and Hawaii, though none have yet enacted legislation.

In 2007, Governor Schwarzenegger signed AB 2449 (Levine) to require grocery stores to offer increased recycling opportunities as an incentive to increase the very low recycling rate of plastic bags. However, due to a perceived lackluster response in recycling, some California

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municipalities are beginning to enact prohibitions or phased prohibitions on plastic bags. For example, in 2007 the City of San Francisco implemented a ban on plastic single-use bags by major supermarkets and pharmacies after it failed to achieve a desired voluntary recycling rate. In Southern California, the L.A. County Board of Supervisors voted on January 22, 2008 to prohibit the free distribution of single-use plastic carry-out bags in unincorporated areas of the county if voluntary programs by retailers in those areas do not result in significant decreases.[61] Though it is too recent to judge the success of plastic bag prohibitions, the experience in San Francisco shows that voluntary initiatives to reduce waste through recycling alone have not proven successful.

The OPC believes that California should require a fee be charged for all single-use plastic and paper bags as a further incentive for people to switch to reusable canvas and other durable bags. If the fee does not result in a significant decrease in the use of plastic bags, other tools, including a ban on plastic bags, ought to be considered.

Life-cycle Analyses:
Polystyrene, plastic and paper products

One challenge to imposing a prohibition or fee solely on single-use polystyrene food packaging and plastic bags is the likely increase of paper products as a replacement. Comparisons of product life-cycles for polystyrene and plastic versus paper provide varying results on the environmental impacts, although several studies show that production of paper is generally less environmentally harmful than plastics. In one study, plastic bags were found to use 23% less energy, produce 76% less solid waste, contribute 57% less air emissions and 97% less water emissions than paper bags.[62] *This contrasts starkly with a more recent study that found paper uses 80% less energy, contributes 52% less to air emissions, and 29% less to water emissions.*[63] *The second study also found that paper had less of an impact on acidification of waterways and toxicity in the aquatic environment. However, paper bag production can also have negative impacts on the ocean.*[64] *The better solution is a shift towards reusable bags.*[65] *Similarly, a study on polystyrene versus paper packaging found that polystyrene production consumes 90% more resources, produces 30% more NO_x and SO_x and contributes 15% more air emissions than paper,*[66] *while another study found the environmental impacts from paper to be greater.*[67] *The focus of this strategy is ocean litter, and it is clear that plastic products are generally more harmful than their paper counterparts.*

MINIMIZE TOXICS IN PACKAGING

Action: Determine which plastic additives threaten human health and the marine environment, educate the public and prepare a plan for a possible prohibition

OPC Resolution item #11 directs the Steering Committee to prepare a plan for the phased ban of the most toxic types of all plastic packaging. In coordination with DTSC, the OPC has begun work on an inventory of all of the chemicals in plastics that are commonly found in the marketplace. When this research is completed in 2009, the Steering Committee and the OPC will

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be able to rank specific additives in plastic packaging by volume and then follow-up with a review of health risks to humans and to the marine environment. The DOC is supporting investigations into the potential human health impacts of chemicals used as plastic additives. The OPC and DOC also engaged the Office of Environmental Health Hazard Assessment (OEHHA) to develop toxicological profile reports on the health effects on humans, experimental animals and marine organisms of bisphenol-A, nonylphenol and di-2-ethyl hexyl phthalate (DEHP), chemicals commonly used as additives in plastics that enter the ocean. OEHHA will report its findings to the OPC when they become available.

DEVELOP ALTERNATIVE PRODUCTS AND PROMOTE SUSTAINABLE ALTERNATIVES

Action: Develop alternative products and additives

Resolution item #3 directs the Steering Committee to seek innovative ways to reduce plastic waste, including investigating packaging alternatives that reduce the amount of plastic debris that ends up in the marine environment and reduce the use of toxic additives. This directive is consistent with the "green chemistry" legislation Governor Schwarzenegger signed into law in September 2008. DOC has taken a lead role in supporting investigations being conducted by DTSC to improve recycling methods for plastics, identify safer formulations of plastic products and assess the impacts of bioplastics options. In addition, the OPC supports product redesign and alternative technologies to reduce the overall number of plastic items reaching the marine environment, such as leashed or tethered bottle caps, lids, and straws. The results of these investigations will help inform the OPC and other agencies on the Marine Debris Steering Committee about product alternatives and formulations that may have less of an impact on the marine environment.

INCREASE ENFORCEMENT OF PRE-PRODUCTION PLASTIC LAWS

Action: Increase enforcement of laws to eliminate pre-production plastic pellets and powders

Pre-production pellets (known as "nurdles") and powders used to manufacture plastic products present several threats to the marine environment, including most conspicuously, harm to the marine life that eats or gets entangled in them.[68] In 2007, Governor Schwarzenegger signed AB 258, a bill to stop the discharge of nurdles into the environment. AB 258 was introduced as a result of the OPC Resolution and requires the State Water Board to focus on stopping the discharge of nurdles from those facilities that use them in the production of plastic products. Though small individually (a nurdle is about the size of a grain of rice), collectively they make up 17% by weight of all ocean litter found on beaches. [69] Removing them from the waste stream will have a significant positive impact in reducing ocean litter. Enforcement efforts should be increased for existing anti-plastic waste laws, such as AB 258. Funding from fines against violators of these laws and litter fees should be used to increase this enforcement effort.

14-1627

1. REDUCE SINGLE-USE PACKAGING AND PROMOTE SUSTAINABLE ALTERNATIVES				
Action	Implementation Tasks	Obstacles	Solutions	Res.#
(a) Implement a producer take-back (EPR) program for convenience food packaging Rationale: Producer take-back provides incentives to industry to minimize waste generated, reducing ocean litter at the source.	I. Require take-back for products that are commonly found in ocean litter. II. Allow affected industries to determine whether they will physically take back products for recycling or disposal or simply finance the take-back. III. Give CIWMB authority to establish EPR regulations.	Impacted industry will oppose take-back programs for their products.	Involve industry in the crafting of regulations.	1, 3, 9
(b) Prohibit or charge a fee for single-use products that pose significant ocean litter impacts where a feasible less damaging alternative is available Rationale: Some packaging, due to its propensity for entering the marine environment, should be prohibited.	I. Prohibit or charge for the sale of products that make up the bulk of ocean litter and whose utility is outweighed by ocean litter impacts. Bags and polystyrene food containers are suggested.	Industry will oppose prohibitions/ fees on products they produce.	Challenge industry to produce less impactful products that would be exempt from restrictions.	1, 3, 9
(c) Determine which plastic additives threaten human health and the marine environment, educate the public, and prepare a plan for a possible prohibition Rationale: Protect public health and the environment.	I. Consider recommending prohibitions pending results of the work being conducted by OEHHA and DTSC. II. Require manufacturers to disclose additives in plastic products and packaging.	Funding for education and outreach on plastic additives not readily available.	Seek grant monies to conduct outreach.	3, 11
(d) Develop alternative products and additives Rationale: Safer substitutes for plastics and plastic additives are potentially a better choice.	I. DTSC, with funding from DOC, is researching safer plastic additives. II. Develop new designs for packaging less harmful to the marine environment.	Funding for research into sustainable packaging design.	Various grants and a litter fee can help to fund research.	1, 3, 9
(e) Increase enforcement of laws to eliminate pollution by pre-production plastic pellets and powders Rationale: Plastic pellets make up 17% by weight of all ocean litter found on Orange County beaches.[70] AB 258 mandates that the Water Boards implement resin pellet discharge prohibitions.	I. Water boards to enforce plastic pellet ("nurdle") and powder discharge prohibitions per AB 258. II. Water Boards to implement the Resin Initiative for Control and Enforcement (RICE).	Need sufficient resources to implement these measures.	Litter fee revenues could be used to defer these costs.	2

14-1628

Objective 2: PREVENT AND CONTROL LITTER AND PLASTIC DEBRIS – *Change Individual Behavior*

When individuals fail to properly dispose of trash, either intentionally or negligently, the trash becomes litter. Individual behavior change can be motivated through education, law enforcement and economic incentives (e.g., the California Redemption Value (CRV), better known as the "bottle bill"). Very little of the debris found on beaches consists of the bottles and cans included in the bottle bill, as those items have value even as "waste." Most debris found on beaches has no post-consumer value. There are costs associated with cleaning up litter, but no financial incentive to the litterer to behave differently.

LITTER PREVENTION: LITTER FEE AND SMOKING BANS

Action: Assess fees on commonly littered items

Action: Prohibit smoking on state beaches and provide ash/garbage receptacles at transition points

A litter fee similar to the CRV on bottles in California would make consumers more aware of the economic, and perhaps environmental, costs associated with certain commonly littered products (Figure 2). The fee should be assessed at the point of sale so that the consumer is aware of paying more for litter-prone items. Any funds from the litter fee could fund education efforts to inform consumers about the reasons why a litter fee is being imposed, as well as support local litter cleanup and enforcement efforts. A similar fee should be enforced on cigarettes, the most commonly littered item found on beaches and by far the most abundant item recovered during the past 22 years of California's Coastal Cleanup Day.[*71]

In addition to a litter fee on cigarettes, smoking should be prohibited and ash/garbage receptacles placed at transition points on state beaches to reduce the large amount of cigarettes and butts that become littered. Several coastal cities in California have banned smoking, including every coastal city in Los Angeles County except Redondo Beach (a total of 77 miles out of the 80-mile county coastline), due to concerns about higher cleanup costs, public health, and poisoning of wildlife.[72] However, state beaches remain open to smoking and cigarette litter. It is time the state took action to prohibit smoking on all beaches and place adequate receptacles in transition areas within California.

The funds from litter fees should be directed to support the following types of activities:

- Increased enforcement of litter laws;

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[*] Results of litter studies vary according to the method of debris collection. Beach clean-ups tend to result in the collection of larger, more visible items while scientific studies tend to account for smaller items, such as plastic pre-production pellets and micro-sized debris. For example, the Orange County beach debris study found plastic items accounted for 99% of the total items collected, which contrasts with the volunteer-based ICC data.

14-1825

- Litter cleanup efforts, including a community service option for convicted litterers;
- Cost-effective integrated waste management and storm water pollution program assistance for local governments;
- Market development grants to create recycling opportunities and recycled-content markets;
- Public education and outreach campaigns, including environmental education;
- Funding for research on alternative products, safer product additives and product re-design; and
- Hazardous waste source reduction, green chemistry and green engineering design.

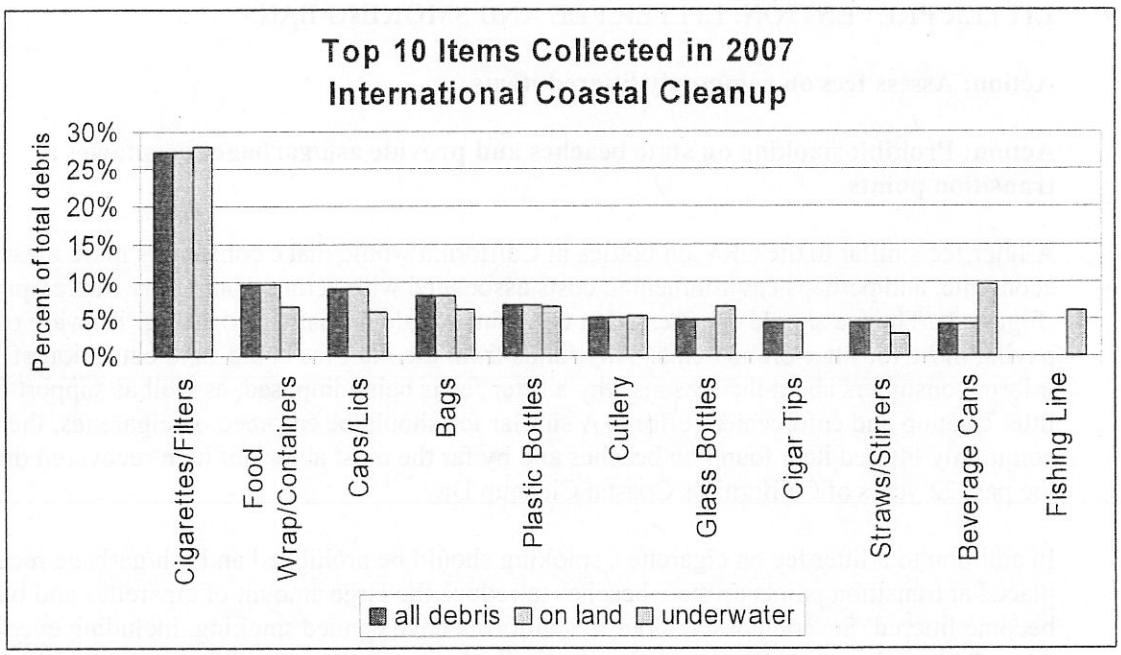

Figure 2. Top 10 items, in percentage of total items, collected worldwide during the 2007 International Coastal Cleanup overall (green), on land (yellow) and underwater (blue). [73] Fishing line was in the top 10 items found underwater only.

LITTER ENFORCEMENT

Action: Increase enforcement of anti-litter laws

Increased enforcement of existing litter laws should be a high priority in the effort to combat ocean litter; however, enforcement alone will not change general behavior. A combination of higher fines along with increased enforcement and education will deter would-be litterers from throwing trash away in the streets, sidewalks and storm drains which lead to the ocean. State and local enforcement authorities will be encouraged to increase enforcement of anti-littering laws by directing some portion of the monies generated from the litter fee to specifically fund increased local litter law enforcement. California's Vehicle Code currently imposes a $1,000 fine for

14-1630

littering; that fine should be increased initially and with each subsequent violation (i.e., doubling to $2,000 for the first violation, $5,000 for the second violation, etc.). Enforcement agencies that enforce the litter laws should be allowed to keep some portion of the proceeds from the fines they impose. Litterers should also be required to perform community service in the form of coastal or waterway cleanup activity.

PUBLIC EDUCATION

Action: Coordinate education and outreach campaigns

Action: Direct state funds for litter education to the Environmental Education Initiative (EEI)

Along with increased enforcement and economic incentives to discourage littering, environmental education is necessary to prevent the litter problem as well as treat it. Public education efforts can change individual behavior of existing litterers, as well as educate youth to stop littering before they start. The Steering Committee is looking into ways to coordinate existing educational outreach programs that teach the public about the importance of reducing litter and protecting the marine environment. Support for these existing programs should be expanded in local communities to engage the public, including the business community. Additionally, OPC will pursue opportunities and funding to integrate ocean litter education into the Education and the Environment Initiative curriculum that is a part of the basic student education in California. Some of the funds collected from the litter fees should go toward these educational efforts.

11-1531

2. PREVENT AND CONTROL LITTER AND PLASTIC DEBRIS				
Action	Implementation Tasks	Obstacles	Solutions	Res.#
(a) Assess fees on commonly littered items Rationale: Assessing a fee on litter-prone items will help fund litter abatement and storm water capture, and have consumers pay higher costs for litter-prone items.	I. Establish a litter fee assessed on the sale of products commonly littered in California. II. The fee should be assessed at point of sale so that the consumer is aware of paying more for litter-prone items. The fee will fund litter abatement efforts.	Some will oppose an increase in the up-front cost of consumer goods.	This is a fee, not a tax.[74] Revenues will be used only to fund litter and debris mitigation and prevention efforts.	1, 2, 5, 6, 9, 12, 13
(b) Increase enforcement of anti-litter laws Rationale: People who litter will continue to do so unless the consequences are severe and likely to occur.	I. Support increased penalties for littering. For example, the Vehicle Code imposes a $1,000 fine for littering. That fine should be doubled to $2,000 for the first violation, $5,000 for the second violation, etc.	No coordinated effort or funding available to motivate increased enforcement at local level.	The agency that receives monies generated by the litter fee could be directed to fund increased litter enforcement at the local level.	2
(c) Prohibit smoking on state beaches and provide additional ash/garbage receptacles Rationale: Cigarette butts litter our beaches and cause concerns about higher cleanup costs and public health.[75]	I. Follow the lead of communities throughout California and support a statewide prohibition on smoking at beaches. II. Provide ash/garbage receptacles at transition points near beaches and coastal recreation areas	Smokers and others will view prohibitions on smoking at beaches as an infringement on a personal liberty.	California already prohibits smoking in buildings and in cars with children, so there is precedent for prohibiting smoking where public health concerns outweigh smokers' rights.	1, 2, 3, 5
(d) Coordinate education and outreach campaign Rationale: Public education promotes behavior change (e.g. anti-smoking education). Education should focus on the importance of reusable bags and other containers.	I. Steering Committee to coordinate existing state outreach programs (Thank You Ocean, Don't Trash California, Erase the Waste) II. Support and expand outreach in local communities III. Engage local business community IV. Establish education and training program for enforcement officers	Need to coordinate outreach efforts. There is a lack of funding for a large-scale outreach effort on ocean litter.	Use litter fees to fund state-wide litter and ocean litter outreach effort. Pursue public/private partnerships for anti-litter education with the plastics and food and beverage industries.	6, 13
(e) Direct state funds for ocean litter and litter education to Education and the Environment Initiative (EEI) Rationale: The EEI will provide information on the problem of ocean litter as part of the basic education in California.	I. OPC staff will work with EEI staff to determine how best to integrate ocean litter content into the curriculum and what funding is needed.	Funding will be needed for personnel to support the EEI.	Direct funding from litter fee to support this action.	6, 12, 13

14-1532

Objective 3: CLEANUP AND REMOVE OCEAN LITTER – *Engage Communities*

ENGAGING THE PUBLIC

Action: Develop an ocean litter data card to be used by AAB volunteers throughout the year, and an on-line database to house data

Action: Develop an AAB Advisory Committee and work with local beach managers to provide necessary support for AAB efforts

California has more than 1,100 miles of coastal shoreline and thousands more miles of inland waterway shorelines. In 2008, the California Coastal Cleanup Day brought more than 60,000 volunteers to beaches and shorelines throughout California to collect trash. Volunteer cleanups not only help reduce trash on shorelines, they also provide a lasting educational opportunity and provide participants a strong sense of stewardship toward coastal and ocean resources. This objective proposes to expand on California Coastal Cleanup Day by motivating and supporting year-round and on-going cleanups through the California Coastal Commission's Adopt-A-Beach (AAB) program. To achieve this, the Coastal Commission will develop an ocean litter data card that can be used by AAB volunteers throughout the year, as well as an online database to house data. The Coastal Commission will also create an AAB Advisory Committee that will coordinate with local beach managers to provide necessary support for AAB efforts throughout the state.

ENGAGING LOCAL GOVERNMENTS

Action: Ensure municipalities prevent litter from entering the storm drain system

A regulatory process known as a TMDL (Total Maximum Daily Load) has been implemented for trash in Los Angeles. It requires that the municipalities in the L.A area reduce the amount of trash entering the storm drain system by 10% each year. The original target of zero trash will be evaluated once 50% of the trash in the two waterbodies (Los Angeles River and Ballona Creek) is reached. TMDLs should be adopted in other coastal communities in order to assure that trash is reduced.

In addition, Regional Water Boards should amend Municipal Separate Storm Sewer System (MS4) permits to require that municipalities install storm sewer catchment devices or otherwise prevent litter from entering waterways that lead to the ocean.

ENGAGING FISHING COMMUNITIES

Action: Increase derelict fishing gear cleanup by creating a deposit program on fishing gear; and conduct outreach to the fishing community and publicize Sea Doc Society's hotline

14-1693

Ocean-based discharges of ocean litter represent approximately 20% of ocean litter.[76] Item #10 of the Resolution directs the Steering Committee to propose a plan for reducing derelict fishing gear. Although derelict fishing gear comprises a small fraction of ocean litter, it has a disproportionately large negative impact on the marine environment because it is designed to trap and ensnare marine life.[77] Derelict fishing gear includes nets, lines, crab and shrimp traps, and other recreational and commercial harvest equipment that has been lost or abandoned in the marine environment. Lost or abandoned gear can continue to trap or ensnare marine life with the unintended consequence referred to as "ghost fishing." Most fishing nets are made from synthetic fibers (plastic) that take substantial amounts of time to degrade, and even as degraded material (plastic fragments), it continues to pollute and damage the marine environment. In addition to marine environment impacts, derelict fishing gear can entangle divers and swimmers and foul boat propellers, rudders, anchors, and drive shafts. The proposed actions should substantially reduce the amount of fishing gear that ends up as derelict gear.

California is the last of the Pacific states to implement legislation addressing the problem of derelict fishing gear: Washington, Alaska, Oregon, and Hawaii have all instituted derelict fishing gear removal programs.[78] The OPC recommends that the existing SeaDoc hotline be used for reporting purposes and to engage participation of the fishing community. In addition, the OPC proposes that a deposit program be placed on new and leased fishing gear to provide an incentive to fishermen to retrieve their gear when the fishing season has ended. These deposits would be priced according to the value of the gear and would be reimbursed upon return of the gear. Uncollected deposits would be used to fund gear recycling and retrieval programs in harbors and areas where fishing activity is concentrated. Fishermen should be engaged to determine how best to set up a deposit program, consistent with Governor Schwarzenegger's directive in his SB 899 (Simitian) veto message to "encourage the author and stakeholders to work with the Department of Fish and Game to convene a group to develop a workable program that does not rely exclusively on government funds and employees for his effort."

14-1634

Objective 3. CLEANUP AND REMOVE OCEAN LITTER				
Action	Implementation Tasks	Obstacles	Solutions	Res.#
(a) Develop an ocean litter data card to be used by AAB volunteers throughout the year, and an on-line database to house data Rationale: monitoring results of collected data will allow for the measurement of ocean litter efforts.	I. CCC will coordinate this task.	Funding is needed for the database.	CCC will seek funding from grant sources and litter fee funds.	10
(b) Develop an AAB Advisory Committee and work with local beach managers to provide necessary support for AAB efforts Rationale: Coordination will help maximize limited resources	I. CCC to coordinate and advise state-wide AAB manager on ways to improve. II. CCC to develop new materials to help increase participation, and to support volunteers.	Funding for new outreach materials is needed.	Litter fees can provide support for the AAB program.	4
(c) Ensure municipalities prevent litter from entering the storm drain system Rationale: Existing trash Total Maximum Daily Loads (TMDLs) require municipalities to install trash collection devices in storm drains.	I. Urge the development of TMDLs in coastal communities. II. Support efforts by SWRCB to develop statewide regulations to eliminate liter from urban storm drain systems. III. Urge Regional Boards to amend MS4 permits in conformity with above regulations.	No mandate that the state achieve a zero discharge of trash in waterways.	Litter fee revenues could be used to help defer these costs.	1, 2, 5
(d) Decrease derelict fishing gear by creating a deposit program on fishing gear Rationale: A deposit system would reduce abandonment and legal support for collaborative retrieval should increase removal rates.	I. Provide incentives, such as a deposit program, to promote better safekeeping of fishing gear.	Some fishermen will oppose deposit fee.	Conduct outreach to fishing groups and involve them in the design of a deposit system.	10
(e) Conduct outreach to fishing community and publicize Sea Doc Society's reporting hotline Rationale: Engaging participation of the fishing community is essential.	I. The OPC will coordinate an outreach effort.	None known.		10

14-1635

Objective 4: COORDINATE WITH OTHER JURISDICTIONS IN THE PACIFIC REGION – *Engage Other Regions*

Action: Work with the West Coast Governors' Agreement (WCGA) participants and invite the participation of Alaska, Hawaii, British Columbia, Baja California, and Baja California Sur

Ocean litter is a problem that migrates with ocean currents beyond political boundaries. Spending valuable state resources addressing ocean litter without similar measures being implemented in political regions that share the Pacific coast will not be enough to solve the problem. Too many other urban areas and fishing fleets contribute to the deposition of ocean litter in the Pacific Ocean. The state must coordinate efforts with regional partners.

Objective 4. COORDINATE WITH OTHER JURISDICTIONS IN THE PACIFIC REGION

Action	Implementation Tasks	Obstacles & Solutions	Res.#
(a) Work with the WCGA participants and invite the participation of Alaska, Hawaii, British Columbia, Baja California and Baja California Sur Rationale: The WGCA participants have adopted an action plan that includes a section on ocean litter. This presents an opportunity to form a coalition of coastal governments to jointly achieve ocean litter reduction.	I. Establish coast-wide goals for ocean litter reduction that: • Set joint litter target reductions of plastic single-use fast-food and convenience market packaging and containers • Set joint derelict fishing gear litter target reductions and site cleanup targets • Consider relevant European Union approaches to dealing with chemicals in plastics • Address enforcement regulations for pre-production plastic pellets. II. Invite the participation of Alaska, Hawaii, British Columbia, Baja California, and Baja California Sur		8

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[5] See note 1. Reproduced from Table 1; see original study for individual study references.
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[24] Los Angeles Regional Water Quality Control Board, *Trash TMDLs for the Los Angeles River Watershed,* (September 19, 2001).

[25] Currently, the trash TMDL applies to cities and counties within the Los Angeles River and Ballona Creek watersheds and is enforced by Region 4 of the RWQCB. Other regions of the Water Board are considering the implementation of various types of measures to minimize the amount of trash in California waterways.

[26] California Integrated Waste Management Board, http://www.zerowaste.ca.gov/PlasticBags/default.htm (July 23, 2008).

[27] National Ocean Economics Program, California's Ocean Economy, July 2005, pp. 24-26. In 2000, the total market value of California's Gross State Product (GSP) was $42.9 billion. Tourism and recreation on the coast accounted for 58% of GSP. GSP is a measure of the contribution of the sector to the value of goods and services in the economy. The value-added, or net sales of a sector, minus the cost of inputs, e.g. the net output of a sector. Using this measure eliminates "double counting," among sectors.

[28] In January 2006, in response to the recommendations of the Action Plan to reduce marine debris, published by the CCC and AMRF Plastic Debris Project (www.plasticdebris.org), the CIWMB convened a Statewide Anti-Litter Task Force. The Task Force was focused on developing strategies and concrete plans for ridding California of litter. The Task Force designated a subcommittee in May, 2006 to pursue the writing of a draft strategic plan that would help to direct the work of the Task Force. The Subcommittee began meeting in July 2006 under the leadership of CalTrans. Soon after these initial meetings, the Subcommittee was approached by OPC staff for assistance. The Subcommittee's work on s strategic plan helped to shape a resolution on marine debris for consideration by the OPC. On February 8, 2007, the OPC passed a version of the resolution after considerable input from the public. The OPC Resolution calls for the creation of the Marine Debris Steering Committee, including members from agencies already represented on the Anti-Litter Task Force. Rather than create an entirely new committee to conduct very similar work, a decision was made to re-focus the work of the Subcommittee of the Anti-Litter Task Force on developing a plan to implement the OPC Resolution.

[29] See note 11.

[30] California Coastal Commission and Algalita Marine Research Foundation, *Eliminating Land-based Discharges of Marine Debris in California: A Plan of Action from the Plastic Debris Project,* June 2006, pp. 16-19. Volunteer-based cleanups at California's Coastal Cleanup Day generally yield data showing that the most numerous type of debris collected is food and beverage packaging when the various categories of these items are added together. For example in 2004 the data showed that 40.4% of debris items were related to food and beverage packaging (food wrappers and containers = 14.1%, caps and lids = 7.4%, cups /plates/forks/knives spoons = 4.9%, beverage bottles/glass = 4.1%, straws and stirrers = 3.8%, plastic beverage bottles = 3.2%, metal beverage cans = 2.9%). Few studies characterize debris in terms of product types. The composition of trash found in a Los Angeles River catch basin cleanout in 2004 found plastic film and bags were the most numerous items (43%).

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[31] B. Thorpe, I. Kruszewska, A. McPherson, *Extended Producer Responsibility: A waste management strategy the cuts waste, creates a cleaner environment and saves taxpayers money,* Clean Production Action, 2004.
[32] Data from US EPA Municipal Waste Characterization Study 2006 at http://www.epa.gov/epaoswer/non-hw/muncpl/pubs/06data.pdf.
[33] U.S. EPA, Municipal Solid Waste Generation, Recycling and Disposal in the United States: Facts and Figures for 2006 p. 6. available at: http://www.epa.gov/epaoswer/non-hw/muncpl/pubs/msw06.pdf.
[34] Freedonia, "Food Containers: Rigid and Flexible," Study #2208, The Freedonia Group, 2007.
[35] S. Moore, D. Gregorio, S. Weisberg, "Composition and Distribution of beach debris in Orange County, California," *Marine Pollution Bulletin,* 42, 241-245,2001.
[36] Save Our Shores, 2007-2008 Santa Cruz County beach clean up data, acquired from Aleah Lawrence-Pine, October 2008.
[37] California Integrated Waste Management Board, *Use and Disposal of Polystyrene in California*, 2004. Available at: http://www.ciwmb.ca.gov/Publications/Plastics/43204003.pdf.
[38] Id.
[39] Id.
[40] City of San Francisco Streets Litter Re-Audit 2008. Available at: http://sfenvironment.org/downloads/library/2008_litter_audit.pdf.
[41] http://www.ciwmb.ca.gov/LGCentral/Basics/PlasticBag.htm.
[42] The Ocean Conservancy, *International Coastal Cleanup Report 2007*. Available at: http://www.oceanconservancy.org/site/DocServer/ICC_AR07.pdf?docID=3741.
[43] National Marine Debris Monitoring Program: Final Program Report, Data & Results, p 32. Available at: http://www.oceanconservancy.org/site/DocServer/NMDMP_Data_Results.pdf?docID=3226.
[44] See note 30.
[45] D. Styrek, F. Bernheisel, *Mississippi Litter 2000, A Baseline Survey of Litter at 113 Street and Highway Locations,* 2000. There is no comprehensive baseline survey of litter for California that focuses on identifying litter in terms of product wastes. Caltrans has conducted litter studies of roadside litter, such as the California Department of Transportation (June 2000) District 7 Litter Management Pilot Study, and these studies typically characterize litter in terms of composition, such as, paper, plastic, glass, and wood.
[46] CIWMB, *Plastics White Paper: Optimizing Plastics Use, Recycling and Disposal in California,"* May 2003, p.8.
[47] *Municipal Solid Waste in the United States 1999,* prepared by Franklin and Associates, Ltd., Washington, D.C., 2000.
[48] See note 31.
[49] OECD, "Extended Producer Responsibility: Case Study on the German Packaging Ordinance" May 1998, p. 25.
[50] E. Pira, "Study on the Implementation of Directive 94/62/EC on Packaging and Packaging Waste Options to Strengthen Prevention and Re-use of Packaging," Final Report, February 2005.
[51] US EPA (2003), *Municipal Solid Waste in the United States: 2001 Facts and Figures,* p. 114.
[52] See note 41.
[53] http://www.ciwmb.ca.gov/BoardInfo/StrategicPlan/2007/SD05.htm.
[54] http://www.caproductstewardship.org/about/participants.html.
[55] See note 35.
[56] See note 40.
[57] http://www.ciwmb.ca.gov/LGCentral/Basics/PlasticBag.htm.
[58] See note 42.
[59] Friends of the L.A. River and the City of L.A., "L.A. River and Long Beach Waste Characterization Study," 2004.
[60] F. Convery, S. McDonnell, S. Ferreira, "The most popular tax in Europe? Lessons from the Irish plastic bags levy", *Environmental and Resource Economics*, 38, 1-11, 2007.

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[61] Bag ban information provided by City Council of Santa Monica report for February 12, 2008.
[62] Resource and Environmental Profile Analysis of Polyethylene and Unbleached Paper Grocery Sacks, Franklin Associates, Ltd., 1990.
[63] Distribution in Paper Sacks, CIT Ekologik, Chalmers Industriteknik, 2000.
[64] C. K. Sommerfield, R. A. Wheatcroft, "Late Holocene sediment accumulation on the northern California shelf: oceanic, fluvial and anthropogenic influences", *GSA Bulletin*, 119, 1120-1134, 2007.
[65] Nolan-Itu Pty. Ltd. prepared for the Department of the Environment and Heritage, Environment Australia, "Plastic Shopping Bags – Analysis of Levies and Environmental Impacts," 2002.
[66] R. Tan, H. Khoo, "Life Cycle Assessment of EPS and CPB inserts: design considerations and end of life scenarios", *Journal of Environmental Management*, 74, 195-205, 2004.
[67] The Council for Solid Waste Solutions (now American Plastics Council), *Resource and Environmental Profile Analysis of Foam Polystyrene and Bleached Paperboard Containers*, prepared by Franklin Associates, Ltd., 1990. Available at: http://www.americanchemistry.com/s_plastics/bin.asp?CID=1211&DID=4602&DOC=FILE.PDF.
[68] U.S. Environmental Protection Agency (1992), *Plastic Pellets in the Aquatic Environment: Sources and Recommendations.*
[69] See note 35.
[70] See note 35; U.S. Environmental Protection Agency (1992) *Plastic Pellets in the Aquatic Environment: Sources and Recommendations.*
[71] See note 35.
[72] Los Angeles County Dept. of Public Health: http://www.lapublichealth.org/tob/reports.htm.
[73] See note 42.
[74] In Sinclair Paint Co. v. State Bd. of Equalization, 937 P.2d 1350 (Cal. 1997), the court explained that the determination of whether a levy is a fee or a tax is based upon its operation and intent, not upon its label. Taxes raise revenue for the state's general use, whereas fees are paid into specialized funds associated with a particular state service. Furthermore, fees serve to reimburse the state for specific costs associated with providing some benefit, service, or regulation, and cannot require the collection of more than the amount reasonably necessary to cover the cost of the state's regulatory activities.
[75] January 16, 2008, email communication from Eben Schwartz: recently compiled data by the California Coastal Commission indicates a 43% decrease in smoking litter on L.A. County beaches from 2004-2006. Smoking bans were in effect on a vast majority of L.A. County beaches by 2005. In those same years (2004-06), in areas where smoking was not banned, the presence of smoking litter increased. Similar decreases were found in San Diego and Santa Cruz counties, where smoking is banned on many beaches.
[76] See note 11.
[77] See note 42.
[78] http://www.healthebay.org/news/2008/06_27_marinedebrisleg/default.asp.

14-1640

STATE WATER RESOURCES CONTROL BOARD

NONPOINT SOURCE AND ESTUARY ENHANCEMENT
LOAN APPLICATION
State Revolving Fund

APPLICANT INFORMATION

A. Full Legal Name of Agency (Applicant)

Los Angeles Gateway Region Integrated Regional Water Management Joint Powers Authority (Gateway IRWM Authority)

B. Mailing Address

11111 Brookshire Ave.
Downey CA 90241

C. Federal Employer Identification Number 95-191-82-26

D. Applicant's Authorized Representative

Name Kevin Wattier

Title Chair, Gateway IRWM Authority

Telephone 562-570-2318

Address 11111 Brookshire Ave.
Downey, CA 90241

E. Applicant's Engineer (for construction projects)

Name Naser Bateni

California Registration Number 36128

Firm Name and Address
GEI Consultants, Inc.
10860 Gold Center Dr.
Rancho Cordova, CA 95670

Telephone (916) 631-4562

F. Contact People

Principal Contact	Desi Alvarez, Secretary, Gateway IRWM Authority
Telephone	562-904-6154
Alternate Contact	Kevin Wattier, Chair, Gateway IRWM Authority
Telephone	562-570-2318

PROJECT INFORMATION

A. Project Title Gateway IRWM Authority Storm Drain Catch Basin Retrofit Project

B. County Los Angeles

C. Waterbody Affected:

Los Angeles River (including Rio Hondo and Compton Creek) which is tributary to the Pacific Ocean, as shown in Figure 1, below.

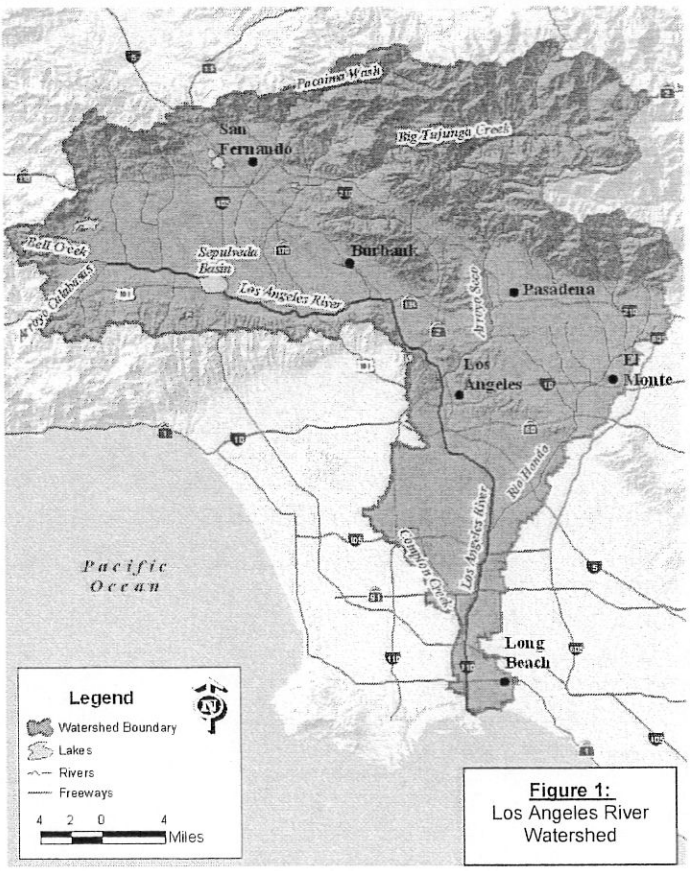


Figure 1:
Los Angeles River Watershed

D. Please check one or more indicating the nature of the nonpoint source pollution problem:

X Urban Runoff
___ Construction/Land Development
___ Road Construction and Maintenance
___ Agricultural Surface Runoff
___ Agricultural Subsurface Drainage
___ Grazing/Dairies
___ Silviculture
___ Other _____
X Estuary Enhancement

E. Please describe the cause of the nonpoint source pollution or estuary enhancement problem.

Fifteen Gateway Cities tributary to the Los Angeles River are subject to the Los Angeles Regional Water Quality Control Board's Total Maximum Daily Load (TMDL) for Trash. By 2016, these municipalities must eliminate all anthropogenic trash, annually estimated at over 800,000 pounds per year, from accumulating in storm drains that connect to the Los Angeles River or its tributaries. While each city's weekly or biweekly street sweeping reduces wasteloads, it does not eliminate waste completely.

F. Please describe how the project will address a nonpoint source pollution or estuary enhancement problem.

The Gateway IRWM Authority will administer a project to retrofit 100% of the catch basins in the fifteen Gateway Cities that connect to the Los Angeles River (or tributaries) with catch basin inserts. The Los Angeles Regional Water Quality Control Board has certified these types of trash-collecting inserts as full capture devices. This project, which retrofits over 9,000 catch basins, is a cost-effective, regional comprehensive approach to stormwater pollution prevention. Coupled with regular maintenance and with weekly or bi-weekly street sweeping, the storm drain catch basin retrofits will result in the capture of trash at all catch basin inlets before the trash can enter the storm drain system. It will result in complete compliance with the Trash TMDL and will achieve a significant milestone in the efforts to improve water quality in the Los Angeles River (see project planning study in Attachment 5). Furthermore, this project is nearly ready to implement, and creates local jobs and introduces $22 million worth of work in the local economies of a number of disadvantaged communities.

G. Have you spoken with staff of the Regional Water Board concerning your project? yes

Regional Water Board Contact Tracy Egoscue

H. Please list all required permits (including waste discharge requirements) and expected dates of compliance.

The LARWQCB has adopted the Total Maximum Daily Loads for Trash in the Los Angeles River that requires the anthropogenic trash be reduced to zero by 2016.

This project will be categorically exempt under CEQA.

I. What water quality objectives (if any) have been exceeded?

The Los Angeles Basin Plan designates that the Los Angeles River is impaired with respect to trash, and has set a standard of zero discharge for trash in the river.

J. Method for compliance with the California Environmental Quality Act (CEQA):

Environmental Impact Report _____
Negative Declaration _____
Categorical Exemption X

Date of CEQA compliance _____
Please attach CEQA report.

K. Have any public meetings or other forums been held regarding this project? Yes. If yes, summarize results.

This item has been discussed on January 8, 2009 and February 12, 2009 at the two public Gateway IRWM Authority meetings held at the Clearwater Building, 2nd Floor, 16401 Paramount Blvd., Paramount, CA 90723. The board meetings of the Gateway IRWM Authority are public meetings and the agendas for the meetings are publicized 72 hours in advance, in accordance with the Brown Act.

L. Estimated time schedule.

	Begin	End
Planning & Engineering	January 2009	March 2009
Construction Plans & Specs	March 2009	May 29, 2009
Construction	June 1, 2009	July 1, 2011

FINANCIAL INFORMATION

A. Total amount of loan request $22,965,000

B. Estimated cost schedule

Planning/Engineering -0-

Design/Plans & Specifications 300,000

Land Acquisition -0-

Construction $22,665,000

Estimated Disbursements $4,079,700 each quarter (schedule shown below)

Milestone	Date	Amount	Remaining
Begin construction	June 1, 2009		$22,965,000
Complete 20% of storm drain retrofits	October 2, 2009	$4,379,700	$18,585,300
Complete 40% of storm drain retrofits	February 26, 2010	$4,079,700	$14,505,600
Complete 60% of storm drain retrofits	July 2, 2010	$4,079,700	$10,425,900
Complete 80% of storm drain retrofits	November 5, 2010	$4,079,700	$6,346,200
Complete 100% of storm drain retrofits	February 25, 2011	$4,079,700	$2,266,500
Final report, site inspections and project close-out	July 2, 2011	$2,266,500	$0

C. Term of loan (not to exceed twenty years) 20 years

D. Please describe the dedicated source of revenue to repay the loan. Include the source of the funds and method used to secure collection, revenue for the prior five years, or since inception if less than five years, expected revenues over the term of the loan. Describe any other debts or expenses that the source is obligated to pay and the projected costs.

The Gateway IRWM Authority was created under an agreement that provides for the entity the legal authority to negotiate and enter into a loan or other financial arrangement with the State Water Resources Control Board. The Authority is not

required to hold an election prior to entering into the financing agreement, nor does the Authority have any existing debts.

The Gateway IRWM Authority has the power to assess its member agencies to repay a loan. However, assistance is requested from the State Water Resources Control Board, through the Clean Water Program, in the form of a grant. A grant from the State Water Board will directly benefit 11 disadvantaged communities and an additional 37,324 disadvantaged families in 13 other disadvantaged census tracts, generating dozens of new construction jobs while satisfying the Los Angeles Regional Water Quality Control Board's Trash TMDL.

LIST OF ATTACHMENTS

Brief Project Description	Attachment 1
Map of Cities Tributary to the Los Angeles River	Attachment 2
Planning Study	Attachment 3
Location of Retrofits by City	Attachment 4
Legal Opinion	Attachment 5
Gateway IRWM Authority Board Resolution	Attachment 6

Los Angeles Gateway Region

Integrated Regional Water Management
Joint Powers Authority
11111 Brookshire Avenue, Downey, California 90241
(562) 904-2180 (ph) (562) 923-6388 (fax)

Kevin Wattier
Board Chair
Long Beach Water Department

Chris Cash
Vice-Chair
City of Paramount

Desi Alvarez
Secretary-Treasurer
City of Downey

Vince Brar
City of Cerritos

Jim Glancy
City of Lakewood

Mark Christoffels
City of Long Beach

Adriana Figueroa
City of Norwalk

Don Jenson
City of Santa Fe Springs

Charlie Honeycutt
City of Signal Hill

Joseph Serrano
Southeast Water Coalition

William DeWitt
City of South Gate

Kevin Wilson
City of Vernon

Leon Yehuda
City of Whittier

Steve Dorsey
General Counsel
Richards Watson Gershon

Annette Hubbell
Executive Officer

Background

Fifteen Gateway Cities are tributary to the Los Angeles River and are subject to the Los Angeles Regional Water Quality Control Board's (LARWQCB) Total Maximum Daily Load (TMDL) for Trash. By 2016, municipalities that are tributary to the Los Angeles River must be in full compliance with the TMDL, eliminating more than 800,000 pounds of waste from accumulating in storm drains that wash out to flood control channels. While each city's weekly or bi-weekly street sweeping reduces wasteloads, it does not eliminate wasteloads completely.

Project Description

The Gateway IRWM Authority proposes a project to retrofit all the catch basins with catch basin inserts, also called linear connector pipe screens, that the LARWQCB has certified as full capture devices. Currently, two types of catch basin inserts are approved by the LARWQCB, and both of these will be implemented. This comprehensive, regional approach, coupled with weekly or bi-weekly street sweeping already conducted in each participating city, will result in complete compliance with the TMDL and will help to achieve a significant milestone in the efforts to improve the water quality of the Los Angeles River.

If funded, contractors will be hired to fabricate and install each of the inserts, generating hundreds of construction jobs. Work on this "shovel-ready" project can commence in just sixty days.

Proposed Budget

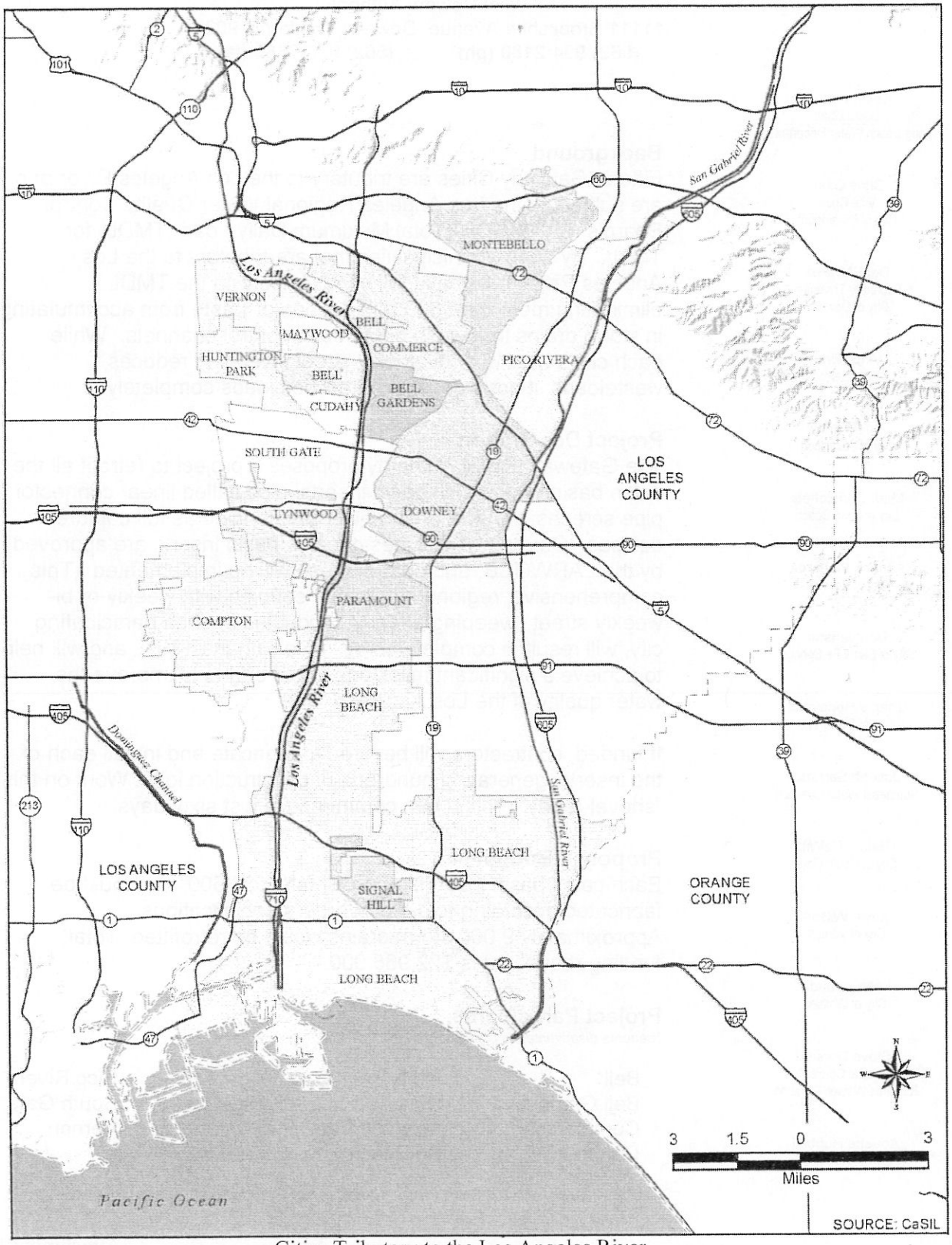
Each catch basin insert is approximately $2,500, and must be fabricated according to a storm drain's specifications. Approximately 9,000 storm drains would be retrofitted. Total funding requested is $22,965,000.

Project Participants

**denotes disadvantaged community*

Bell*	Cudahy*	Lynwood*	Pico Rivera
Bell Gardens*	Downey	Maywood*	South Gate*
Commerce*	Huntington Park*	Montebello	Vernon
Compton*	Long Beach*	Paramount*	

Attachment 1
Brief Project Description



Cities Tributary to the Los Angeles River

Storm Drain Catch Basin Retrofit Project
Planning Study

The Gateway IRWM Authority proposes to administer a project that will meet the Los Angeles Regional Water Quality Control Board's Total Maximum Daily Load (TMDL) for trash. This comprehensive, regional approach to stormwater pollution prevention involves the retrofitting of all catch basins within the 15 cities in the Gateway Region tributary to the Los Angeles River. It will achieve specific water quality objectives set by the LARWQCB and valued by the Gateway IRWM Authority, including the elimination of trash in the waterway, protection of water quality, and preservation of the aquatic environment. Furthermore, the project will help maintain the beneficial uses of the Los Angeles River and it will help create local jobs which will bolster the economy, particularly in the numerous disadvantaged communities in the Gateway Region. These water quality objectives, along with the alternatives available for achieving these objectives and the economic benefits of implementing the project, are all described in detail below.

Water Quality Objectives

Water quality in the Los Angeles River is the purview of the Los Angeles Regional Water Quality Control Board (Regional Board). One of the ways in which the Regional Board enforces water quality standards is through the National Pollutant Discharge Elimination System (NPDES) Permits, or Stormwater Permits. The Regional Board in 2007 determined that trash in the Los Angeles River was an additional threat to water quality. The new Trash Total Maximum Daily Load (TMDL) requires permit holders to reduce trash flows into the Los Angeles River by 10% per year, reaching zero trash by the year 2016.[1] When permits are renewed in 2009, the standards for the Trash TMDL will be included.

In its 2007 draft of the *Los Angeles River Trash TMDL*, the Regional Board refers to the definitions for *floating materials* and *solid, suspended, or settled materials* and points out that these materials are a nuisance and adversely impact beneficial uses.[2] Not only are certain trash items contributing to sediment contamination, harming wildlife, and inhibiting aquatic vegetation, but some trash items are potential sources of bacteria and toxic substances. Removing trash from the Los Angeles River, and preventing trash from contaminating the River in the future, will improve water quality and protect aquatic

Photo 1: Trash in Rainbow Harbor, Long Beach, CA

[1] Los Angeles Regional Water Quality Control Board, *Los Angeles River Trash TMDL*, p. 26, 2007.
[2] Los Angeles Regional Water Quality Control Board, *Los Angeles River Trash TMDL*, p. 15, 2007.

habitat. Preventing trash contamination will enhance public interest in the river and may promote participation in river restoration activities. Finally, removal of trash will help promote public recreation, particularly in beach areas that are consistently polluted with trash as the Los Angeles River flows to the Pacific Ocean.

In the Gateway Region, the City of Long Beach collects large amounts of trash at the mouth of the Los Angeles River, as much of the trash carried down the Los Angeles River ends up at the river's mouth in Long Beach. Debris tonnage at the mouth of the Los Angeles River is listed in the table below.

Table 1. Storm Debris Collection Summary for Long Beach: Debris is measured in Tonnage.[3]

Storm Year	1st Quarter (July-Sept.)	2nd Quarter (Oct. Dec.)	3rd Quarter (Jan. – Mar.)	4th Quarter (Apr. – June)	Total
1994-95	436	509	3576	702	5,224
1995-96	504	344	3100	645	4,593
1996-97	350	2361	601	681	3,993
1997-98	647	3650	4016	977	9,290
1998-99	565	720	532	1274	3,091
1999-2000	781	176	1664	1223	3,844
2000-01	757	581	2625	474	4,437
2001-02	424	739	288	407	1,858
2002-03	430	752	2564	884	4,630
2003-04	299	779	607	951	2,636
2004-05	273	4390	6176	1416	12,255
2005-06	561	495	862	670	2,591

Alternatives for Addressing Water Quality Objectives

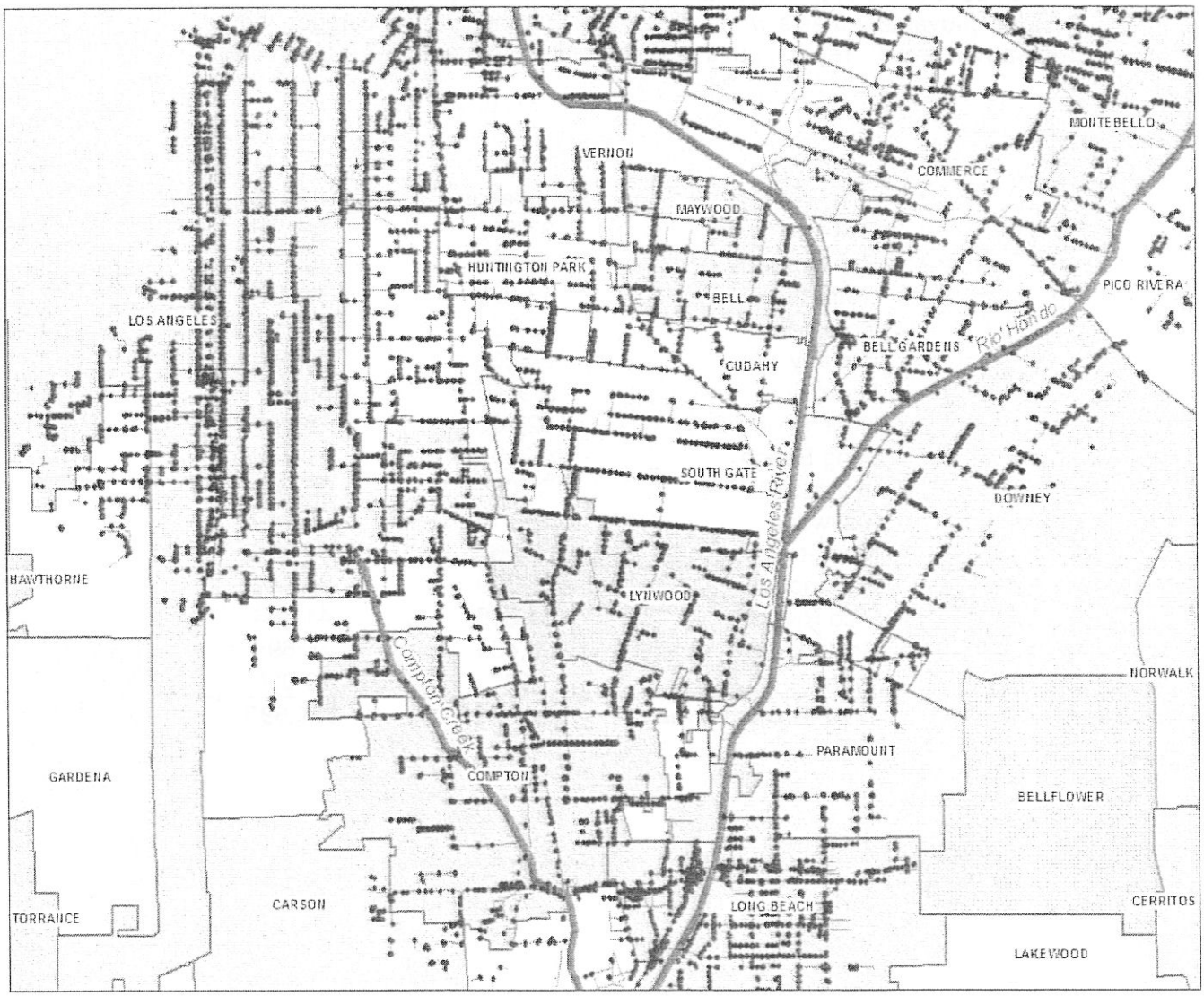
To assess compliance with the Trash TMDL, the Regional Board determines waste load allocations for each city that is tributary to the Los Angeles River. A city will be deemed compliant with the Trash TMDL when the devices, systems, or institutional controls implemented by that city result in zero trash discharge from their storm drains to the Los Angeles River or its tributaries.

There are three methods that the Regional Board has identified for addressing trash in the Los Angeles River. The first method, institutional controls, involves litter prohibition ordinances (which are already in place in most cities) and the stricter, more frequent enforcement of the ordinance, along with frequent ground trash collection via street sweeping, manual pickup, and storm drain clean-outs. As pointed out by the Regional Board, this method is the most costly[4] and, by its nature, the least effective at completely excluding trash from the Los Angeles River. The second method, the partial capture system with institutional controls, is a combination of catch basin cleanouts and manual trash pickup. Finally, the full capture treatment system, must be certified by the Regional Board as adequately sized for the storm drain and maintained properly before

[3] City of Long Beach *L.A. River Debris Summary* (as of June 2006). As reprinted in *Los Angeles River Trash TMDL* p. 19.
[4] Los Angeles Regional Water Quality Control Board, *Los Angeles River Trash TMDL*, p. 30, 2007.

it is deemed to achieve compliance with the Trash TMDL.[5]

The Gateway IRWM Authority is proposing a comprehensive, regional program that will install full capture devices in all catch basins of the Gateway Cities tributary to the Los Angeles River. The installation of full capture devices, with periodic clean-outs and regular street sweeping, will ensure that no trash reaches the Los Angeles River.



Gateway Region storm drains that empty into the Los Angeles River.

[5] Los Angeles Regional Water Quality Control Board, *Los Angeles River Trash TMDL*, p. 31, 2007.

Population of Project Area

The Gateway IRWM Authority Storm Drain Catch Basin Retrofit Project addresses water quality issues in a geographic area encompassing 15 cities and nearly 1.25 million residents. The project area is in a high-minority and economically disadvantaged region. Of the fifteen cities participating in the project, eleven are disadvantaged communities, meaning that the median income levels in the city are less than 80% of the state's median household income (MHI). Within the four cities that are not disadvantaged as a whole, there are 13 census tracts categorized as disadvantaged[6], representing more than disadvantaged 37,000 families.

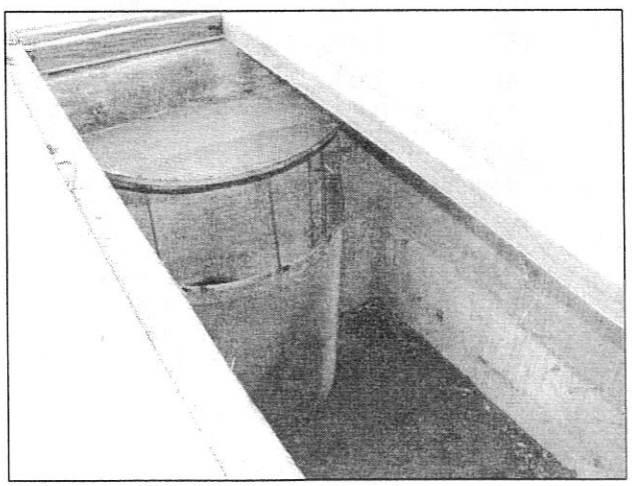
City	Population[7]	MHI[8] ($)
Bell	37,332	29,946
Bell Gardens	45,285	30,597
Commerce	13,292	34,040
Compton	95,701	31,819
Cudahy	24,208	29,040
Downey	109,376	45,667
Huntington Park	62,165	28,941
Long Beach	472,494	37,270
Lynwood	71,061	35,888
Maywood	28,714	30,480
Montebello	62,968	38,805
Paramount	56,369	36,749
Pico Rivera	64,336	41,564
South Gate	98,434	35,695
Vernon	91	60,000
Total Project Area	**1,241,826**	**$35,695**

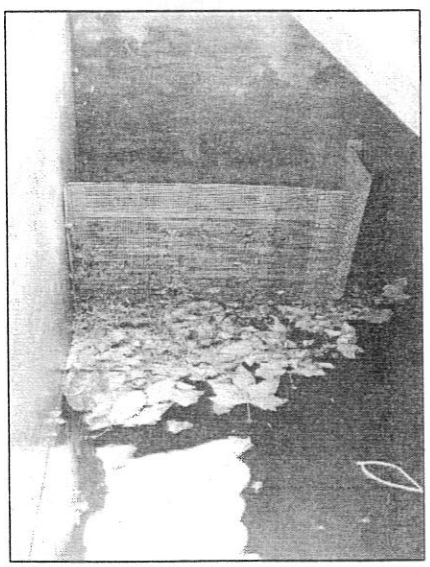
[6] U.S. Housing and Urban Development, Office of Community Development and Planning, Census 2000 Data, as accessed at http://www.hud.gov/offices/cpd/systems/census/ca/index.cfm#lowmod on 02/27/09
[7] U.S. Census Data, 2000
[8] U.S. Census Data, 2000

Economic Benefits

The Gateway Region will garner multiple economic benefits from the implementation of this project. First, the elimination of trash from the Los Angeles River will also eliminate waste deposition on the beaches of Long Beach, thereby preventing the loss of tourism dollars when visitors are discouraged from enjoying the beach due to large trash deposits. Second, this project is a construction project that will generate dozens of jobs immediately, as each catch basin must be retrofitted on-site according to the specifications and site conditions of each storm drain. Third, this "shovel-ready" project will bring over $22 million to the local economy, much of which will be spent in disadvantaged communities.

The Gateway Cities' compliance with the Trash TMDL will eliminate potential fines and penalties that would otherwise be levied for violation of the TMDL. It is noteworthy that 11 of the 15 cities benefitting from this project are disadvantaged communities. Without financial assistance from the State Water Board's Clean Water Program, these cities would be unable to implement this environmentally responsible project. The project proposes a Trash TMDL compliance measure that is much more effective than institutional controls alone, and at the same time is less expensive than the Vortex Separation Systems. Because of the lower costs associated with the combination of installing catch basin inserts and maintaining regular street sweeping and storm drain cleaning, the project the most cost-effective and efficient alternative. Full compliance will be reached in a shorter period of time than if alternate methods are recommended. This accelerates the rate at which the Trash TMDL is achieved, eliminating trash in the waterway, protecting water quality, preserving the aquatic environment, and maintaining the Los Angeles River's beneficial uses.





Photos 2 and 3: examples of catch basin inserts

Method of Repayment

The Gateway IRWM Authority has, in its agreement documents, the power to assess its membership for the repayment of a loan to finance this comprehensive, regional approach to storm water pollution prevention. However, considering 11 cities benefitting from this project are disadvantaged communities, assistance is requested from the State Water Board's Clean Water Program in the form of a grant rather than a loan. Should a loan be the only option offered the Gateway IRWM Authority, then funds will be repaid through assessments to member cities, proportional to the funds expended on each city's behalf.

Storm Drains listed by Gateway City

City	storm drains	% of total	cost per city
Long Beach*	2068	22.8%	$5,170,000
Compton*	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate*	803	8.9%	$2,007,500
Commerce*	664	7.3%	$1,660,000
Lynwood*	630	6.9%	$1,575,000
Huntington Park*	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount*	334	3.7%	$835,000
Bell Gardens*	315	3.5%	$787,500
Bell*	260	2.9%	$650,000
Maywood*	167	1.8%	$417,500
Cudahy*	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000

*Note: * indicates disadvantaged community*

City of Bell

Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	260 x $2500
TOTAL	**$650,000**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000

City of Bell Gardens

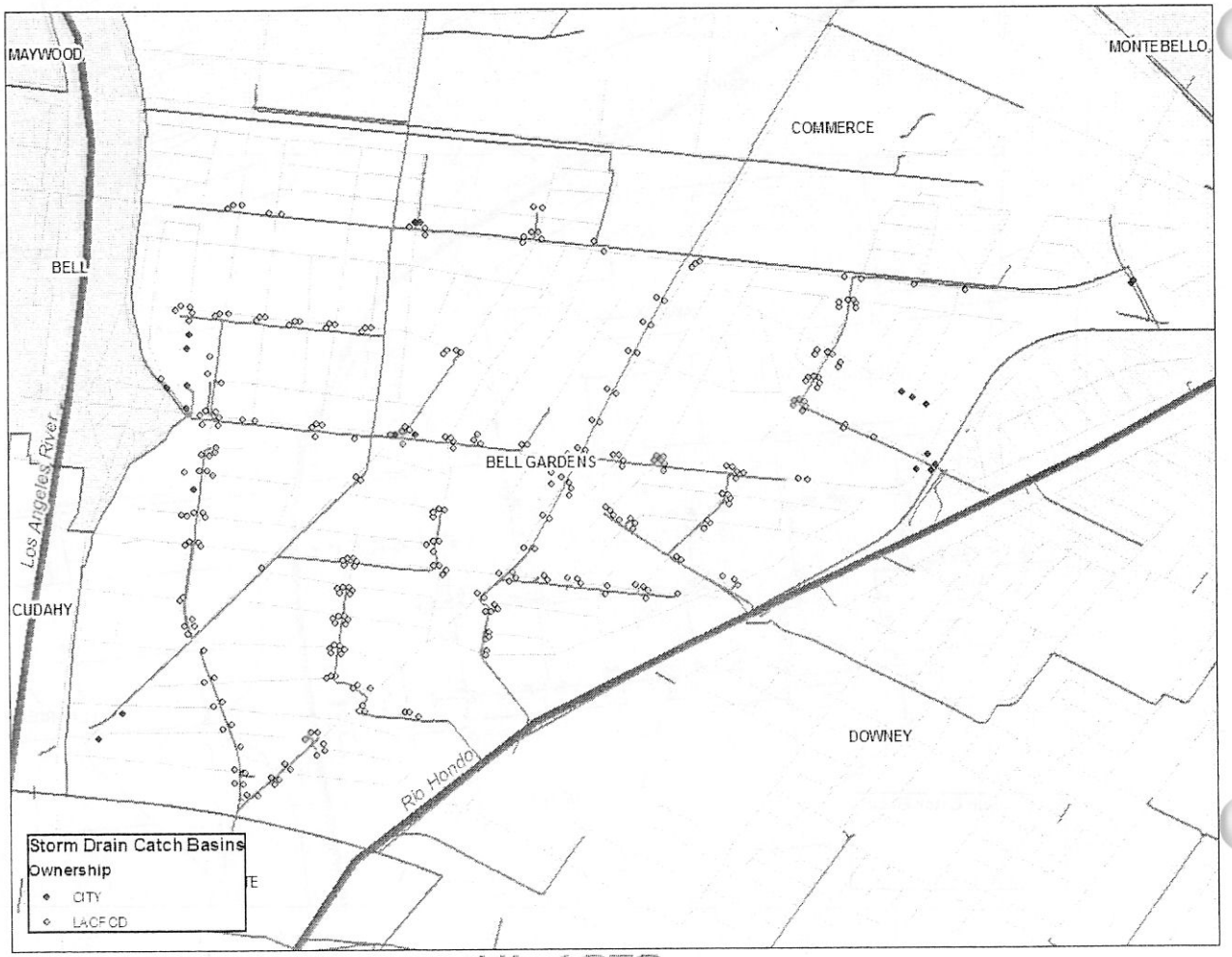
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	315 x $2500
TOTAL	**$787,500**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



Gateway IRWM Authority
Location of Retrofits by City
Attachment 4

City of Commerce

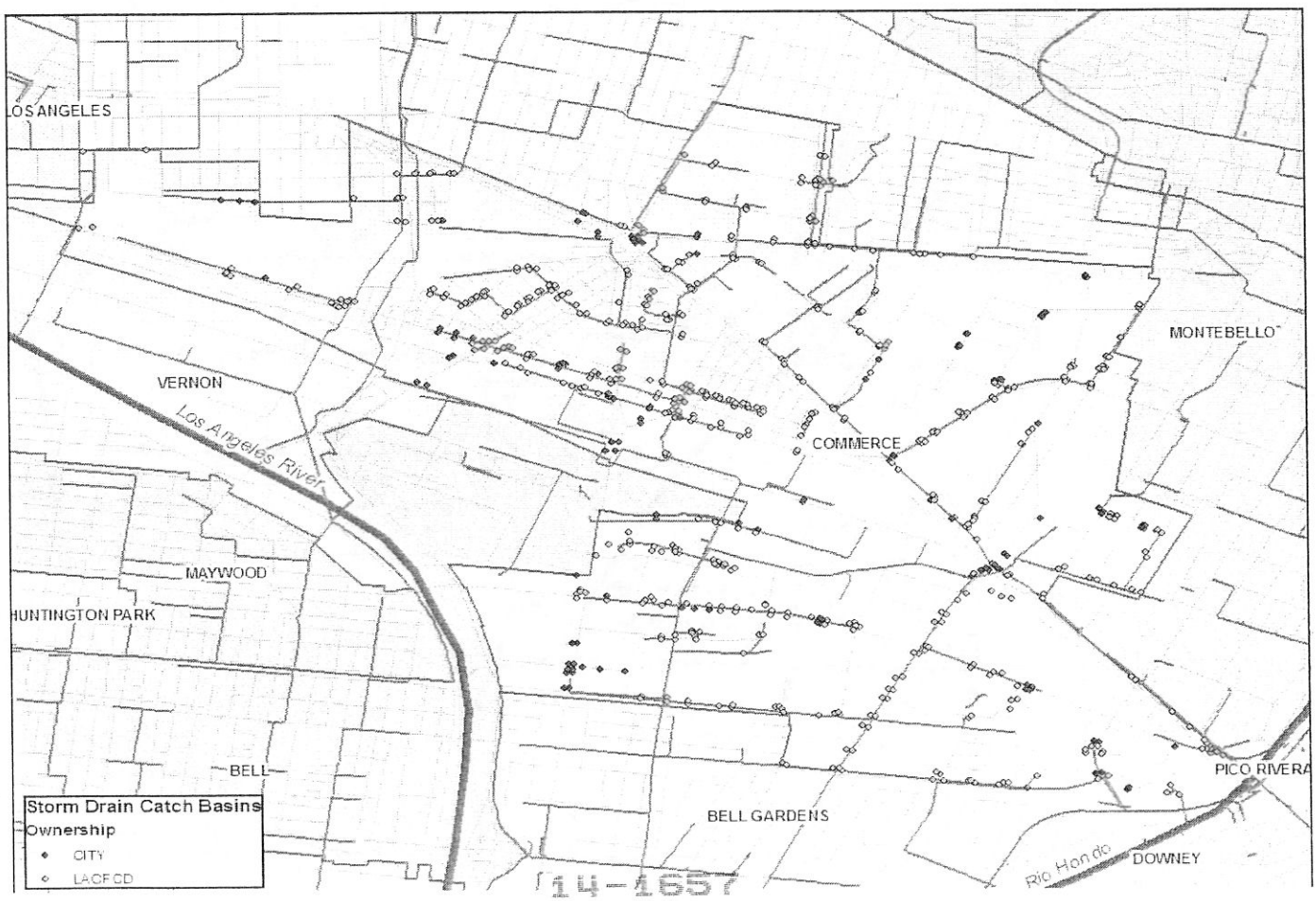
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	664 x $2500
TOTAL	$1,660,000

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



City of Compton

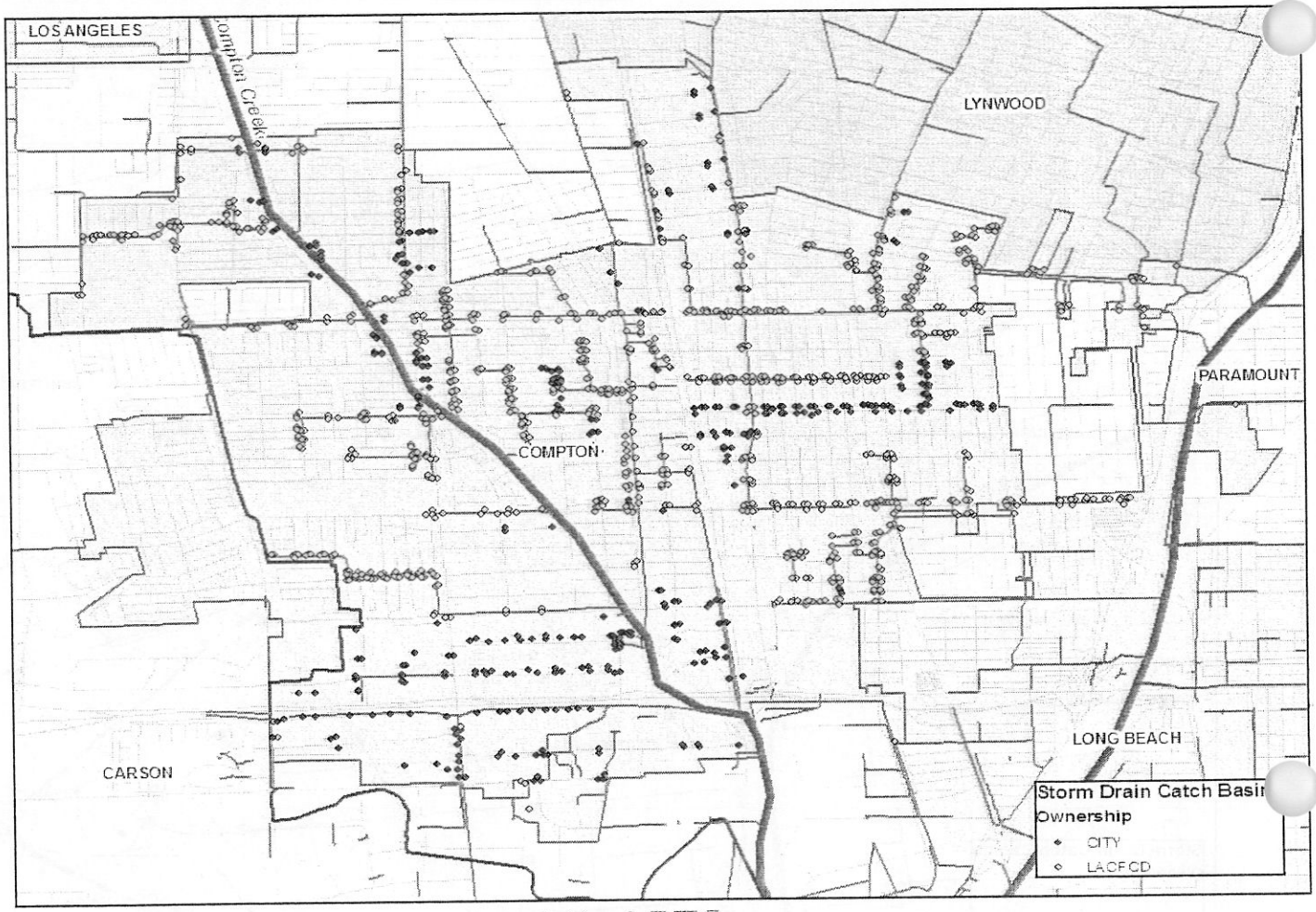
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	1,344 x $2500
TOTAL	$3,360,000

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



City of Cudahy

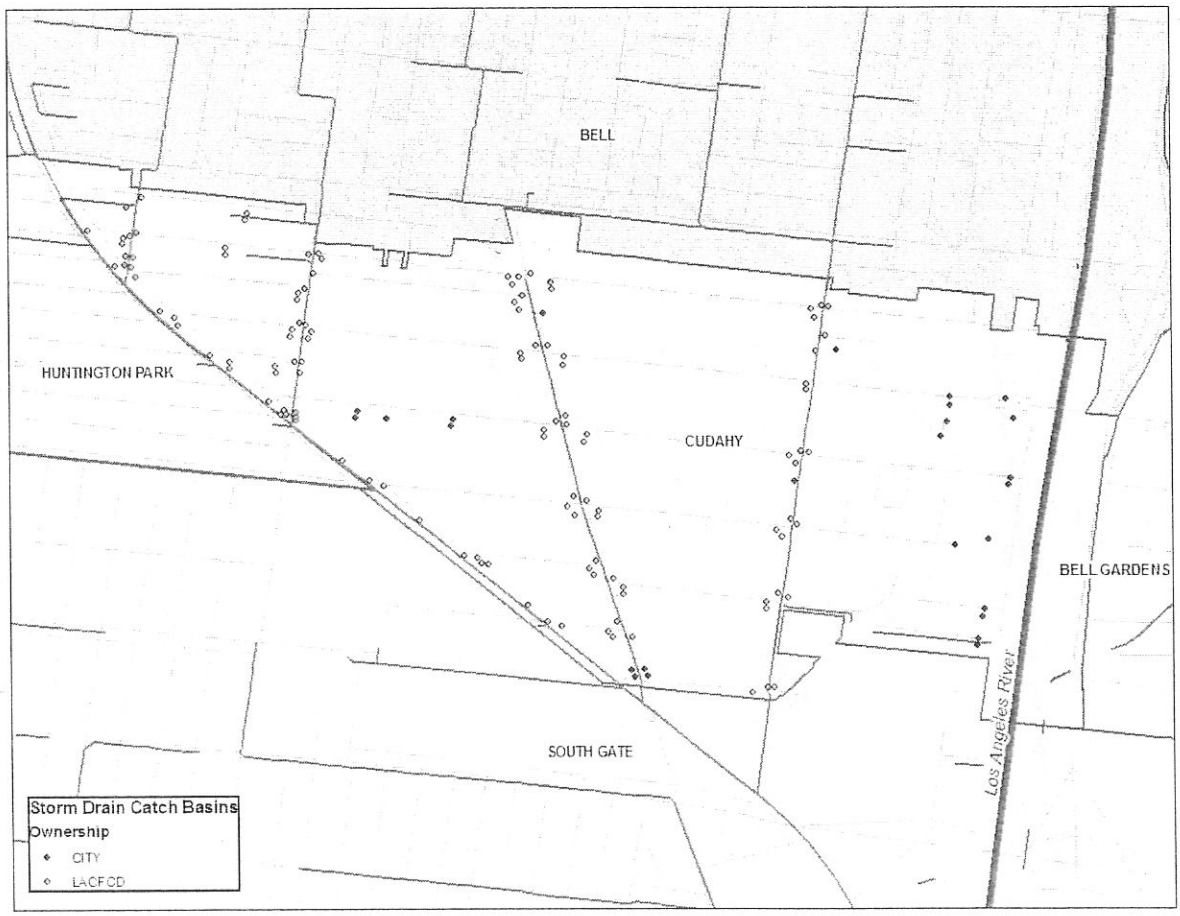
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	146 x $2500
TOTAL	**$365,000**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



City of Downey

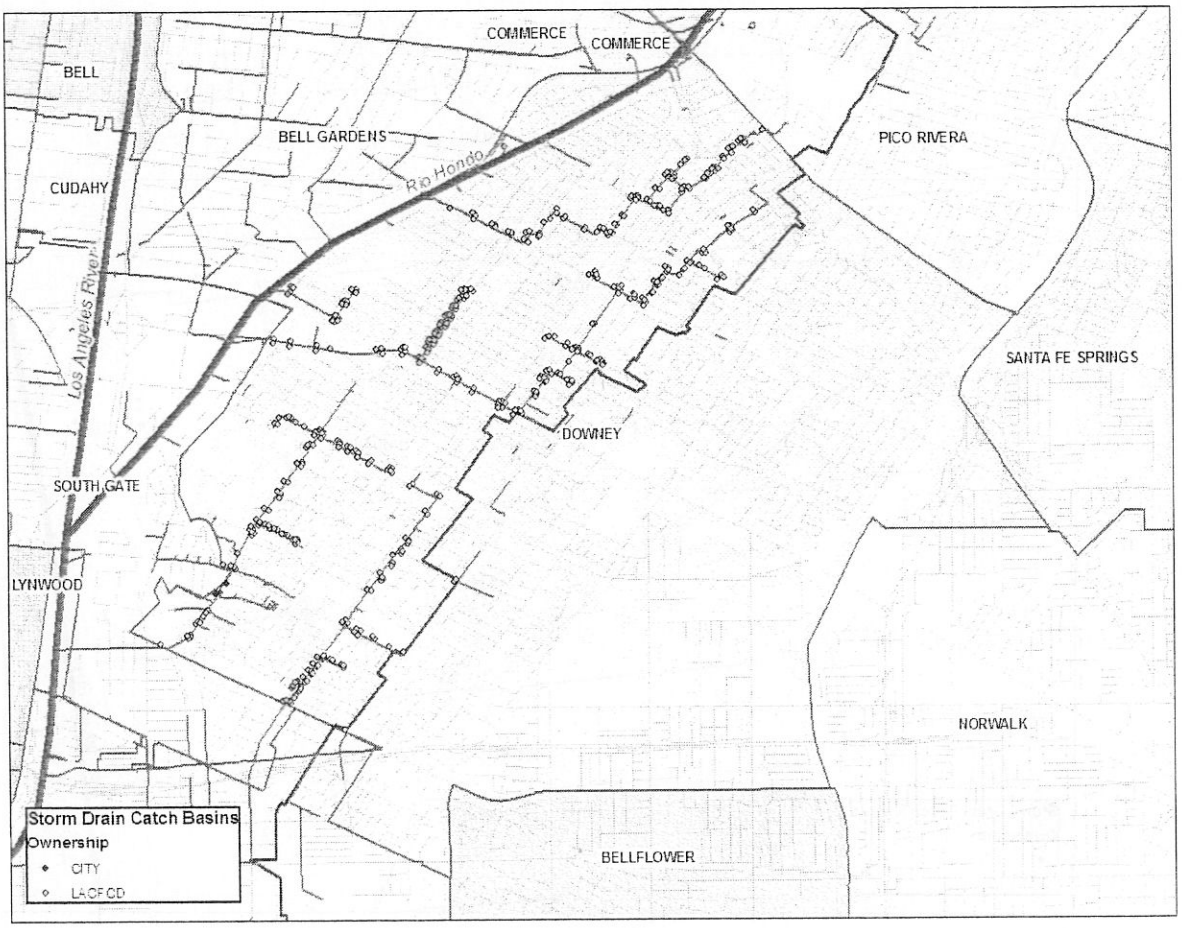
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	449 x $2500
TOTAL	**$1,122,500**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



City of Huntington Park

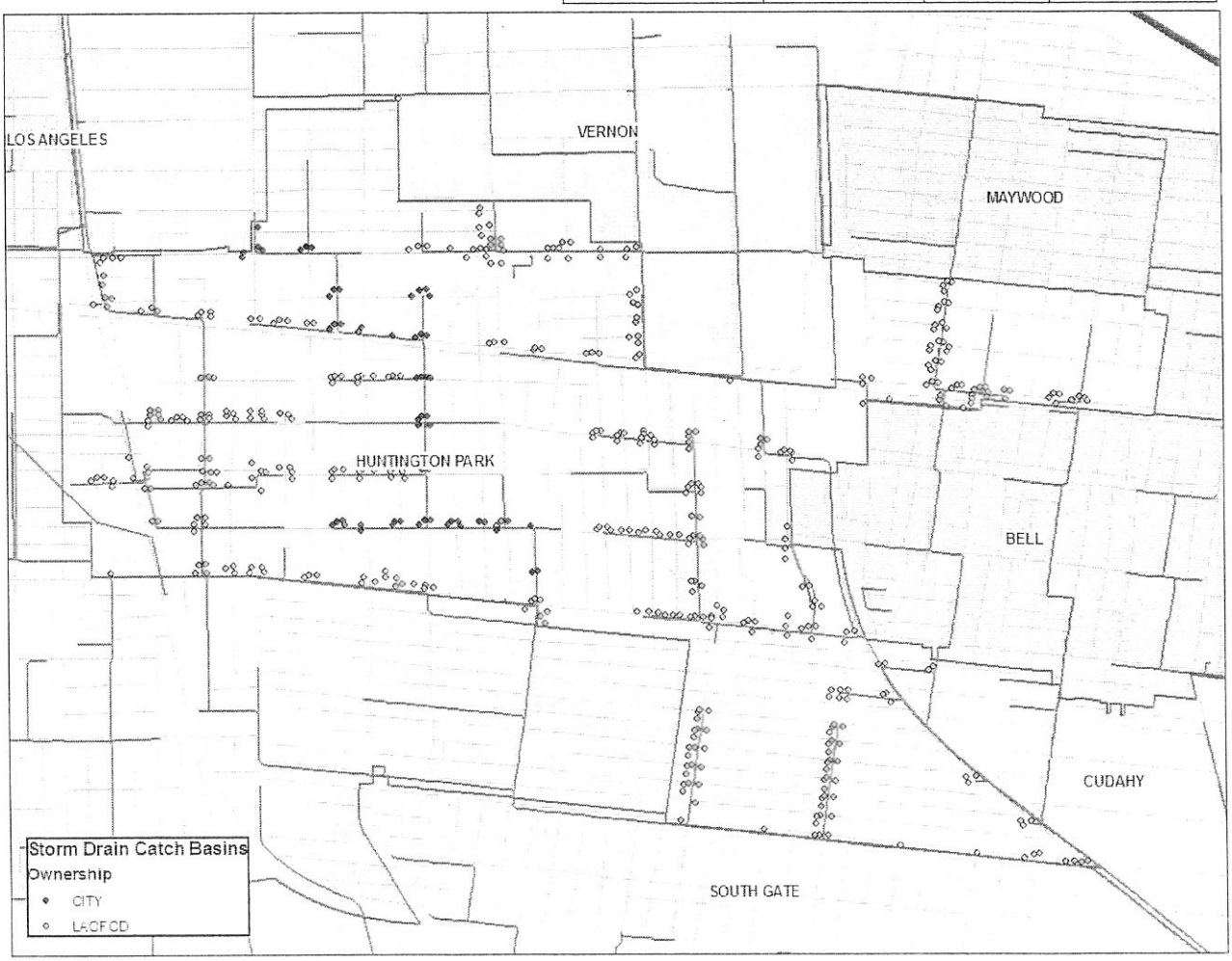
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	497 x $2500
TOTAL	**$1,242,500**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



City of Long Beach

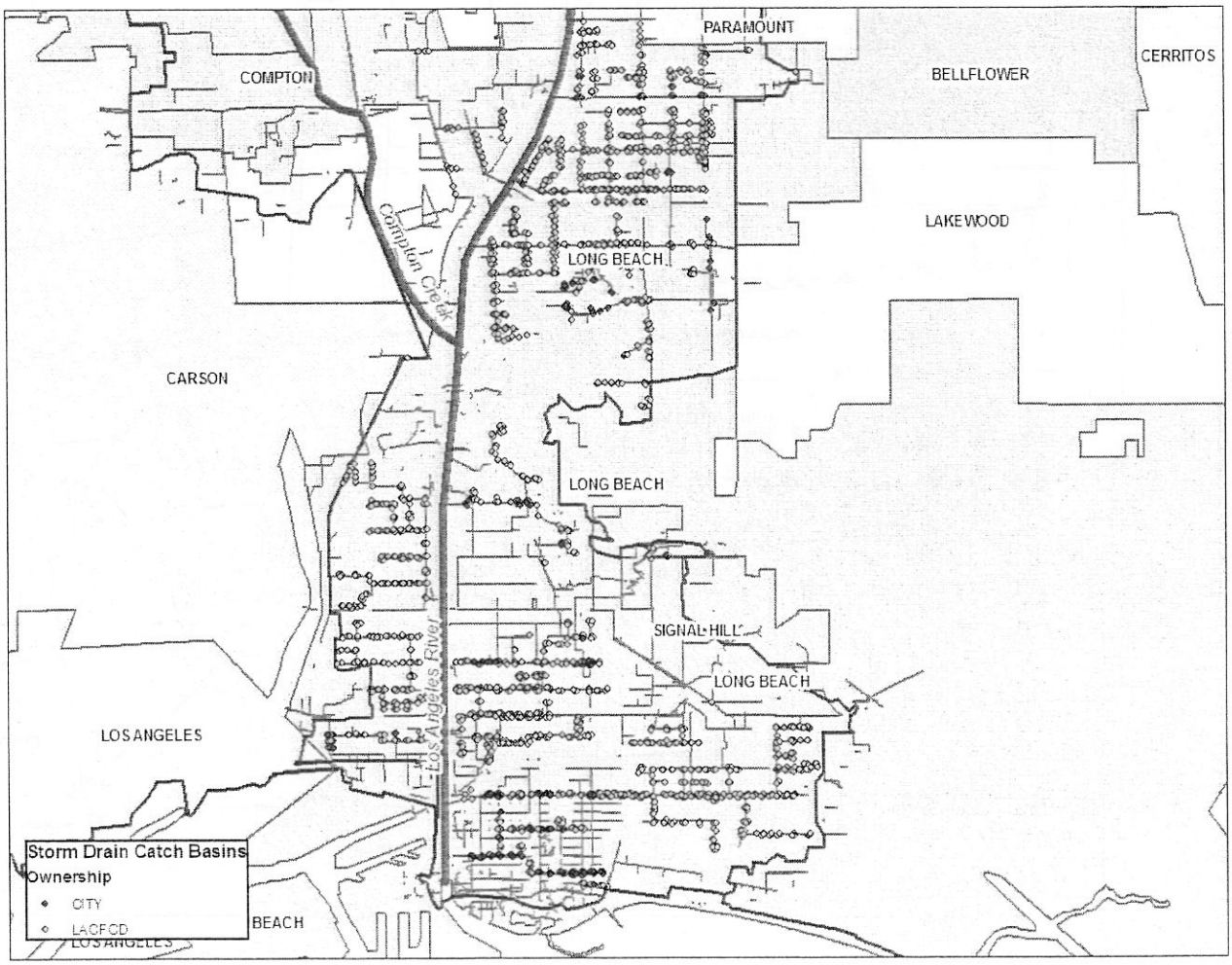
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	2,068 x $2500
TOTAL	**$5,170,000**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



Gateway IRWM Authority
Location of Retrofits by City
Attachment 4

City of Lynwood

Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	630 x $2500
TOTAL	**$1,575,000**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000

City of Maywood

Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	167 x $2500
TOTAL	**$417,500**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000

City of Montebello

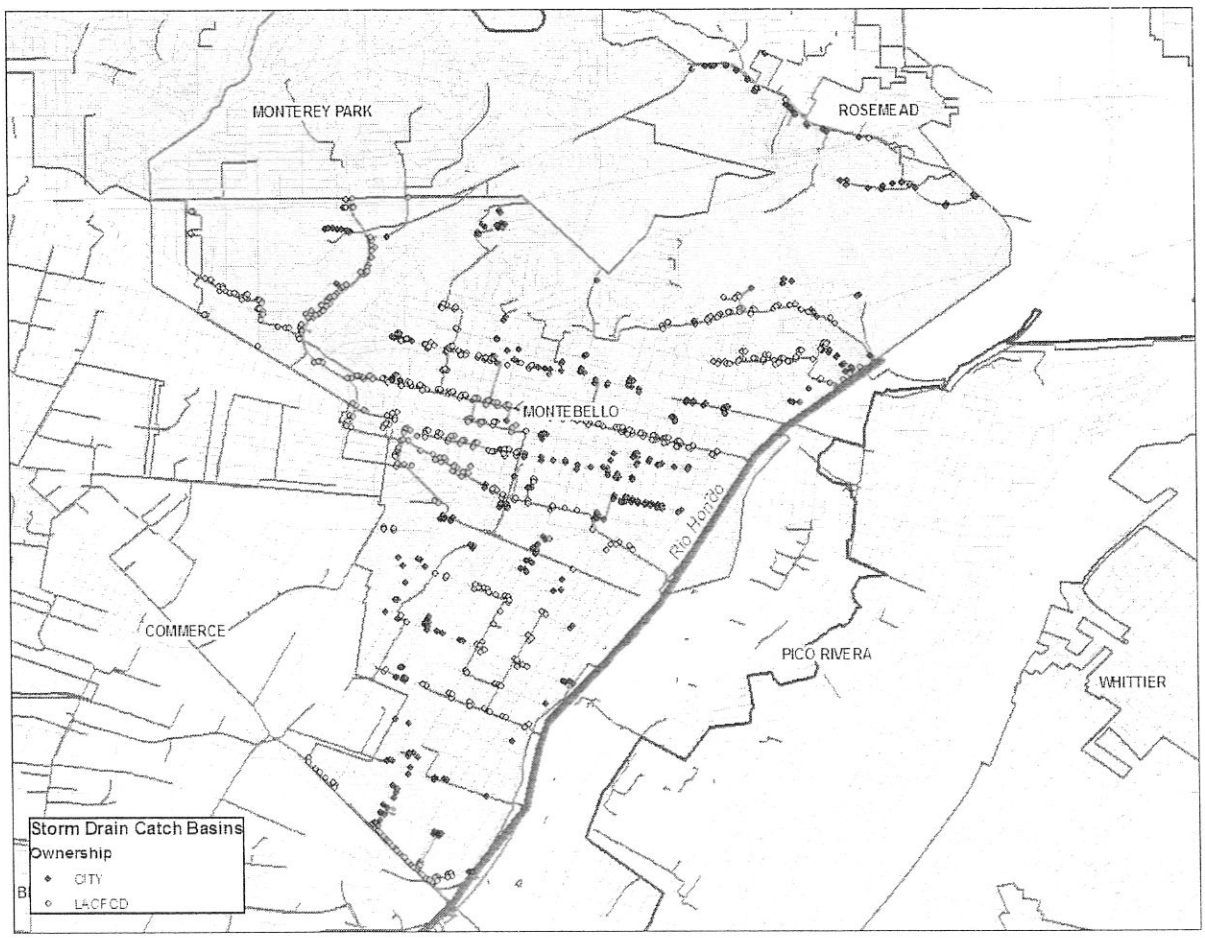
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	902 x $2500
TOTAL	**$2,255,000**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



City of Paramount

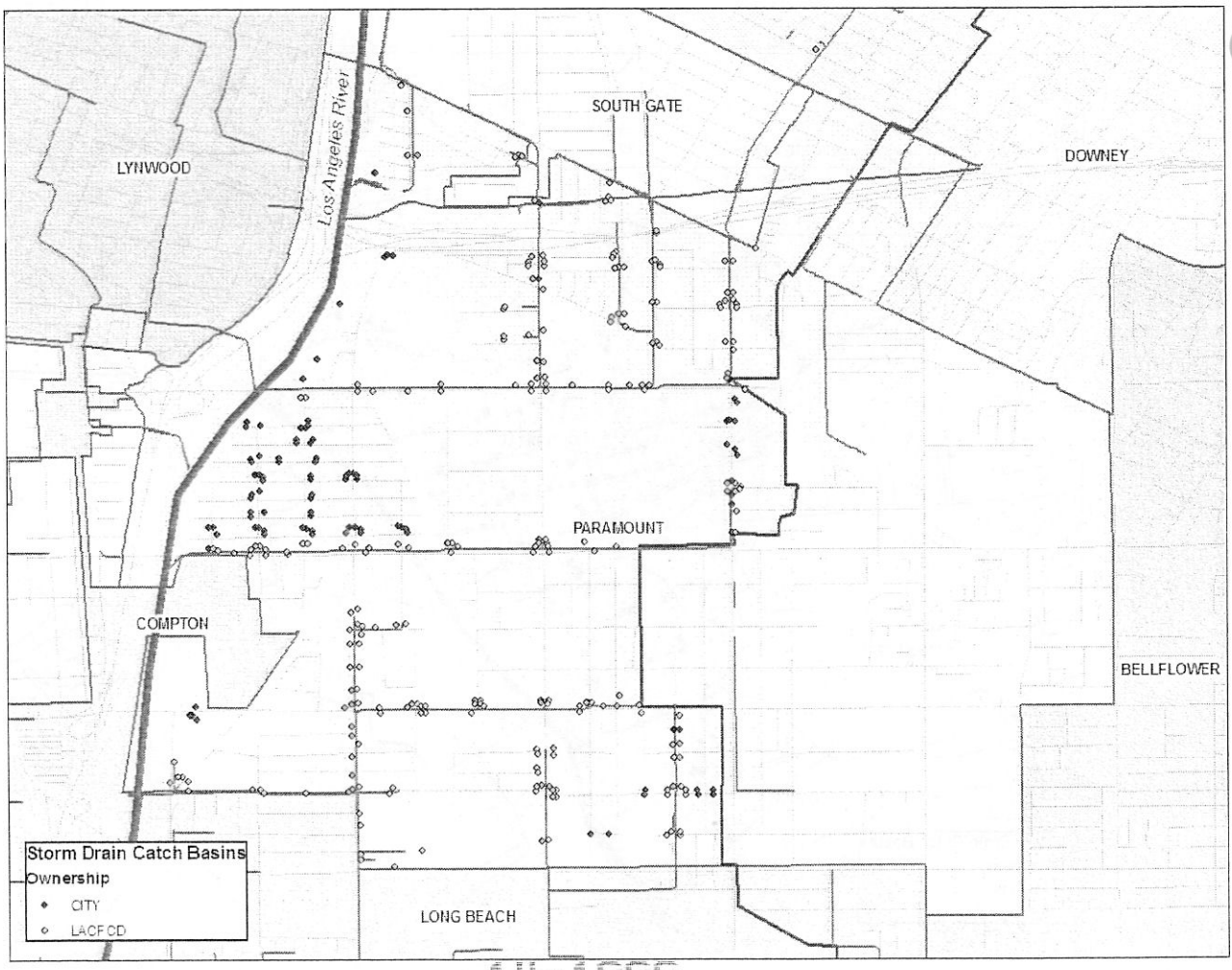
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	334 x $2500
TOTAL	**$835,000**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



City of Pico Rivera

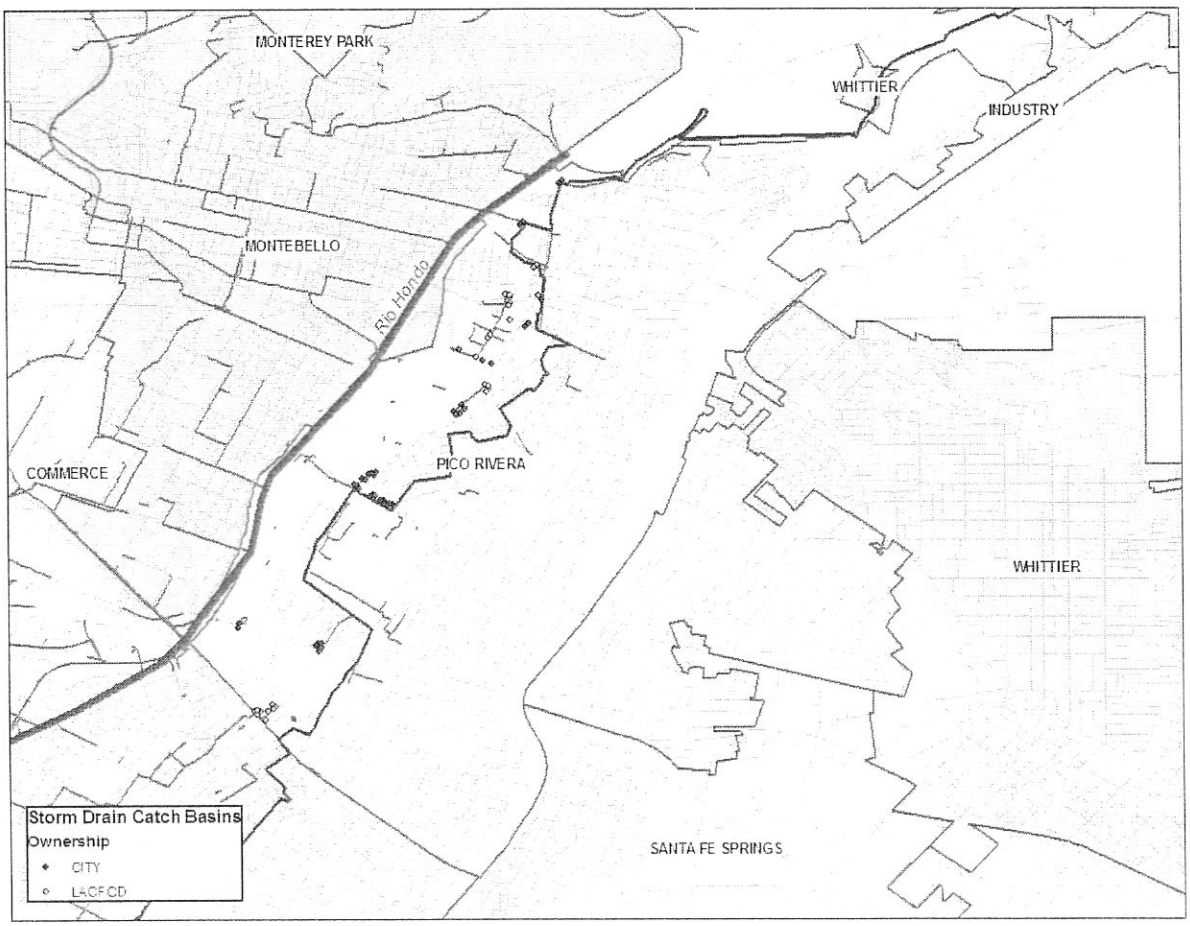
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	70 x $2500
TOTAL	**$175,000**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



City of South Gate

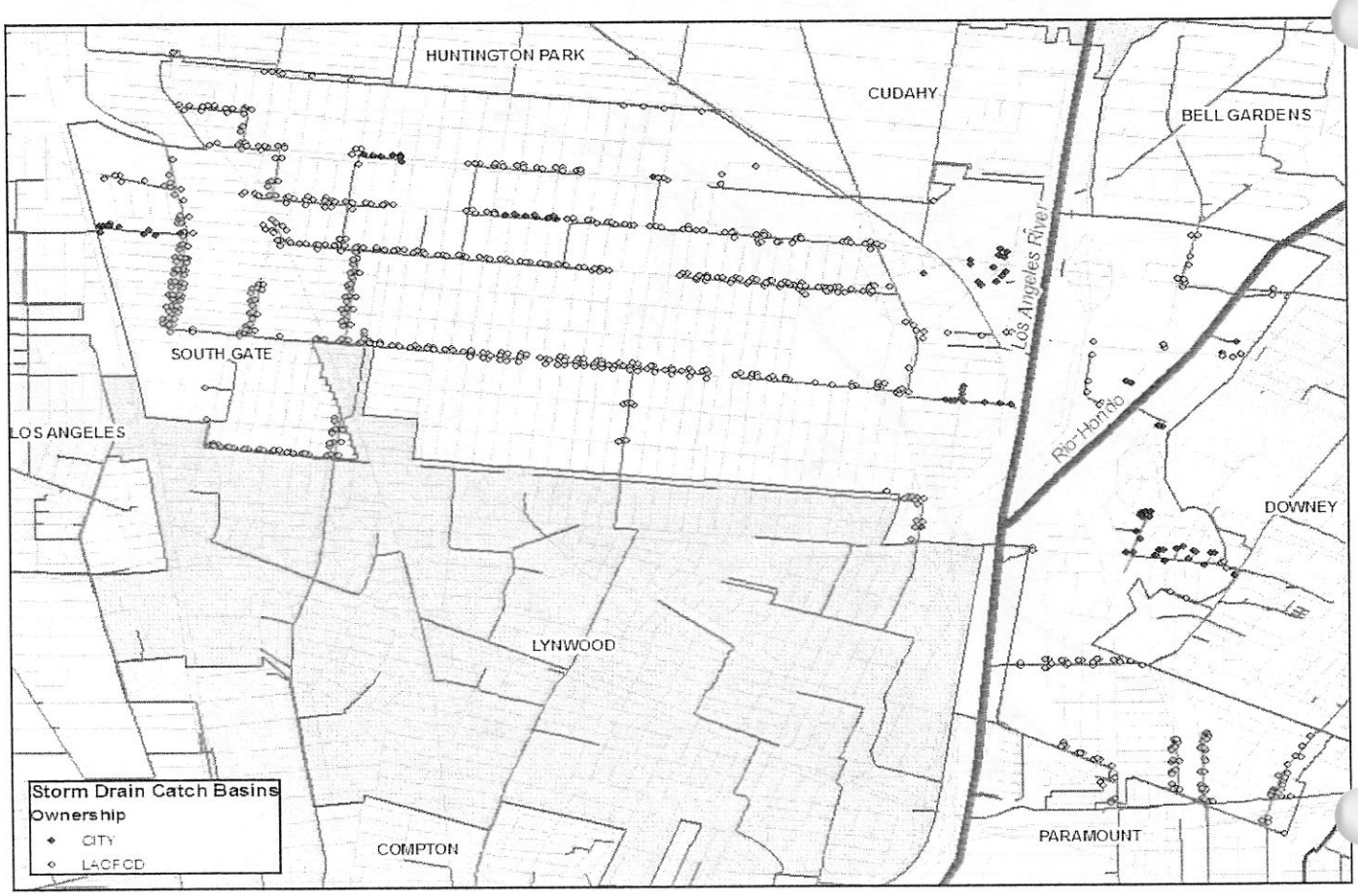
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	803 x $2500
TOTAL	$2,007,500

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



Gateway IRWM Authority
Location of Retrofits by City
Attachment 4

City of Vernon

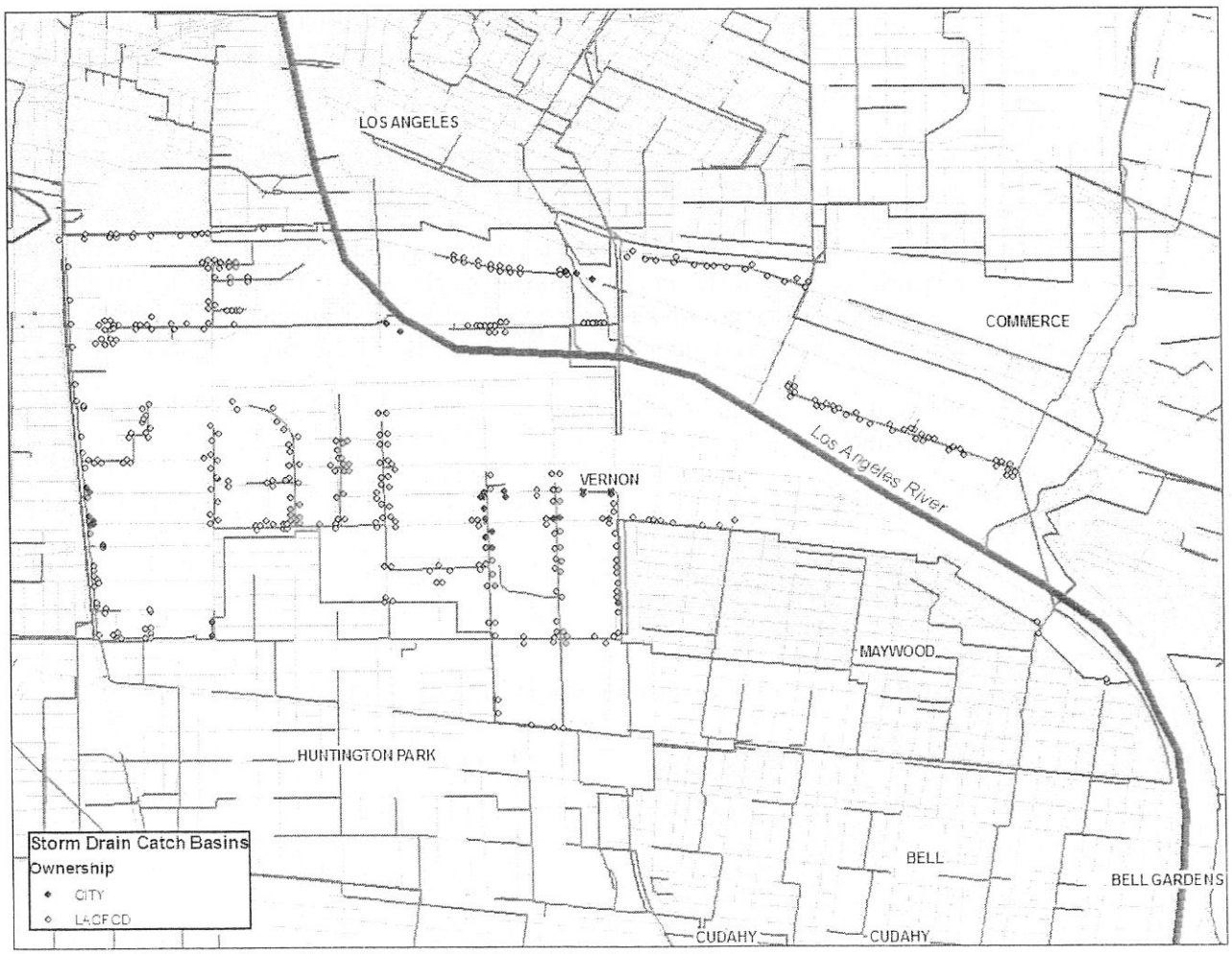
Recommended Pollution Abatement & Compliance Strategy: Treatment Train

Total Capital Cost: $2,500 per catch basin

- Debris Excluder $850
- Smart Sponge Filters $700
- Outfall Pipe Screen $950

Capital Cost (Treatment Train)	417 x $2500
TOTAL	**$1,042,500**

City	Storm Drains	% of Total	Cost per City
Long Beach	2068	22.8%	$5,170,000
Compton	1344	14.8%	$3,360,000
Montebello	902	9.9%	$2,255,000
South Gate	803	8.9%	$2,007,500
Commerce	664	7.3%	$1,660,000
Lynwood	630	6.9%	$1,575,000
Huntington Park	497	5.5%	$1,242,500
Downey	449	5.0%	$1,122,500
Vernon	417	4.6%	$1,042,500
Paramount	334	3.7%	$835,000
Bell Gardens	315	3.5%	$787,500
Bell	260	2.9%	$650,000
Maywood	167	1.8%	$417,500
Cudahy	146	1.6%	$365,000
Pico Rivera	70	0.8%	$175,000
Total	9066	100.0%	$22,665,000



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February 12, 2009

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Mr. Christopher Stevens
Supervising Engineer
State Water Resources Control Board
Division of Financial Assistance
1001 I Street
Sacramento, California 95814

Re: Gateway Integrated Regional Water Management Plan Authority "Authority" Grant Application Legal Opinion

Dear Mr. Stevens:

I am General Counsel for the Authority. In this capacity I have prepared this legal opinion to accompany the Authority's Clean Water State Revolving Fund grant application. I have listed in parentheses the section of the grant application to which each portion of my opinion applies.

The joint powers agreement under which the Authority was created provides the Authority with legal authority to enter into a financing agreement with the State Water Resources Agency, and the Authority is not required to hold an election before entering into the financing agreement. (III-1). The joint powers agreement also provides the necessary authority to construct the proposed improvements in the easements held by the Authority's member cities. (III-13).

The Authority has legal authority to comply with the federal laws and authorities attached as Exhibit 15 to the application. (IV-A-2). Based on information the Authority's Treasurer provided me, a copy of which is attached as Exhibit A, I have determined that the Authority has no existing debts. (IV-A-6).

Please do not hesitate to contact me if you have any questions or desire additional information.

Very truly yours,

Steven L. Dorsey
General Counsel
Gateway Integrated Resources Management Plan Authority

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Los Angeles Gateway Region

Integrated Regional Water Management
Joint Powers Authority
11111 Brookshire Avenue, Downey, California 90241
(562) 904-2180 (ph) (562) 923-6388 (fax)

Kevin Wattier
Board Chair
Long Beach Water Department

Chris Cash
Vice-Chair
City of Paramount

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City of Norwalk

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City of Santa Fe Springs

Charlie Honeycutt
City of Signal Hill

Joseph Serrano
Southeast Water Coalition

William DeWitt
City of South Gate

Kevin Wilson
City of Vernon

Leon Yehuda
City of Whittier

Steve Dorsey
General Counsel
Richards Watson Gershon

Annette Hubbell
Executive Officer

February 3, 2009

Steve Dorsey, General Counsel, Gateway IRWM Authority
Richards Watson and Gershon
355 S. Grand Ave, 40th Floor
Los Angeles, CA 90071-3101

Re: Gateway IRWM Authority debt-free status

Dear Mr. Dorsey:

This letter is to advise you that the Los Angeles Gateway Integrated Regional Water Management Joint Powers Authority has no debt as of February 3, 2009. The Authority has operated, and intends to continue operating, with a positive fund balance.

Sincerely,

John Michicoff
Treasurer, Los Angeles Gateway Region IRWM JPA

cc:

EXHIBIT A

Received at RWG Law 2/3/2009 12:03:56 PM

RESOLUTION NO. 2009-02

A RESOLUTION OF THE BOARD OF DIRECTORS OF THE GATEWAY INTEGRATED REGIONAL WATER MANAGEMENT JOINT POWERS AUTHORITY APPROVING THE SUBMITTAL OF A FINANCIAL ASSISTANCE APPLICATION FOR THE CATCH BASIN RETROFIT PROJECT TO THE STATE WATER RESOURCES CONTROL BOARD AND AUTHORIZING THE BOARD CHAIR OR DESIGNEE TO SIGN AND FILE FOR A FINANCING AGREEMENT UNDER THE STATE REVOLVING LOAN PROGRAM.

WHEREAS, the Gateway Integrated Regional Water Management Joint Powers Authority (the "Gateway IRWM Authority") desires to finance the costs of constructing catch basin inserts for its members' storm drains tributary to the Los Angeles River (the "Project"); and

WHEREAS, the Gateway IRWM Authority intends to finance the construction and/or reconstruction of the Project or portions of the Project with moneys ("Project Funds") provided by the State of California, acting by and through the State Water Resources Control Board (State Water Board); and

WHEREAS, the State Water Board may fund the Project Funds with proceeds from the sale of obligations the interest upon which is excluded from gross income for federal income tax purposes (the "Obligations"); and

WHEREAS, the Gateway IRWM Authority has determined that those moneys to be advanced on and after the date hereof to pay the Expenditures are available only for a temporary period and it is necessary to reimburse the Gateway IRWM Authority from the proceeds of the Obligations;

NOW, THEREFORE, THE GATEWAY IRWM AUTHORITY DOES HEREBY RESOLVE, ORDER, AND DETERMINE AS FOLLOWS:

Section 1. The Chair or designee of the Gateway IRWM Authority is hereby authorized and directed to cause the necessary data to be prepared and investigations to be made in the name of Gateway IRWM Authority and is authorized to sign and file such application with the said State Water Resources Control Board.

Section 2. The Chair or designee of the Gateway IRWM Authority is hereby authorized to negotiate and execute a financial assistance agreement from the State Water Resources Control Board and any amendments or change orders thereto and certify financing agreement distributions on behalf of the Gateway IRWM Authority.

Section 3. The Chair or designee of the Gateway IRWM Authority is hereby authorized to execute the resultant grant or loan agreement and any amendments thereof for purpose of securing grant or loan funds not to exceed not to exceed $22,665,000.

14-1572

PASSED, APPROVED, and ADOPTED this 12th day of February 2009.

Gateway IRWM Authority Chair

ATTEST:

Gateway IRWM Authority Secretary

CERTIFICATION

I, Desi Alvarez, Secretary of the Los Angeles Gateway Region Integrated Regional Water Management Authority do hereby certify that the above Resolution No. 2009-02 was duly and regularly passed and adopted by the said Los Angeles Gateway Region Integrated Regional Water Management Authority at a regular meeting thereof held on 2-12-09.

Secretary

14-1673

State Water Board
Clean Water State Revolving Fund
Executed Agreements by County
All ARRA and CWSRF Funds since May 20, 2009

County	# of Executed Agreements	Total Project $	Applicant Name	Project Name
Alameda			California Sportfishing Protection Alliance	Suisun Creek Watershed Program
			City of Alameda	Installation of Mechanical Trash Racks at three Storm Water Pump Stations
			City of Oakland	Removal of Stormwater Pollutants at Lake Merritt and the Oakland Estuary
			City of Oakland	Rainwater Harvesting Program
			City of Piedmont	Sewer Rehabilitation Project
			Association of Bay Area Governments	Taking Action for Clean Water Bay Area TMDL Implementation
Total:	**6**	**$11,562,473**		
Amador			Amador Water Agency	Gayla Manor Leachfield Expansion Project
			Plymouth, City of	Plymouth Wastewater Treatment Plant Improvements-Phase 1, and Collection System Rehabilitation Project
Total:	**2**	**$2,617,612**		
Butte			City of Chico	City of Chico Water Pollution Control Plant Outfall Replacement Project, also known as Chico Water Pollution Control Plant Expansion (Phase 2)
			City of Chico	Big Chico Creek and Lindo Channel Floodplain, Wetland and Riparian Restoration
Total:	**2**	**$5,983,229**		
Calaveras			Angels, City of	Wastewater Improvement Project Phase III
			San Andreas Sanitary District	2008 Wastewater Treatment Plant Upgrade Project
Total:	**2**	**$13,948,296**		
Colusa			Community Alliance w/Family Farmers Foundation	BMP's for Reducing Sediment and Pesticides in runoff from Colusa County Almond Orchards
Total:	**1**	**$519,780**		
Contra Costa			Association of Bay Area Governments	El Cerrito Green Streets
			Delta Diablo Sanitation District	Antioch Recycled Water Project
Total:	**2**	**$6,797,136**		
Del Norte			Del Norte County Service Area No. 1	Sewer Collection System Rehabilitation Project
Total:	**1**	**$695,255**		
El Dorado			City of South Lake Tahoe	Al Tahoe Erosion Control Project 1
			City of South Lake Tahoe	Sierra Tract Erosion Control Project, Phase 1b
			Sierra Nevada Alliance	Evaluating Land Use Practices...
			Tahoe RCD	Lake Tahoe Watershed Improvement Project
Total:	**4**	**$4,849,618**		
Fresno			City of Kerman	Wastewater Treatment Plant Expansion and Upgrade
			City of Selma	Stormwater Projects
			Fresno, City of	Herndon Town and Cortland/Fountain Way Sewer System
			Fresno Metropolitan Flood Control District	Fresno Stormwater Collection, Treatment and Surface Water Recycling Project
Total:	**4**	**$15,768,167**		

State Water Board
Clean Water State Revolving Fund
Executed Agreements by County
All ARRA and CWSRF Funds since May 20, 2009

County	# of Executed Agreements	Total Project $	Applicant Name	Project Name
Humboldt			Cher-Ae Heights Indian Community of Trinidad Rancheria	Trinidad Harbor and Beach
			City of Rio Dell	Solids and Disinfection Management Project
			Garberville Sanitary District	Wastewater Treatment Plant Improvement and Inflow and Infiltration Reduction Project
			Humboldt County Resource Conservation District	Humboldt Agricultural Enhancement Program Phase 4
Total:	4	$7,048,595		
Imperial			City of Brawley	Wastewater Treatment Plant Upgrade Project
Total:	1	$25,400,000		
Kern			City of Delano	Wastewater Plant Upgrade and Expansion
			Wasco, City of	2009 Wastewater Centrifuge Project
Total:	2	$35,418,792		
Lake			Kelseyville County Waterworks District	Kelseyville Wastewater System Upgrade
Total:	1	$3,775,108		
Los Angeles			City of Hermosa Beach	Pier Avenue Improvement
			City of Hermosa Beach	Hermosa Strand Infiltration Trench
			City of Long Beach	Colorado Lagoon Beaches Restoration
		$540K	City of Long Beach	Los Angeles River VSS Unit
		$403K	City of Long Beach (Los Angeles River Trash Nets)	Los Angeles River Trash Nets
		$552K	City of Long Beach (Los Angeles River Trash SD)	Los Angeles River Trash Separation Device - SD13
			City of Los Angeles (Santa Monica Bay)	Santa Monica Bay Low Flow Diversions Upgrades
			City of Los Angeles Department of Public Works	Mar Vista Recreation Center Retrofit
			City of Malibu	Paradise Cove Storm Water Treatment System
			City of Redondo Beach	Alta Vista Park Diversion and Reuse Project
			City of Redondo Beach	Sapphire Storm Drain Low Flow Diversion
		$10M	Gateway IRWM Authority	Gateway IRWM Authority Storm Drain Catch Basin Retrofit Project
			Santa Monica Bay Restoration Foundation	Ballona Creek Low Impact Development (LID) Rain Gardens Project
Total:	13	$28,128,432		
Marin			Conservation Corps North Bay	Olema Creek Sediment Reduction Project
			Tomales Bay Watershed Council	Tomales Bay Wetlands Restoration/ Monitoring Plan
Total:	2	$1,194,097		
Mendocino			Covelo Community Services District	Wastewater Treatment Plant Improvement Project Phases 1&2
			Mendocino County Department of Transportation	Tomki Road Feasibility Study and Prototype Vented Low Water Crossing
Total:	2	$1,472,714		

State Water Board
Clean Water State Revolving Fund
Executed Agreements by County
All ARRA and CWSRF Funds since May 20, 2009

County	# of Executed Agreements	Total Project $	Applicant Name	Project Name
Merced			City of Merced	Wastewater Plant Upgrade and Expansion
Total:	**1**	**$34,980,632**		
Multiple			California Land Stewardship Institute	Fish Friendly Farming Program Agricultural Clean Water Implementation
			Pacific Coast Fish, Wildlife, and Wetlands Restoration Association	Redwood Creek Erosion Control
			Marin Resource Conservation District	Conserving Our Watersheds Ranch Water Quality Improvement Project
			Association of Bay Area Governements	Bay Area-Wide Trash Capture Demonstration Project
			American Rivers	Stormwater Management in the Yuba River
Total:	**5**	**$7,719,437**		
Napa			County of Napa	Napa River - Rutherford Reach Restoration
Total:	**1**	**$977,307**		
Orange			City of Mission Viejo	Oso Creek Restoration & Protection Project
			City of Anaheim	Public Utilities Pilot Infiltration Project
Total:	**2**	**$1,275,000**		
Placer			City of Colfax	Colfax Sewer Lift Station and Inflow and Infiltration Elimination Project
			Placer County	Kings Beach Watershed Improvement Project
			Tahoe RCD	Polaris Creek
Total:	**3**	**$6,847,090**		
Plumas			Plumas Corp.	Upper Middle Fork Feather River Complex
Total:	**1**	**$158,577**		
Riverside			Beaumont Cherry Valley Water District	Recycled Water Facilities
			Eastern Municipal Water District	Moreno Valley Regional Water Reclamation Facility - Secondary Clarifiers and Tertiart Treatment (SCATT)
			Eastern Municipal Water District	Moreno Valley Regional Water Reclamation Facility - Acid Phase Anaerobic Digestion (APAD)
			Western Municipal Water District (Chino)	Chino II Desalter Ultimate Expansion
			Western Riverside County Ag Coalition	Implementation of TMDL Agricultural Operator Voluntary Program with 2 BMPs implemented
Total:	**5**	**$105,380,882**		
San Bernardino			Big Bear Lake, City of	Rehabilitation of Lift Station 2 and 2A
			Big Bear Lake, City of	Tahoe Sewer Main Replacement
			Inland Empire Utilities Agency	Northeast Project Area Package 1- 1299E Recycled Water Pipeline
			Inland Empire Utilities Agency	Northeast Package Area 1 – 1630E Pump Station & 1299E Reservoir Projects
			Inland Empire Utilities Agency	Northeast Package Area 1 – 1630E Recycled Water Pipeline Project
			Inland Empire Utilities Agency	Northeast Package Area 1 – Church Street Lateral Project
			Inland Empire Utilities Agency	RP-1 Dewatering Facility Expansion Project
			Inland Empire Utilities Agency	Wells & Lysimeters Project
			Inland Empire Utilities Agency (Chino Creek)	Chino Creek Cleanup and Restoration

21-1976

State Water Board
Clean Water State Revolving Fund
Executed Agreements by County
All ARRA and CWSRF Funds since May 20, 2009

County	# of Executed Agreements	Total Project $	Applicant Name	Project Name
			Inland Empire Utilities Agency (Greater Prado Basin)	Greater Prado Basin Clean-Up & Restoration
			Inland Empire Utilities Agency (Magnolia Channel)	Magnolia Channel
Total:	11	$49,636,323		
San Diego			City of La Mesa	City of La Mesa Sewer System Improvement Project Phase IV
			Los Penasquitos Lagoon Foundation	Los Penasquitos Sedimentation Basin
			Mission Resource Conservation District	Arundo Control-San Luis Rey Watershed
			Regents of the U. of California	La Jolla Shores ASBS
Total:	4	$7,288,234		
San Francisco			Port of San Francisco (Pier 45)	Pier 45 Drainage Improvement/Herring Water Discharge
Total:	1	$1,548,645		
San Luis Obispo			Central Coast Agricultural Water Quality Coalition	Demonstrating Compatibility of Water Quality and Food Safety through Research and Implementation
			Central Coast Vineyard Team	Implementation of BMP's To Protect Water Quality
			The Foundation of Morro Bay	Implementation Effectiveness Assessment for the Morro Bay Watershed
Total:	3	$846,867		
San Mateo			City of Millbrae	Water Pollution Control Plant Renovations Project
			San Mateo County Resource Conservation District	Improving Water Quality in Coastal San Mateo County Watersheds
			Town of Hillsborough	Mobile Filtration System
Total:	3	$34,521,984		
Santa Barbara			City of Santa Barbara	Catch Basin Inlet Storm Drain Screens
			City of Santa Barbara	Upper Las Positas Creek Restoration & Storm Water Management Project
Total:	2	$3,441,585		
Santa Cruz			City of Santa Cruz	Dry Weather Diversion at San Lorenzo River Pump Stations 1b and 3
			County of Santa Cruz	Reducing Nonpoint Source (NPS) Sediment and Pesticide Pollution in County Road Maintenance Operations
			Resource Conservation District of Santa Cruz	Permit Coordination & Agricultural Water Quality Implementation Program in the Pajaro Watershed
			Resource Conservation District of Santa Cruz	Integrated Watershed Restoration Program Phase II
			Santa Cruz County Sanitation District (Aptos Beach)	Aptos Beach at Valencia Creek
			Santa Cruz County Sanitation District (Aptos Esplanade)	Aptos Esplanade
Total:	6	$2,983,979		
Shasta			Redding, City of	Clear Creek Wastewater Treatment Plant Expansion & Upgrade Bid Package 6
			Western Shasta Resource Conservation District	Integrated Ecosystem Improvements for Shasta County Watersheds
Total:	2	$18,967,985		

State Water Board
Clean Water State Revolving Fund
Executed Agreements by County
All ARRA and CWSRF Funds since May 20, 2009

County	# of Executed Agreements	Total Project $	Applicant Name	Project Name
Sierra			Truckee River Watershed Council	Perazzo Meadows Restoration
Total:	1	$373,153		
Sonoma			Gold Ridge Resource Conservation District	Estero Americano Sediment Reduction Project
			Gold Ridge Resource Conservation District	Estero Americano Rangeland Water Quality Enhancement Project
Total:	2	$886,941		
Stanislaus			City of Hughson	WWTP Upgrade and Expansion
Total:	1	$23,000,000		
Sutter			City of Live Oak	Live Oak Wastewater Treatment Plant 2007 Upgrade Project
Total:	1	$16,000,000		
Tulare			London Community Services District	Wastewater Facility Improvement Project
Total:	1	$1,137,200		
Ventura			City of Thousand Oaks	Stormwater Drainage Improvement
			Friends of the Santa Clara River	Hendrick Ranch Nature Area Wetland & Riparian Restoration
			Ventura County Service Area 34	El Rio Sewer Project, Phase 5B-5D
			Ventura County Waterworks District No. 16	Piru Wastewater Treatment Plant Design-Build Upgrade and Expansion Project
Total:	4	$33,882,060		
Yuba			Linda County Water District	Linda County Wastewater Treatment Plant Upgrade and Expansion Project
Total:	1	$54,304,000		
Total (All Projects):	110	$571,337,185		

Clean Water State Revolving Fund
American Recovery and Reinvestment Act
Status Report as of November 6, 2009

Project Number	Recipient	1511 Certification	Project Title	Total CWSRF Project $	$ Grants			$ Loans				Date to Applicant	Date Executed	Start Construction	County	Est'd Jobs
					Disadvantaged Communities Wastewater	Urban Stormwater	Stopped "Bond" Grants	Loan @ 1% (ARRA)	Loan @ 1% (reg. SRF)	Loan @ 0% (ARRA)	Base Loan @ 1/2 GO Bond Rate					
			Available:	$499,946,339	$91,092,885	$46,685,566	$44,210,758	$26,888,598	$231,068,532	$60,000,000	$100,000,000					
4242-110	City of Delano	1511 Certification	Wastewater Plant Upgrade and Expansion	$33,418,792	$2,000,000			$7,854,698	$23,564,094			---	5/22/09	1/16/09	Kern	40-60
5179-110	San Andreas Sanitary District	1511 Certification	2008 Wastewater Treatment Plant Upgrade Project	$10,575,496	$5,840,314				$4,735,182			5/22/09	5/27/09	5/29/09	Calaveras	30
6935-110	Gold Ridge Resource Conservation District	1511 Certification	Estero Americano Sediment Reduction Project	$219,491			$219,491					5/28/09	6/4/09	6/15/09	Sonoma	16-20
6936-110	Gold Ridge Resource Conservation District	1511 Certification	Estero Americano Rangeland Water Quality Enhancement Project	$667,450			$667,450					5/28/09	6/4/09	6/26/09	Sonoma	16-20
5017-110	City of Millbrae	1511 Certification	Water Pollution Control Plant Renovations Project	$34,000,000				$8,500,000	$25,500,000			5/26/09	6/5/09	10/14/09	San Mateo	70
4946-110	Ventura County Waterworks District No. 16	1511 Certification	Piru Wastewater Treatment Plant Design-Build Upgrade and Expansion Project	$14,109,542	$8,554,771				$5,554,771			5/29/09	6/5/09	4/3/09	Ventura	31
6917-110	Plumas Corp.	1511 Certification	Upper Middle Fork Feather River Complex	$158,577			$158,577					---	6/5/09	12/18/08	Plumas	16-20
6926-110	Tomales Bay Watershed Council	1511 Certification	Tomales Bay Wetlands Restoration/ Monitoring Plan	$799,629			$799,629					---	6/5/09	12/18/08	Marin	11-15
6944-110	Mendocino County Department of Transportation	1511 Certification	Tomki Road Feasibility Study and Prototype Vented Low Water Crossing	$149,450			$149,450					---	6/5/09	7/20/09	Mendocino	6-10
4682-110	City of Merced	1511 Certification	Wastewater Plant Upgrade and Expansion	$34,980,632	$2,000,000				$32,980,632			5/29/09	6/9/09	4/21/09	Merced	30-40
6970-110	City of Redondo Beach	1511 Certification	Sapphire Storm Drain Low Flow Diversion	$202,000			$202,000					6/4/09	6/10/09	*11/30/09*	Los Angeles	5
6915-110	Conservation Corps North Bay	1511 Certification	Olema Creek Sediment Reduction Project	$394,468			$394,468					5/29/09	6/12/09	7/13/09	Marin	21-30
6934-110	The Foundation of Morro Bay	1511 Certification	Implementation Effectiveness Assessment for the Morro Bay Watershed	$278,296			$278,296					6/5/09	6/12/09	5/17/09	San Luis Obispo	5
6918-110	City of Chico	1511 Certification	Big Chico Creek and Lindo Channel Floodplain, Wetland and Riparian Restoration	$561,109			$561,109					6/5/09	6/16/09	12/18/08	Butte	8
6906-110	Santa Cruz County Sanitation District (Aptos Esplanade)	1511 Certification	Aptos Esplanade	$485,136			$485,136					6/11/09	6/17/09	*11/1/09*	Santa Cruz	15
6946-110	Tahoe RCD	1511 Certification	Lake Tahoe Watershed Improvement Project	$1,478,057			$1,478,057					6/11/09	6/17/09	6/1/09	El Dorado	15
6942-110	Humboldt County Resource Conservation District	1511 Certification	Humboldt Agricultural Enhancement Program Phase 4	$180,000			$180,000					6/12/09	6/17/09	7/1/09	Humboldt	15
5332-110	Inland Empire Utilities Agency	1511 Certification	Wells & Lysimeters Project	$1,500,000				$375,000	$1,125,000			6/15/09	6/19/09	9/30/09	San Bernardino	10.5
4593-110	Kelseyville County Waterworks District	1511 Certification	Kelseyville Wastewater System Upgrade	$3,775,108	$1,775,108				$2,000,000			5/28/09	6/23/09	9/30/09	Lake	23-39
5100-110	Eastern Municipal Water District	1511 Certification	Moreno Valley Regional Water Reclamation Facility - Secondary Clarifiers and Tertiart Treatment (SCATT)	$38,362,890				$9,590,723	$28,772,167			5/28/09	6/23/09	5/8/09	Riverside	25
6951-110	City of Long Beach	1511 Certification	Colorado Lagoon Beaches Restoration	$3,202,977			$3,202,977					6/3/09	6/23/09	8/27/09	Los Angeles	10-15
6975-110	Mission Resource Conservation District	1511 Certification	Arundo Control-San Luis Rey Watershed	$294,746			$294,746					6/17/09	6/23/09	8/1/09	San Diego	16-20

Clean Water State Revolving Fund
American Recovery and Reinvestment Act
Status Report as of November 6, 2009

Project Number	Recipient	1511 Certification	Project Title	Total CWSRF Project $	Disadvantaged Communities Wastewater	Urban Stormwater	Stopped "Bond" Grants	Loan @ 1% (ARRA)	Loan @ 1% (reg. SRF)	Loan @ 0% (ARRA)	Base Loan @ 1/2 GO Bond Rate	Date to Applicant	Date Executed	Start Construction	County	Est'd Jobs
			Available:	**$499,946,339**	**$91,092,885**	**$46,685,566**	**$44,210,758**	**$26,888,598**	**$231,068,532**	**$60,000,000**	**$100,000,000**					
6962-110	City of Hermosa Beach	1511 Certification	Hermosa Strand Infiltration Trench	$950,850			$950,850					6/15/09	6/24/09	*10/31/09*	Los Angeles	10
6907-110	City of Los Angeles (Santa Monica Bay)	1511 Certification	Santa Monica Bay Low Flow Diversions Upgrades	$4,340,420			$4,340,420					6/11/09	6/25/09	7/6/09	Los Angeles	31-40
6950-110	Truckee River Watershed Council	1511 Certification	Perazzo Meadows Restoration	$373,153			$373,153					6/11/09	6/25/09	8/17/09	Sierra	15
6909-110	Santa Cruz County Sanitation District (Aptos Beach)	1511 Certification	Aptos Beach at Valencia Creek	$168,750			$168,750					6/17/09	6/25/09	*12/1/09*	Santa Cruz	15
6948-110	Sierra Nevada Alliance	1511 Certification	Evaluating Land Use Practices...	$196,561			$196,561					6/19/09	6/30/09	6/22/09	El Dorado	10
5176-110	Inland Empire Utilities Agency	1511 Certification	Northeast Project Area Package 1- 1299E Recycled Water Pipeline	$3,493,463					$318,621	$3,174,842		6/25/09	7/1/09	8/13/09	San Bernardino	76
5176-120	Inland Empire Utilities Agency	1511 Certification	Northeast Package Area 1 – 1630E Pump Station & 1299E Reservoir Projects	$5,789,720					$616,400	$5,173,320		6/25/09	7/1/09	8/13/09	San Bernardino	74
5176-130	Inland Empire Utilities Agency	1511 Certification	Northeast Package Area 1 – 1630E Recycled Water Pipeline Project	$5,658,239					$1,166,862	$4,491,377		6/25/09	7/1/09	8/13/09	San Bernardino	71
5176-140	Inland Empire Utilities Agency	1511 Certification	Northeast Package Area 1 – Church Street Lateral Project	$1,078,476					$50,462	$1,028,014		6/25/09	7/1/09	*10/17/09*	San Bernardino	11
6933-110	Central Coast Vineyard Team	1511 Certification	Implementation of BMP's To Protect Water Quality	$138,302			$138,302					6/10/09	7/6/09	5/15/09	San Luis Obispo	5
6902-110	Regents of the U. of California	1511 Certification	La Jolla Shores ASBS	$2,644,400			$2,644,400					6/12/09	7/6/09	8/3/09	San Diego	21-30
6971-110	City of Long Beach	1511 Certification	Los Angeles River VSS Unit	$539,634			$539,634					6/23/09	7/6/09	*12/31/09*	Los Angeles	10
6923-110	Western Shasta Resource Conservation District	1511 Certification	Integrated Ecosystem Improvements for Shasta County Watersheds	$102,985			$102,985					6/23/09	7/8/09	7/28/09	Shasta	5
5150-110	City of Kerman	1511 Certification	Wastewater Treatment Plant Expansion and Upgrade	$6,957,479	$2,000,000				$4,957,479			6/25/09	7/8/09	10/6/09	Fresno	25
5177-110	Delta Diablo Sanitation District	1511 Certification	Antioch Recycled Water Project	$6,405,136					$495,090	$5,910,046		6/29/09	7/8/09	7/29/09	Contra Costa	60
6956-110	Inland Empire Utilities Agency (Magnolia Channel)	1511 Certification	Magnolia Channel	$773,045			$773,045					6/8/09	7/13/09	10/28/09	San Bernardino	21-30
6973-110	Cher-Ae Heights Indian Community of Trinidad Rancheria	1511 Certification	Trinidad Harbor and Beach	$1,662,708			$1,662,708					6/17/09	7/13/09	*12/31/09*	Humboldt	10
6963-110	City of Long Beach (Los Angeles River Trash Nets)	1511 Certification	Los Angeles River Trash Nets	$403,200			$403,200					6/23/09	7/13/09	*10/31/09*	Los Angeles	10
6972-110	City of Long Beach (Los Angeles River Trash SD)	1511 Certification	Los Angeles River Trash Separation Device - SD13	$551,845			$551,845					6/23/09	7/13/09	*12/31/09*	Los Angeles	10
6949-110	Tahoe RCD	1511 Certification	Polaris Creek	$220,090			$220,090					6/24/09	7/13/09	9/10/09	Placer	15
5157-110	Beaumont Cherry Valley Water District	1511 Certification	Recycled Water Facilities	$16,108,100					$745,600	$15,362,500		6/25/09	7/13/09	9/2/09	Riverside	66
6913-110	City of Santa Cruz	1511 Certification	Dry Weather Diversion at San Lorenzo River Pump Stations 1b and 3	$489,308			$489,308					6/29/09	7/13/09	*8/31/09*	Santa Cruz	10
6927-110	Central Coast Agricultural Water Quality Coalition	1511 Certification	Demonstrating Compatibility of Water Quality and Food Safety through Research and Implementation	$430,269			$430,269					6/29/09	7/13/09	5/17/09	San Luis Obispo	5

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			Available:	**$499,946,339**	**$91,092,885**	**$46,685,566**	**$44,210,758**	**$26,888,598**	**$231,068,532**	**$60,000,000**	**$100,000,000**					
6964-110	City of Los Angeles Department of Public Works	1511 Certification	Mar Vista Recreation Center Retrofit	$1,766,568			$1,766,568					---	7/13/09	5/11/09	Los Angeles	10
6932-110	Resource Conservation District of Santa Cruz	1511 Certification	Integrated Watershed Restoration Program Phase II	$1,378,774			$1,378,774					6/29/09	7/16/09	5/17/09	Santa Cruz	51-100
6952-110	Western Riverside County Ag Coalition	1511 Certification	Implementation of TMDL Agricultural Operator Voluntary Program with 2 BMPs implemented	$115,153			$115,153					6/29/09	7/16/09	12/18/08	Riverside	21-30
6930-110	County of Santa Cruz	1511 Certification	Reducing Nonpoint Source (NPS) Sediment and Pesticide Pollution in County Road Maintenance Operations	$287,532			$287,532					7/7/09	7/16/09	5/17/09	Santa Cruz	15
6931-110	Resource Conservation District of Santa Cruz	1511 Certification	Permit Coordination & Agricultural Water Quality Implementation Program in the Pajaro Watershed	$174,479			$174,479					7/9/09	7/16/09	5/17/09	Santa Cruz	15
4997-120	City of Chico	1511 Certification	City of Chico Water Pollution Control Plant Outfall Replacement Project, also known as Chico Water Pollution Control Plant Expansion (Phase 2)	$5,422,120	$2,000,000				$3,422,120			7/13/09	7/16/09	6/23/09	Butte	8
4502-110	City of Brawley	1511 Certification	Wastewater Treatment Plant Upgrade Project	$25,400,000	$10,000,000				$15,400,000			6/5/09	7/21/09	*11/30/09*	Imperial	50
6940-110	Pacific Coast Fish, Wildlife, and Wetlands Restoration Association	1511 Certification	Redwood Creek Erosion Control	$1,417,318			$1,417,318					6/25/09	7/21/09	8/17/09	Multiple Counties	10
6924-110	County of Napa	1511 Certification	Napa River - Rutherford Reach Restoration	$977,307			$977,307					7/7/09	7/27/09	8/5/09	Napa	10
6974-110	Los Penasquitos Lagoon Foundation	1511 Certification	Los Penasquitos Sedimentation Basin	$972,166			$972,166					6/30/09	7/29/09	6/6/09	San Diego	31-40
6922-110	Marin Resource Conservation District	1511 Certification	Conserving Our Watersheds Ranch Water Quality Improvement Project	$564,577			$564,577					7/22/09	8/3/09	9/1/09	Mutiple Counties	21-30
6925-110	California Land Stewardship Institute	1511 Certification	Fish Friendly Farming Program Agricultural Clean Water Implementation	$362,542			$362,542					7/22/09	8/3/09	8/31/09	Multimple	10
6969-110	City of Malibu	1511 Certification	Paradise Cove Storm Water Treatment System	$816,276			$816,276					7/23/09	8/3/09	9/21/09	Los Angeles	21
5042-110	City of Live Oak	1511 Certification	Live Oak Wastewater Treatment Plant 2007 Upgrade Project	$16,000,000	$10,000,000				$6,000,000			7/29/09	8/4/09	9/25/09	Sutter	45
6954-110	Western Municipal Water District (Chino)	1511 Certification	Chino II Desalter Ultimate Expansion	$4,479,326			$4,479,326					8/4/09	8/12/09	*10/31/09*	Riverside	16-20
4926-110	Garberville Sanitary District	1511 Certification	Wastewater Treatment Plant Improvement and Inflow and Infiltration Reduction Project	$2,951,173	$2,951,173							7/28/09	8/13/09	*11/2/09*	Humboldt	29
5098-110	Linda County Water District	1511 Certification	Linda County Wastewater Treatment Plant Upgrade and Expansion Project	$54,304,000	$10,000,000				$44,304,000			7/31/09	8/13/09	*11/15/09*	Yuba	30
4922-110	City of Rio Dell	1511 Certification	Solids and Disinfection Management Project	$2,254,714	$2,254,714							8/10/09	8/17/09	*11/16/09*	Humboldt	4.5
6947-110	Port of San Francisco (Pier 45)	1511 Certification	Pier 45 Drainage Improvement/Herring Water Discharge	$1,548,645			$1,548,645					7/3/09	8/19/09	8/31/09	San Francisco	15
6966-110	Friends of the Santa Clara River	1511 Certification	Hendrick Ranch Nature Area Wetland & Riparian Restoration	$165,018			$165,018					7/23/09	8/19/09	*12/1/09*	Ventura	20
6202-110	City of Santa Barbara	1511 Certification	Catch Basin Inlet Storm Drain Screens	$1,789,388		$1,789,388						8/6/09	8/19/09	7/13/09	Santa Barbara	41

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			Available:	$499,946,339	$91,092,885	$46,685,565	$44,210,758	$26,888,598	$231,068,532	$60,000,000	$100,000,000					
6207-110	City of Santa Barbara	1511 Certification	Upper Las Positas Creek Restoration & Storm Water Management Project	$1,652,197		$1,652,197						8/13/09	8/19/09	7/28/09	Santa Barbara	30
6921-110	Association of Bay Area Governments	1511 Certification	Taking Action for Clean Water Bay Area TMDL Implementation	$1,801,010			$1,801,010					8/4/09	8/20/09	8/25/09	Alameda	16-20
5327-110	Inland Empire Utilities Agency	1511 Certification	RP-1 Dewatering Facility Expansion Project	$27,579,000					$17,220,500	$10,358,500		7/30/09	8/25/09	*11/23/09*	San Bernardino	193
6199-110	City of Oakland	1511 Certification	Removal of Stormwater Pollutants at Lake Merritt and the Oakland Estuary	$3,450,000		$3,450,000						8/19/09	8/25/09	*11/30/09*	Alameda	74
6919-110	Community Alliance w/Family Farmers Foundation	1511 Certification	BMP's for Reducing Sediment and Pesticides in runoff from Colusa County Almond Orchards	$519,780			$519,780					8/11/09	8/26/09	8/28/09	Colusa	15-20
6920-110	San Mateo County Resource Conservation District	1511 Certification	Improving Water Quality in Coastal San Mateo County Watersheds	$221,984			$221,984					8/4/09	8/27/09	*10/31/09*	San Mateo	10
5063-110	Wasco, City of	1511 Certification	2009 Wastewater Centrifuge Project	$2,000,000	$2,000,000							8/26/09	8/28/09	*10/30/09*	Kern	5
6914-110	California Sportfishing Protection Alliance	1511 Certification	Suisun Creek Watershed Program	$89,963			$89,963					7/22/09	9/1/09	*12/1/09*	Alameda	15
6439-110	Gateway IRWM Authority	1511 Certification	Gateway IRWM Authority Storm Drain Catch Basin Retrofit Project	$10,000,000		$10,000,000						8/17/09	9/1/09	*11/1/09*	Los Angeles	100
6959-110	Inland Empire Utilities Agency (Greater Prado Basin)	1511 Certification	Greater Prado Basin Clean-Up & Restoration	$298,244			$298,244					8/12/09	9/8/09	10/21/09	San Bernardino	21-30
5139-110	City of Hughson	1511 Certification	WWTP Upgrade and Expansion	$23,000,000					$23,000,000			7/30/09	9/10/09	*10/1/09*	Stanislaus	150
5311-110	Eastern Municipal Water District	1511 Certification	Moreno Valley Regional Water Reclamation Facility - Acid Phase Anaerobic Digestion (APAD)	$46,315,413						$10,358,500	$35,956,913	8/11/09	9/15/09	7/2/09	Riverside	30
4729-140	City of La Mesa	1511 Certification	City of La Mesa Sewer System Improvement Project Phase IV	$3,376,922					$3,376,922			8/28/09	9/15/09	7/13/09	San Diego	24
5675-110	London Community Services District	1511 Certification	Wastewater Facility Improvement Project	$1,137,200	$1,137,200							9/16/09	9/17/09	*1/22/10*	Tulare	21
6302-110	City of South Lake Tahoe	1511 Certification	Sierra Tract Erosion Control Project, Phase 1b	$1,675,000		$1,675,000						9/15/09	9/21/09	9/1/09	El Dorado	47
6443-110	City of Oakland	1511 Certification	Rainwater Harvesting Program	$1,300,000		$1,300,000						9/15/09	9/22/09	*11/15/09*	Alameda	74
6430-110	Placer County	1511 Certification	Kings Beach Watershed Improvement Project	$3,000,000		$3,000,000						9/23/09	9/25/09	*10/30/09*	Placer	25
6960-110	Inland Empire Utilities Agency (Chino Creek)	1511 Certification	Chino Creek Cleanup and Restoration	$1,471,491			$1,471,491					9/15/09	9/28/09	10/21/09	San Bernardino	21-30
6109-110	City of South Lake Tahoe	1511 Certification	Al Tahoe Erosion Control Project 1	$1,500,000		$1,500,000						9/24/09	9/28/09	9/8/09	El Dorado	20
4456-120	Plymouth, City of	1511 Certification	Plymouth Wastewater Treatment Plant Improvements-Phase 1, and Collection System Rehabilitation Project	$2,250,000	$2,250,000							----	9/28/09	*1/18/10*	Amador	11
6320-110	Town of Hillsborough	1511 Certification	Mobile Filtration System	$300,000		$300,000						9/23/09	9/29/09	*11/30/09*	San Mateo	10
6420-110	City of Thousand Oaks	1511 Certification	Stormwater Drainage Improvement	$907,500		$907,500						9/25/09	9/29/09	*11/1/09*	Ventura	20
4965-110	Amador Water Agency	1511 Certification	Gayla Manor Leachfield Expansion Project	$367,612	$367,612							9/25/09	9/29/09	*11/17/09*	Amador	5

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			Available:	$499,946,339	$91,092,885	$46,685,566	$44,210,758	$26,888,598	$231,068,532	$60,000,000	$100,000,000					
4971-250	Redding, City of	1511 Certification	Clear Creek Wastewater Treatment Plant Expansion & Upgrade Bid Package 6	$18,865,000	$2,000,000						$16,865,000	9/25/09	9/29/09	*1/15/10*	Shasta	30-40
7034-110	Del Norte County Service Area No. 1	1511 Certification	Sewer Collection System Rehabilitation Project	$695,255	$695,255							9/25/09	9/30/09	*2/1/10*	Del Norte	30
4680-120	Ventura County Service Area 34	1511 Certification	El Rio Sewer Project, Phase 5B-5D	$18,700,000	$10,000,000				$8,700,000			9/28/09	9/30/09	*11/30/09*	Ventura	26
5706-110	Angels, City of	1511 Certification	Wastewater Improvement Project Phase III	$3,372,800	$3,086,400				$286,400			9/28/09	9/30/09	9/22/09	Calaveras	20
5554-110	Covelo Community Services District	1511 Certification	Wastewater Treatment Plant Improvement Project Phases 1&2	$1,323,264	$1,323,264							9/29/09	9/30/09	*12/31/09*	Mendocino	28
5948-110	Big Bear Lake, City of	1511 Certification	Tahoe Sewer Main Replacement	$1,285,700	$1,285,700							9/29/09	9/30/09	*1/18/10*	San Bernardino	30
5710-110	Big Bear Lake, City of	1511 Certification	Rehabilitation of Lift Station 2 and 2A	$708,945	$708,945							9/29/09	9/30/09	*1/4/10*	San Bernardino	15
5379-110	Fresno, City of	1511 Certification	Herndon Town and Cortland/Fountain Way Sewer System	$999,468	$999,468							9/29/09	9/30/09	*21/10*	Fresno	20
4655-140	City of Piedmont	1511 Certification	Sewer Rehabilitation Project	$4,171,500				$568,177	$3,603,323			9/24/09	10/1/09	*1/14/10*	Alameda	10
6117-110	City of Alameda	1511 Certification	Installation of Mechanical Trash Racks at three Storm Water Pump Stations	$750,000		$750,000						9/25/09	10/1/09	*11/30/09*	Alameda	9
6440-110	Association of Bay Area Governments	1511 Certification	El Cerrito Green Streets	$392,000		$392,000						9/28/09	10/6/09	10/13/09	Contra Costa	20
6444-110	City of Redondo Beach	1511 Certification	Alta Vista Park Diversion and Reuse Project	$2,200,000		$2,200,000						9/29/09	10/6/09	*1/15/10*	Los Angeles	15
5385-110	City of Colfax	1511 Certification	Colfax Sewer Lift Station and Inflow and Infiltration Elimination Project	$3,627,000	$3,627,000							9/30/09	10/6/09	*1/20/10*	Placer	20
6166-110	City of Selma	1511 Certification	Stormwater Projects	$3,918,620		$3,918,620						10/1/09	10/6/09	*11/30/09*	Fresno	20
6135-110	City of Hermosa Beach	1511 Certification	Pier Avenue Improvement	$1,265,000		$1,265,000						9/29/09	10/12/09	*2/1/10*	Los Angeles	96
6418-110	City of Mission Viejo	1511 Certification	Oso Creek Restoration & Protection Project	$1,045,000		$1,045,000						10/1/09	10/12/09	*11/1/09*	Orange	5
6431-110	City of Anaheim	1511 Certification	Public Utilities Pilot Infiltration Project	$230,000		$230,000						9/30/09	10/14/09	9/30/09	Orange	2
6441-110	Association of Bay Area Governments	1511 Certification	Bay Area-Wide Trash Capture Demonstration Project	$5,000,000		$5,000,000						9/25/09	10/15/09	*11/1/09*	Multiple	75
6222-110	Santa Monica Bay Restoration Foundation	1512 Certification	Ballona Creek Low Impact Development (LID) Rain Gardens Project	$1,889,662		$1,889,662						10/1/09	10/19/09	*12/14/09*	Los Angeles	28
6433-110	American Rivers	1511 Certification	Stormwater Management in the Yuba River	$375,000		$375,000						9/30/09	10/20/09	*12/1/09*	Multiple	27
6350-110	Fresno Metropolitan Flood Control District	1511 Certification	Fresno Stormwater Collection, Treatment and Surface Water Recycling Project	$3,892,600		$3,892,600						9/25/09	10/26/09	*11/19/09*	Fresno	45
6500-110	Literacy for Environmental Justice (EcoCenter)	1511 Certification	EcoCenter at Heron's Head Park	$350,160		$350,160						9/30/09	10/29/09	*11/30/09*	San Francisco	35
4831-110	Santa Cruz County Sanitation District	1511 Certification	Aptos Transmission Main Relocation Project	$16,725,699			$1,725,699				$15,000,000	10/21/09	10/30/09	*12/11/09*	Santa Cruz	16-20
			Total Executed:	**$588,413,044**	**$88,856,924**	**$46,882,127**	**$44,210,758**	**$26,888,598**	**$257,895,625**	**$55,857,099**	**$67,821,913**					

TUESDAY, NOVEMBER 24, 2009

Los Angeles Times

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latimes

Constant threat shadows Marines

Dealing with bombs planted by the Taliban is made even more difficult by the need to protect civilians.

TONY PERRY
REPORTING FROM
NAWA, AFGHANISTAN

A long, dusty road under a bright blue Afghan sky. To the left, a stagnant irrigation canal; to the right, drying cornfields. Marines from Charlie Company walk slowly, eyes fixed on the dirt, the drainage culverts, the weeds, the mud houses.

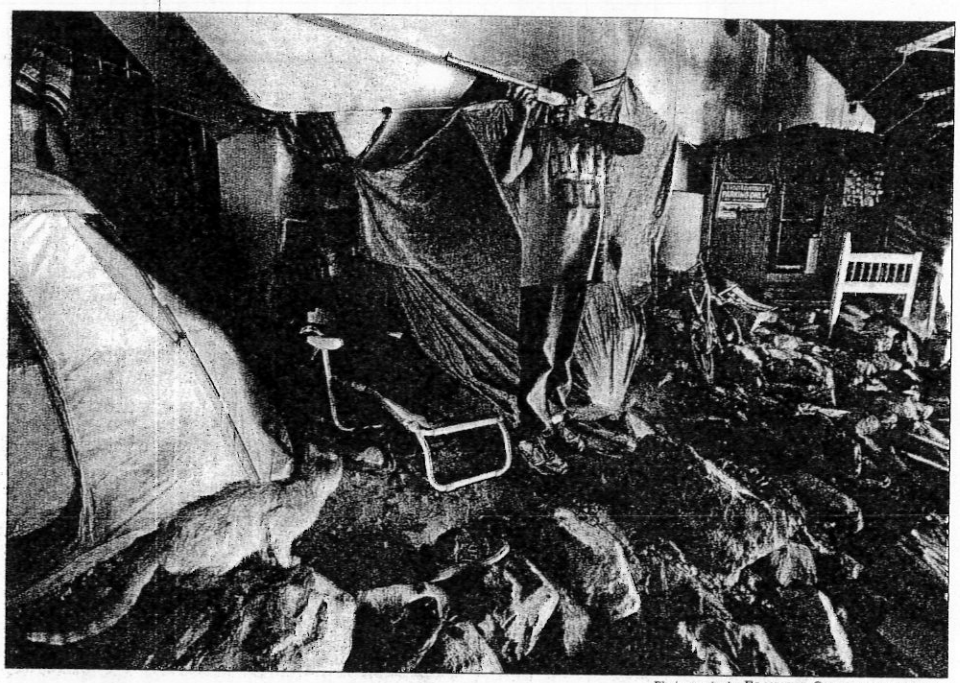
Suddenly, at the front of the column, a metal detector in the hands of a young lance corporal begins to buzz.

Staff Sgt. Sam McDaniel moves quickly into place, gently probing the ground for evidence of a buried bomb, by far the No. 1 killer of U.S. forces in Afghanistan — and responsible for three of the four American deaths reported Sunday and Monday.

It is part of a cat-and-mouse game repeated countless times here in the insurgent stronghold of Helmand province and across the country. Route clearance teams, alert for constantly shifting tactics, comb the roads by day. Searches also uncover small stashes of ammonium nitrate fertilizer, the main bomb-making ingredient. At night, Marines using night-vision goggles and sniper rifles, and given shoot-to-kill orders, watch for insurgents burying the bombs.

Almost 300 U.S. military personnel have been killed in Afghanistan this year. An estimated 70% to 80% of the deaths are attributed to IEDs, the shorthand for improvised explosive devices. Of the four Marines from the 1st Battalion, 5th Regiment, killed here,

[See Afghanistan, Page A18]



Photographs by FRANCINE ORR Los Angeles Times

AN INVISIBLE CITY: A man known as "Raven" shoots at pigeons at his camp under the 7th Street Bridge next to the L.A. River in Long Beach. His days are spent reading and working on his bike.

COLUMN ONE

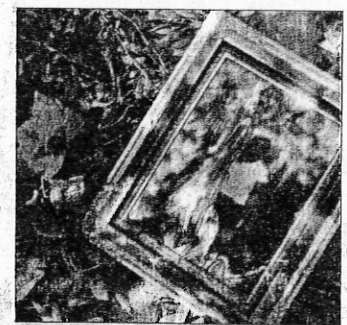
Where fear has set up camp

For residents along a stretch of the L.A. River, the shooting of five people a year ago made a perilous place feel even more so.

CHRISTOPHER GOFFARD

After the killings, the people on the river slept with their knives closer. They leashed guard dogs outside their tents and cardboard lean-tos. They listened for strangers' footsteps above the thrum of traffic on the bridges overhead. They got used to the sight of police stepping carefully along the big white rocks of the embankment. Below, in its concrete jacket, the dirty river crawled.

Violence is common and often unreported along the 51-mile Los Angeles River, daytime haunt of the occasional jogger and bird-watcher and in many parts a lawless no-man's-land populated by hard-core addicts, the mentally ill and uncountable others, broke or hiding. But what happened last November made an already fearful place feel more perilous still.



REMINDER: Plastic flowers, a candle and a photo mark where three men and two women were gunned down a few miles from the river's final curve into Long Beach Harbor.

Someone gunned down three men and two women in a homeless encampment a few miles from the river's final southern curve into Long Beach Harbor. Hidden by bottlebrush trees along the Santa Fe Avenue off-ramp of the 405 Freeway, it was a cave-like spot with a single entrance — a narrow footpath along a chain-like fence — and a reputation as a drug den.

Police suspect the shooter came to punish a drug debtor and turned the gun on everyone to eliminate witnesses. Two things made it personal for river residents: One of the victims, 24-year-old Katherine Verdun, was a familiar face. And many under-

[See Camp, Page A20]

14-1684

Best answer to state's ter woes may be you

U.S. S 8 LUI SOM TERF RECR

Elders in M sent youths an Al Qaed militia, fede authorities

JOSH ER
REP ROM

Federal au sealed criminal day against eigl leged to be par cruiting netwo young men to fi — one of the l operations unc country since th terrorist attacks

The court d closed how son bers of the Sor community in M believed to have ones to fight i some as suicid with an Al Q group known as "The Youth."

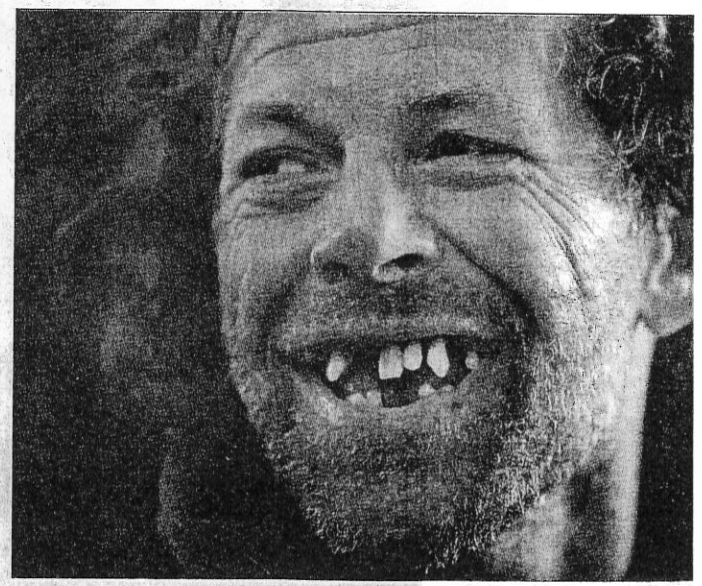
The charges i ing financial su ers who traveled tending Al Sh camps and figh group against th transitional gove as well as agai government forc Union troops.

The recruitm people from Mi other U.S. com been the focus of tigation for m said David Kris, attorney general security.

The new cha number of men a nection th the sota ever disclo efenc lieved to be outsi States.

At least 20 m of Somali descen to have left the area and travele between Septem October 2009,

RESIDENT: Ron Skaggs, 60, has been homeless for 38 years and is illiterate. It's cold under the bridge, so he sits on the rocks to get wa



IN HIS ELEMENT: John Lackey, 42, says he's an addict and doesn'

14-1585

ROUTINE: Jolene Musgrove, 51, an ex-carny who goes by "Mama Jo," cooks breakfast amid the garbage under the 7th Street Bridge. She knew one of the homicide victims, and the kill

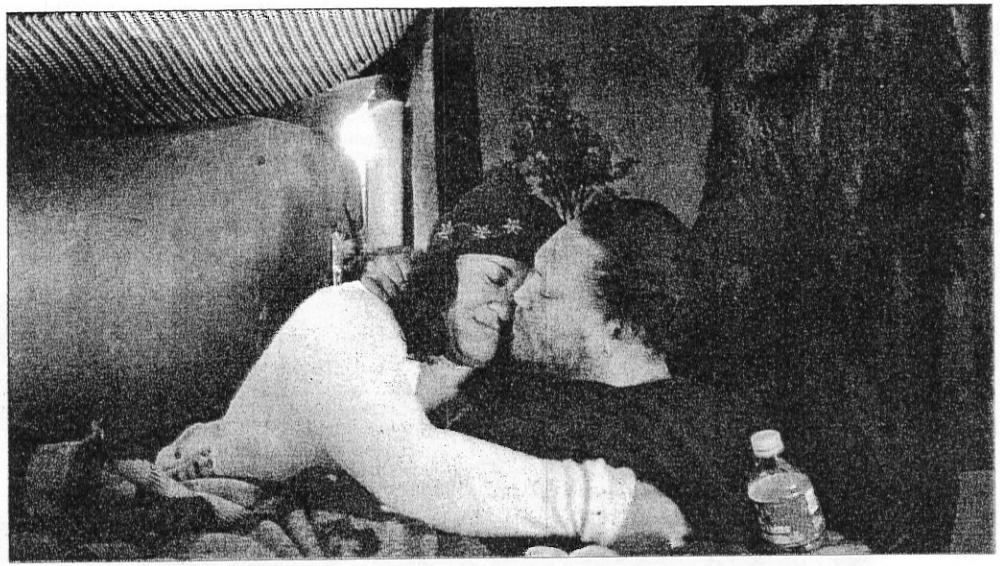
Along a hardscrabble stretch o

[Camp, from Page A1]
stood how easily it could have been them.

For weeks, police who usually avoid the river were searching its banks, looking for witnesses, waiting for someone with information to claim a $20,000 reward. A year later, police are waiting still.

"You've got five people that were killed and no one came forward. That's unheard of," said Long Beach Police Det. Mark McGuire. "That community is terrified still. There's no way to get through to them yet, even with the reward."

McGuire calls it among the toughest cases he's worked in nearly 10 years in homicide, owing to "the nature of the victims" — most were homeless — and to their transient circumstances. Attempting to track down witnesses is to confront an ever-changing cast. On the river, McGuire said, "it's never the same person twice. Nobody knows who's who, who's coming or who's going."



COMFORT: Lima Mailoto, 35, left, and her boyfriend, "Big Red," snuggle in their camp in March. Mailoto said she lived on the river about four years until her family was finally able to persuade her to return home.

The river, which once supplied a nascent metropolis with drinking water, is now a gargantuan drainage trench, built by the Army Corps of Engineers after a deadly 1938 flood. It begins behind Canoga Park High School and snakes under a network of bridges and freeways through the heart of Los Angeles.

Like other rivers, its personality changes as it bends and coils, trickling here, rippling there. In places, where the accumulated trash isn't too thick, it's almost picturesque, full of elderberries and willows, alders and sycamores. Visitors can spot hawks, egrets and schools of carp, and stroll in adjacent mini-parks.

On the mental topography of Southern California, it remains mostly a blank spot, a terra incognita glimpsed from an overpass and in-

ficial maps.

Under the 7th Street Bridge in Long Beach, where a dozen or more people can be found living in the garbage-heaped shade between the pylons, the population obeys the rhythms of any flophouse.

There are relationships of convenience and survival, alliances made and broken, betrayals, sudden, violent spats — a methamphetamine-fueled soap opera with an ever-changing gallery of prematurely haggard faces.

" 'As the World Turns' on the Los Angeles River," said Jolene Musgrove, a former carnival worker who goes by "Mama Jo" and looks at least a decade older than her 51 years. She's lived on their scavenged-wood shelter a tropical feel, hanging the facade with wooden mats and seashells. "I got two exhusbands living on the river too."

Musgrove, who survives on food stamps and a general-relief check, said she knew Verdun, one of the homicide victims, and the killings scared her off the river. She stayed with her son in Long Beach for a week before returning. "Nowhere else to go," she explained. Decades back, she said, the river was a kinder place.

"I used to know who everyone was and where they were," she said. "It has gotten a lot meaner. People are more ruthless."

The bridge, about six miles south

garbage. Although Musgrove has lived in many spots along the river, she feels safest under the bridge — a place where church groups deliver meals twice a week, and where "everybody cares about everybody, and they take care of each other."

Among the river's jerry-built villages, it's a common mantra: We take care of each other. Just as common is the remark that no one around here can be trusted.

All the talk of "community" is a joke, said Mike Ducret, who is in his mid-40s, corpulent and blind in one eye, a loner who lives on the rocks a couple of miles north of the bridge. He avoids the encampments and their

pearance to hunt for food from city trash bins in the daytime. "I'm dirty and nasty," he said. "I'm more of a vampire now." He tries to stay hidden from teenager taggers who throw rocks at him. He owns a filthy futon, paperback novels and a tiny radio that brought him news of the slayings last November. He knows that even these few possessions will be stolen if he leaves them unguarded for a few minutes.

Nearby lives Sarah Lomeli, an Arkansas woman in her mid-40s who said she keeps a machete or a Louisville Slugger close by and is terrified when her husband, Omar, wanders from their camp on the eastern bank. "I cry every day," she said. "I hate being scared all the time."

Sandra Lopez, a woman in her mid-50s, lives on the opposite bank and said she doesn't take her medication for manic-depression because she likes to stay alert. "It's like 'Wild Kingdom' out here. . . . I sleep with pepper spray, knives, clubs. I'm ready," she said. "Because of the murders, we don't want strangers down here."

For months after the killings, Merle Megee, a Long Beach cop whose beat is the homeless, frequented the river and nearby missions and soup kitchens, looking for answers, sifting through rumors. One of the victims had Megee's business card in his pocket.

There's no authoritative census of the river, which runs through more than a dozen cities, but Megee estimates the Long Beach portion probably has 150 to 200 people.

"They don't want to be seen, they don't want to be found. If I went down to the river and ran their rap sheets and really looked at their backgrounds, I'd probably pass out," Megee said. "These are the people that have fallen through the cracks, that

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river, a current of fear remains

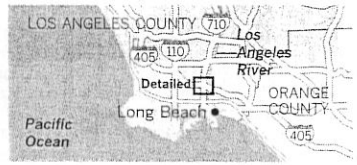
the danger. "There's no pay phone. Nobody's going to hear you scream. It's like breaking down on the way to Las Vegas," he said. "If there's a stabbing out there, we may or may not hear about it."

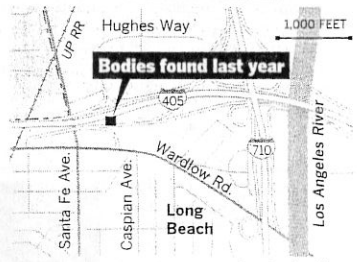
Dangerous as the river might be, the rumor mill operating along its banks tends to exaggerate the violence. It's widely believed, for instance, that one man recently died there because someone smashed in his head, but Megee said a likelier scenario is that he got drunk and fell on the rocks. "It's not murderers' row. It might be dopers' row."

For its denizens, part of the river's reputation stems from its role as the dumping ground of a vast metropolis. Almost everyone who has lived there for long claims to have seen a body or two in the water.

Earlier this year, it became personal for Megee. He said a childhood friend who fell into a drug habit was slain in his Hawaiian Gardens apartment and thrown into the river. Weeks later, his body was found against a metal grate in north Long Beach.

NEIGHBORS: Mel Hunter, 40, left, talks with Musgrove, who survives on food stamps and a general-relief check. The river used to be a kinder place, she said. "It has gotten a lot meaner. People are more ruthless."





Los Angeles Times

In the winter, the wind hurts this close to the Pacific. On a chilly morning not long after the killings, Priscilla Gribble, 29, was climbing out of the tent she shared with her boyfriend, Aaron "Droopy" Martinez, 33, under the northernmost pillar of the 7th Street Bridge. "After all that's happened, I don't sleep alone," she said.

Gribble's demeanor goes from welcoming to ferocious "in 2.5 seconds," she conceded, depending on the perceived threat. She described herself as a former Red Lobster cook who was struggling to stay off heroin and has school-age kids living in the city with their father. She had been at the river for more than a year.

"I've been to the ballet. I've seen 'The Nutcracker.' I know that there's more t[illegible]han there is out here," she said. "[illegible] want to die out here."

Her boyfriend described himself as a former gangbanger and longshoreman who does meth — "but not all the way," taking pains to distinguish himself from the hopeless addicts he believes have ruined the river. The drug gave him energy for his chores, he said, like foraging for spare tent poles and gathering cardboard for campfires — the better to please Priscilla, his "headstrong, independent woman."

After the killings, it was a comfort to have a Doberman and a chow at the camp. "We grew a lot smarter; we have dogs now," Martinez said. Also, a mirror hung outside their tent so they could see who was approaching from behind. He made it a point, when strangers entered the camp, to give them some marijuana and strong liquor, in the belief that it would reveal their true nature. "I'm trying to make this bridge be a family bridge," he said.

Methamphetamine filled him with big plans. He spoke excitedly of rigging up another layer of security. He would bury plastic bottles under the dirt so he could hear the crunch of approaching footsteps. Piles of debris spoke of a dozen projects, begun in a frenzy and then abandoned.

At the next pillar over, Patrick O'Keefe, 41, who described himself as a former punk rocker and doorman, was flying a pirate flag from his tent. He hated the concept of working all the time "to live in someone's stupid little apartment."

Here, he could do all his laundry for a buck fifty at a local laundromat and get a hot shower at the nearby Multi-Service Cent[illegible]. The "bunkies," or camp mates, [illegible]d food stamps, and just last night [illegible]y barbecued steaks. "One guy had vodka. Someone's got the weed," he said. "That's what I love about this — a little community feeling."

Gathering planks to undergird his tent, O'Keefe rhapsodized about the romance of life on the river. "I'm building my own home, like I was out on the Oregon Trail," he said. "I'm the alpha male. I live by the river. How many live by the river? Like the Mississippi River. Indian tribes, all the way back."

Still, O'Keefe said, you couldn't let your guard down around so many meth addicts, known as "tweakers." "Don't ever look at me sideways, or I'll snap your neck and throw you down on the rocks," he said. "People know me as a sensitive, intelligent person. An artist. At the same time, I can be somebody who can snap your head in an instant."

Steve Hrenak, an employee of Mental Health America, a nonprofit that helps the homeless mentally ill, was handing out sack lunches. He considered O'Keefe's bluster. "He's the most scared person out here," he said. "He's not used to living this way."

O'Keefe's stay at the camp would be brief. About a week later, by Martinez's account, O'Keefe got drunk and tossed Martinez's trash can onto the rocks, and Martinez, also drunk, retaliated by flinging O'Keefe's tent planks into the river, and O'Keefe, furious, cold-cocked Martinez and screamed, "You stole my home!"

Within weeks, Martinez was gone too, and Gribble was displaying a bruise on her arm. "I still have feelings for him," she said, but "I don't want to be floating in the pier." The notion that she would report the incident was laughable. "Why would I go to the cops?"

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