11.0 WATER QUALITY MONITORING PROGRAM

11.1 Introduction

In response to the First Term Permits (1990-1995), the Permittees developed and implemented a water quality monitoring program to aid in the detection and control of illicit connections and illegal discharges to the municipal storm drain systems and to meet other program performance objectives. The monitoring program estimated pollutant loads in urban stormwater runoff, tracked compliance with water quality objectives, searched for sources of pollutants, and addressed impacts on areas of special concern.

In response to the Second Term Permits (1996-2002), the Permittees conducted a two-year re-evaluation and revision of the water quality monitoring program. The purpose of this review was to (1) re-focus the efforts to determine the role, if any, of urban stormwater discharges to the impairment of beneficial uses and (2) to provide technical information to support an effective urban stormwater management program to reduce the beneficial use impairments associated with urban stormwater.

The Pemittees also initiated several water quality planning efforts, conducted additional water quality evaluations in response to technical requests from the Regional Boards, and participated in various regional research and monitoring programs. The combination of these efforts will aid the Permittees in determining the extent and degree of the relationship between urban stormwater runoff and impairment of beneficial uses within the aquatic resources of Orange County.

With the Third Term Permits (2002-2007), this evolution has continued with the Third Term Permit monitoring program described below (**Section 11.4**). It expands further on previous efforts to identify pollutant sources, measure impacts, and gauge effectiveness of stormwater control efforts.

11.2 Regulatory Requirements

The objectives of the initial water quality monitoring program as stated in the First Term Permit were:

- To define the type, magnitude and sources of pollutants in the storm water system discharges within each Co-permittee's respective jurisdiction so that appropriate pollution prevention and correction measures can be identified;
- To evaluate the effectiveness of pollution prevention and correction measures; and
- To evaluate the compliance with water quality objectives established for the storm water system or its components.

The objectives for a revised monitoring program as stated in the Second Term Permit were to:

- Develop and support an effective municipal non-point source control program;
- Define water quality status, trends, and pollutants of concern associated with municipal stormwater discharges;
- Characterize pollutants associated with municipal stormwater discharges and to assess the influence of urban land uses on water quality and beneficial uses of receiving waters;
- Identify significant water quality problems related to urban stormwater discharges;
- Identify other sources of pollutants in stormwater runoff to the maximum extent possible (e.g. atmospheric deposition, contaminated sediments, other non-point sources, etc.);
- Identify and prohibit illicit discharges;
- Identify those waters, which without additional action to control pollution from urban stormwater discharges cannot reasonably be expected to attain or maintain applicable water quality standards required to sustain the beneficial uses in the Basin Plan;
- Evaluate the effectiveness of existing municipal stormwater quality management programs, including an estimate of pollutant reductions achieved by the structural and nonstructural BMPs implemented by the Permittees; and
- Evaluate costs and benefits of proposed municipal stormwater quality control programs to the stakeholders including the public.

For the Third Term Permits, the objectives of the monitoring program have been further refined as discussed below:

11.2.1 Objectives of San Diego Region Monitoring Programs

As laid out in the San Diego Regional Board Third Term Permit the following are the major objectives of the monitoring program:

- Assessing compliance with the NPDES permit;
- Measuring the effectiveness of Urban Runoff Management Plans;
- Assessing the chemical, physical, and biological impacts to receiving waters resulting from urban runoff; and

- Assessing the overall health and evaluating long-term trends in receiving water quality

11.2.2 Objectives of Santa Ana Region Monitoring Programs

The overall goal of the Santa Ana Regional Board Third Term Permit is to develop and support an effective watershed management program with the following objectives:

- To develop and support an effective municipal urban runoff and non-point source control program

- To define water quality status, trends, and pollutants of concern associated with urban storm water and non-storm water discharges and their impact on the beneficial uses of the receiving waters

- To characterize pollutants associated with urban storm water and non-storm water discharges and to assess the influence of urban land uses on water quality and the beneficial uses of receiving waters

- To identify significant water quality problems related to urban storm water and non-storm water discharges

- To identify other sources of pollutants in storm water and non-storm water runoff to the maximum extent possible (e.g., atmospheric deposition, contaminated sediments, other non-point sources, etc.)

- To identify and prohibit illicit discharges

- To identify those waters, which without additional action to control pollution from urban storm water discharges, cannot reasonably be expected to attain or maintain applicable water quality standards required to sustain the beneficial uses in the Basin Plan (TMDL monitoring)

- To evaluate the effectiveness of existing municipal storm water quality management programs, including an estimate of pollutant reductions achieved by the structural and nonstructural BMPs implemented by the Permittees

- To evaluate costs and benefits of proposed municipal storm water quality control programs to the stakeholders, including public development.

The main theme underlying the objectives specified by the Regional Boards was maintaining the integrity of receiving waters and their ability to sustain beneficial uses identified in the Water Quality Control Plan (subsequently referred to as the Basin Plan). This parallels the Permittees' long-standing concern with the management of environmental resources. For example, many of the monitoring stations have been

sampled since the mid-1970s, and there are many past instances of cooperation with other agencies regarding specific environmental problems and/or areas of concern.

Thus, while the Permittees view compliance with the terms of the Third Term Permits as of paramount importance, there is also an underlying role of governmental stewardship for key environmental resources that are highly valued by residents of Orange County.

This revised monitoring plan strives to link permit compliance with this larger set of management issues.

11.3 Program Development

11.3.1 Pre-NPDES Water Quality Monitoring

From 1973 to 1990, the Principal Permittee conducted routine water quality monitoring on drainage facilities that are tributary to water bodies identified as waters of the state by the Regional Boards. The receiving waters were also monitored routinely to assess the chronic effects on established beneficial uses.

When the monitoring program was initiated in 1973, monthly nutrient and trace element sampling was performed at several locations. Sediment samples were collected semiannually to assess the impact of contaminant deposition and adsorption. Additional constituents such as mercury, selenium, DDT, PCBs and radioactivity were also evaluated on a semiannual basis to address public concerns regarding the pollution threat from these constituents.

11.3.2 First Term Permit Water Quality Monitoring

In order to bring the pre-NPDES water quality monitoring program into conformance with the 1990 federal NPDES regulations and the First Term Permit objectives (**Section 11.2**), field screening to detect gross contamination was added to the program and the number of sampling sites in the channels and receiving waters was increased in order to better assess the amount and type of contamination in the storm drain system.

The First Term Permit water quality monitoring program consisted of field screening (channels only), dry-weather and storm sampling and a receiving water program:

- Field screening was used to detect gross contamination, which may be indicative of illegal disposal of pollutants. Monitoring locations were sited on channels with drainage areas greater than one square mile or which have industrial land uses in the drainage areas. Reports exhibiting elevated concentrations of field-screening constituents were referred for follow-up pollution investigation, but this occurrence was rare or non-existent in most waterbodies;

- Data from dry-weather and storm sampling was used to estimate the total annual volume of contaminants discharged by each monitored channel. These monitoring locations were in channels which were identified in the First Term Permits as

"Waters of the State" or in major tributaries to "Waters of the State". Storm monitoring of channels was also used to evaluate the level of contamination during and after storm events;

- The receiving water monitoring program included stations in the Huntington Harbor; Sunset, Anaheim, and Bolsa Bays; Upper and Lower Newport Bays; and Dana Point Harbor. These stations were monitored during and subsequent to storms for the same contaminants as in the channel monitoring program. In the channel and receiving water monitoring programs, semiannual sampling of bed sediment was also conducted to determine the chronic effects of storm water runoff.

11.3.3 Second Term Permit Water Quality Monitoring

While the First Term Permit monitoring program produced useful information, the Permittees recognized the high degree of uncertainty regarding the link between urban stormwater runoff and actual impairment of beneficial uses within the aquatic resources of Orange County.

Therefore, in response to the Second Term Permit objectives (**Section 11.2**), the Permittees conducted a systematic re-evaluation of the water quality monitoring program, which led to a re-statement of the monitoring program's primary goals. The primary and parallel goals of the monitoring program were re-stated as:

- To determine the role, if any, of urban stormwater discharges in the impairment of beneficial uses; and

- To provide technical information to support effective urban stormwater management program actions to reduce the beneficial use impairment determined to be associated with urban stormwater

- In order to organize the vast array of monitoring activities needed to carry out the objectives and goals, the Permittees identified three separate key elements within the Final Monitoring Program. These three key elements are:

    1) A focus on known sites (or “warm spots”) where constituents are substantially above system-wide averages;

    2) A parallel (and somewhat overlapping) focus on areas of critical aquatic concern (herein referred to as “critical aquatic resources” or “CARs”); and

    3) A countywide reconnaissance program to identify specific sources of contamination from sub-watershed areas as well as specific land use investigations in order to evaluate the effectiveness of a variety of BMPs

The monitoring program included an underlying rationale for each monitoring element, a discussion of how monitoring data will be used in decision making, identification of potential links to other relevant monitoring programs being carried out by other

agencies, a description of the basic monitoring design, identification of additional study design steps, and a description of anticipated monitoring activities.

These monitoring elements included many locations from the pre-NPDES and First Term Permit water quality monitoring programs that were of value because of the length of their historical record. Each key element of the Final Monitoring Program contains a description of the monitoring activities that are proposed to accomplish the objectives described above, as well as a description of the process for making decisions about how the monitoring program will respond to incoming data over time. This process can be used at any time throughout the life of the monitoring program to re-evaluate the direction of the program, or to reassess the appropriate allocation of resources within the program.

Since the vast majority of the CARs in Orange County are in marine or estuarine habitats, the Permittees participated in the Southern California Bight 1998 Regional Monitoring Project (Bight'98) regional monitoring program (coordinated by SCCWRP) to obtain meaningful information on the ecological effects of stormwater discharges. The Bight '98 program was a continuation of the successful cooperative regional-scale monitoring begun in southern California in 1994 and built upon the previous successes and expanded on the 1994 survey by including more participants, sampling more habitats, and measuring more parameters. Bight '98 monitoring in Orange County included a coastal microbiological assessment, monitoring in the Lower Newport Bay, Dana Point Harbor and Huntington Harbor; and monitoring of the impacts of the Santa Ana River and Aliso Creek.

This coordination on monitoring efforts has further developed into a region-wide monitoring and research cooperative program with the neighboring counties, SCCWRP and the three Regional Boards and will be implemented during the Third Term Permit period.

11.4 Third Term Permit Water Quality Monitoring

11.4.1 San Diego Region

The monitoring program developed for the San Diego region includes wet weather and dry weather monitoring components.

11.4.1.1 San Diego Wet Weather Monitoring Program

Details on development and implementation of the wet weather monitoring program are included in Exhibit 11-I. The Third Term Permit wet weather monitoring program includes the following components:

- Urban stream bioassessment - Using a "triad" of indicators (bioassessment, chemistry, toxicity), describe impacts on stream communities and the relationship of any impacts to runoff, based on comparisons with reference locations on a year-to-year time frame

- Long-term mass loading - Using measurements of key pollutants, measure loads over a time frame of years to decades to compare with past and present levels

- Coastal storm drains - Using a suite of bacterial indicators at high priority drain outfalls, track compliance with regulatory standards and any improvements due to BMP implementation

- Coastal receiving waters - Using measurement of runoff plume characteristics and extent, as well as measures of a suite of physical, chemical, and biological indicators, improve understanding of the impacts of runoff plumes on nearshore ecosystems

11.4.1.2 San Diego Dry Weather Monitoring Program

Details on development and implementation of the dry weather monitoring program are included in Exhibit 11-II. The Third Term Permit dry weather monitoring program includes the following three main components:

- A set of randomly located stations intended to characterize the average area-wide conditions in urban runoff

- A set of rotating targeted stations intended to provide additional information about specific sites thought to have a high potential for contaminated runoff and to provide coverage of the entire MS4 system over the period of the permit term

- A set of criteria that will trigger focused IC / ID (illegal connection and illicit discharge) studies by the Permittees when the monitoring data indicate the presence of a problem.

11.4.1.3 San Diego Monitoring Program Components

Specific monitoring tasks, sampling sites, and frequencies for the entire San Diego region are detailed in Table 11-1. A template for individual jurisdictions to use in describing their contribution to monitoring efforts is provided in Appendix A-11.

11.4.2 Santa Ana Region

Wet weather and dry weather monitoring programs are currently under development and are anticipated to be available by mid-2003.

11.4.2.1 Santa Ana Water Quality Monitoring Program

Details on development and implementation of the Santa Ana region Water Quality Monitoring Program are included in **Exhibit 11-III.** The Third Term Permit monitoring program includes the following components:

- Mass Emissions Monitoring – Estimates the total mass emissions form MS4, assesses mass emission trends over time and determines if the MS4 is contributing to exceedances of water quality objectives or beneficial uses
- Estuary / Wetlands Monitoring – Monitors the Upper Newport estuary, Talbert Marsh and the Bolsa Chica wetlands area to determine the effects of stormwater and non-stormwater runoff
- Water Column Toxicity Monitoring – Analyzes mass emission samples for freshwater and marine species toxicity to determine the impacts of stormwater and non-stormwater runoff on toxicity of receiving waters.
- Bacteriological / Pathogen – Determines the impacts of stormwater and non-stormwater runoff on loss of beneficial uses to receiving waters via monitoring of the coastline and six selected inland locations for total coliform, fecal coliform and Enterococcus
- Bioassessment – In cooperation with the Southern California Costal Water Research Project, will evaluate the biological index approach for Southern California
- Reconnaissance – Identifies and prohibits illicit discharges
- Land Use Correlations – Develops and implements strategies for determining the effects of land use on the quality of receiving waters. At a minimum, focuses on the conversion from agricultural land to developed in Orange County and its correlation to the sediment loading in Upper Newport Bay
- TMDL / 303(d) Listed Waterbody Monitoring – Continues Permittee participation in the Regional Monitoring Program for the San Diego Creek Nutrient TMDL. In addition, evaluates the impacts of stormwater and non-stormwater runoff on all impairments within the Newport Bay watershed and other 303(d) listed waterbodies.

11.4.2.2 Santa Ana Monitoring Program Components

Specific monitoring tasks, sampling sites, and frequencies for the entire Santa Ana Regional Board area are include in Exhibit 11-III. Individual jurisdictions have described their contribution to monitoring efforts in **Appendix A-11**.

11.5 Water Quality Planning Initiatives

During the Second Term Permit period, the Permittees initiated several water quality planning efforts. These priority water quality planning initiatives are intended to identify and better understand site-specific urban water quality problems in Newport Bay / San Diego Creek Watershed (nutrients), Aliso Creek (bacteria) and Talbert / Lower Santa Ana River (bacteria). In 2003-04 the water quality planning initiatives will be integrated with the development of watershed chapter (**Section 12.0**)

11.5.1 Newport Bay / San Diego Creek Watershed

Newport Bay and certain sections of San Diego Creek have been listed as impaired for the presence of excess levels of fecal coliform, sediment and nutrients as well as toxicity

to organisms.

The development of Total Maximum Daily Loads (TMDLs) allocations pursuant to Section 303(d) of the Clean Water Act has imposed additional requirements on the Newport Watershed Permittees (The County, Orange County Flood Control District and the cities of Costa Mesa, Irvine, Lake Forest, Laguna Hills, Laguna Woods, Newport Beach, Orange, Santa Ana, and Tustin) which include significant additional requirements on these Permittees for monitoring and program development.

11.5.2 Talbert / Lower Santa Ana River Watershed

Elevated bacteria indicator levels in the surfzone off Huntington State Beach in 1999 were attributed, in part, to the storm drain system of the Talbert / Lower Santa Ana River Watershed. In response to a Section 13267 letter from the Regional Board, the Talbert / Lower Santa Ana River Watershed Permittees (The County, Orange County Flood Control District, and the cities of Costa Mesa, Fountain Valley, Huntington Beach, Newport Beach and Santa Ana) committed to conducting monitoring investigations and research studies in conjunction with the University of California at Irvine and the National Water Research Institute.

These studies were initiated by these Permittees and subsequently expanded to include watershed-scale monitoring and investigations, including extensive dispersion monitoring in the surfzone. These studies were completed in a final report entitled *Huntington Beach Water Quality Investigation Phase II: An Analysis of Ocean, Surfzone, Watershed, Sediment and Groundwater Data Collected from June 1998 through September 2000 - December 15, 2000*. A follow-up study was initiated based on the results of the initial investigation. A report of its findings, entitled *Coastal Runoff Impact Study Phase II; Sources and Dynamics of Fecal Indicators in the Lower Santa Ana River Watershed,* is due for release late in 2002.

As part of an early action plan, all storm drain and pump station discharges in this watershed were temporarily diverted during the summer months to the sanitary district. A number of these diversions are now becoming more permanent and are scheduled to extend through all dry season conditions. A considerable portion of the watershed is now being diverted, and the focus for continuing investigations is now on the remaining un-diverted drains previously identified as a potential significant source. Additional investigations will also be completed in the Talbert Marsh for critical ecological resources as part of the Third Term Permit monitoring.

11.5.3 Aliso Creek Watershed

The lower mile of Aliso Creek has been listed as impaired for the presence of elevated levels of fecal coliform. Pursuant to a 205(j) grant the County initiated a water quality planning study to complement ongoing watershed restoration efforts being conducted by the Corps of Engineers in conjunction with Aliso Creek watershed cities and special districts.

One of the results of the 205(j) study was the identification of elevated fecal coliform levels at many points along Aliso Creek and in its tributaries. One storm drain (identified as J03P02) exhibited higher fecal coliform levels than the rest and was issued a Clean Up and Abatement Order by the San Diego Regional Board pursuant to violations of the NPDES Stormwater Permit. The Order, as one action, assigns additional monitoring requirements to the J03P02 Permittees (The County, Orange County Flood Control District, and City of Laguna Niguel).

The Corps of Engineers Feasibility studies and the 205(j) water quality planning study were completed during the renewal process for the Third Term Permit and provided the first comprehensive restoration plan for an entire watershed in Orange County. The 205(j) report was made available in late 2001.

As an early action, the flows from J03P02 were initially diverted during the summer months to the sanitary sewer. At the present time, these flows are being treated by a Clear Creek™ System, and the treated, bacteria-free water is being discharged into Sulphur Creek. However, this is considered a temporary measure until a treatment wetland currently under construction becomes operational.

Commencing in 99/00 the Permittees reported on additional technical information requests and special studies they have been involved with such as the collection of data/information for 13267 letters or clean up and abatement orders. The Permittees produced six quarterly reports examining characteristics of bacterial contamination and describing the results of source investigations following up on earlier work in the 205(j) study.

11.6 New and Continuing Commitments

The Permittees propose the following performance commitments to help provide consistency among the programs, define requirements for permit compliance, and measure performance.

- The Permittees shall revise the water quality monitoring program and associated timelines annually. These changes may be due to necessary timeline adjustments, newly identified water quality problems or information gained through experience or the research/monitoring programs. The revisions shall be discussed in the Annual Status Reports.

- The Permittees shall participate in future Southern California Bight Regional Monitoring Programs. This shall be reported in the Annual Status Report.

- The Permittees shall participate in the Southern California Stormwater Monitoring/Research Cooperative Program. The key focus of the program is to develop the methodologies and assessment tools to more effectively understand urban municipal stormwater and non-stormwater impacts to receiving waters. This shall be reported in the Annual Status Reports.

- The Permittees shall re-evaluate and revise the elements of the water quality monitoring program in 2003. The revised program shall be submitted with the 2003 Annual Status Report. Design of the dry weather portions of the monitoring program in the San Diego region of the County were completed in February 2003. Design of both the wet and dry weather portions of the Santa Ana region permits will be completed mid-2003.

11.7 Program Effectiveness Assessment

The overall Program Effectiveness Assessment (PEA) serves as the foundation for the submittal of the annual progress report that is submitted each year to the Principal Permittee and subsequently to the Regional Boards and serves as the basis for evaluating each municipality's individual water quality monitoring efforts (See **DAMP Appendix C**).

By completing the effectiveness assessment, the Permittees will each have a baseline by which they can compare subsequent evaluations and identify trends. This information can then be used to determine where modifications within the program may be necessary and ensures that the iterative evaluation and improvement process is applied to the program component and used as an effective management tool.

Table 11-1. San Diego Region Water Quality Monitoring Program Components

Jurisdiction	Urban Stream Bioassessment	Mass Emission	Coastal Stormdrain Outlet	Ambient Coastal Receiving H_20	Dry Weather Monitoring Program	
					Targeted Sites	Random Sites
Aliso Viejo					J01P28 J01P27	J01P26 J01P33 J02P05
Dana Point	Salt Creek (K01) @ Monarch Beach Golf Links		Salt Creek (K01) North Beach Creek San Juan Creek (L01) Doheney St. Beach 100 yards south of overpass Doheney St. Beach @ restroom Bldg. 6	Doheney St. Beach (DSB 1) south end Doheny St. Beach (DSB 4) restroom Bldg. 6 Doheney St. Beach (DSB 5) creek at north end Dana Pt. Harbour (DPH 1) at Golden Lantern Dana Pt. Harbour (DPH 2) between Adventura & Marina Dana Pt. Harbour (DPH 3) N/W of DPH 2 Dana Cove (DC 1) left of pier Niguel MLR (NI 1) near Selva & PCH	Beach Rd. west of Palisades Rd. Doheney Park Rd. south of Camino Capistrano Sepulveda Ave. south or Domingo Ave.	K01P02 K01P04 M00P01 L01S04

Jurisdiction	Urban Stream Bioassessment	Mass Emission	Coastal Stormdrain Outlet	Ambient Coastal Receiving H_20	Dry Weather Monitoring Program	
					Targeted Sites	Random Sites
Laguna Beach	Aliso Creek(J01) @ Country Club Rd	Laguna Canyon (I02) @ Woodland	El Morro Creek Emerald Bay Drain Laguna Avenue Heisler Park - North (Diver's Cove) Main Beach Boardwalk (I02) Cleo Street Storm Drain (I00P02)	Aliso Creek (ACM 1) Creek mouth Aliso Beach (AB 01) 300 yards north of creek Laguna Beach Marine Life Refuge (LB 1) Diver's Cove Laguna Beach MLR (LB 2) north part of Main Beach Laguna Beach MLR (LB 3) end of Broadway Laguna Beach MLR (LB 4) south end of Main Beach	N. Main Beach Stormdrain #13	J00P02 I00P02
			Bluebird Canyon Road Ocean Way (Agate / Pearl) Dumond Drive Lagunita / Blue Lagoon 300 yards north of J01 West Street Aliso Creek (J01)			
Laguna Hills					J04P04	

Jurisdiction	Urban Stream Bioassessment	Mass Emission	Coastal Stormdrain Outlet	Ambient Coastal Receiving H_20	Dry Weather Monitoring Program	
					Targeted Sites	Random Sites
Laguna Niguel Laguna Niguel (cont.)				Salt Creek (SCM 1) at creek mouth	J03TBN –Golden Lantern & Moulton L03P06 J04 @ J03 K01S02 K01P08 K01S01	J03P01 K01P08 K01P09 K01P07 L03P04 K01P04
Laguna Woods					Moulton at Calle Cortez J01 at Alisos Blvd.	
Lake Forest					J01P08	J01P02 J01P05
Mission Viejo	Trabuco Creek (L02) @ Avery Parkway				J01P03	J07P02 L02P20 L03P04 L03P11
San Clemente	Prima Descheca (M01) @ Calla Grande Vista	Prima Descheca (M01) @ Calla Grande Vista	Capistrano Co. Beach Drain (Concession)		Lapata & Calle del Cerro	M03P01

Jurisdiction	Urban Stream Bioassessment	Mass Emission	Coastal Stormdrain Outlet	Ambient Coastal Receiving H_20	Dry Weather Monitoring Program	
					Targeted Sites	Random Sites
	Segunda Descheca (M02) u/s of Avenida Presido	Segunda Descheca (M02) @ El Camino Real	M00S01 at 35067 Beach Road Poche Beach (M01) Pico Drain (M02) Mariposa Linda Lane Under Pier Trafalgar Canyon La Ladera Riviera Capo Shores at House 52 Capo Shores at House entrance		Bonita Stormdrain at M02	M00P03 M00P05
San Juan Capistrano	San Juan Creek (L01) @ La Novia Trabuco Creek (L02) at Del Obispo Rd.	San Juan Creek (L01) @ La Novia Trabuco Creek (L02) at Del Obispo Rd.			L05 & L01 L01 & S02 L01S03 (Dohoeney Park Rd. & Camino Capistrano West end of Avenida Veropuerto	L01P03 L02P02

Jurisdiction	Urban Stream Bioassessment	Mass Emission	Coastal Stormdrain Outlet	Ambient Coastal Receiving H_20	Dry Weather Monitoring Program	
					Targeted Sites	Random Sites
					L01 & Camino Capistrano	
Rancho Santa Margarita						L02P28
						L02P32
County of Orange	Aliso Creek (J01) at Pacific Park Dr.	Aliso Creek (J01) @ Aliso / Woods Canyon Park			L11P01	L02P20
	Aliso Creek (J01) @ Aliso / Woods Canyon Park					L02P25
	Wood Canyon (J02) on Wood Canyon Trail					
	Laguna Canyon Creek along Highway 133					L02P29
	San Juan Creek (L01) @ Cold Spring (Reference Site)					
	Silverado Cyn. d / s of Belha Way (Reference Site)					L02P45
	Sandia Creek on					L02P50

Jurisdiction	Urban Stream Bioassessment	Mass Emission	Coastal Stormdrain Outlet	Ambient Coastal Receiving H_20	Dry Weather Monitoring Program	
					Targeted Sites	Random Sites
County of Orange	De Luz Road (Reference Site)					L02P55 L11P02 M02XXX @ Talega Valley

Note: Shaded areas indicates sites at which flows are diverted during the dry season