

CITY OF SAN CLEMENTE

# **Jurisdictional Runoff Management Program**

PREPARED BY:

**City of San Clemente**

FOR:

**California Regional Water Quality Control Board  
San Diego Region**

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# City of San Clemente

## **SIGNED CERTIFIED STATEMENT**

**CITY OF SAN CLEMENTE  
JURISDICTIONAL RUNOFF MANAGEMENT PLAN  
or  
STORMWATER LOCAL IMPLEMENTATION PLAN**

**PREPARED FOR THE  
CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD,  
SAN DIEGO REGION**

**JANUARY 31, 2019**

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 true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment of knowing violations. [40 CFR 122.22(d)]

  
\_\_\_\_\_  
**Dave Rebensdorf**

Utilities Director

1/31/19  
Date

## **ACRONYMS**

<b>Acronym</b>	<b>Definition</b>
303(d)	EPA List of Impaired Waters
ACL	Administrative Civil Liability
ACO	Administrative Compliance Order
AI	Authorized Inspector
APWA	American Public Works Association
AMAL	Average Monthly Action Level
ASBS	Area of Special Biological Significance
AQMD	Air Quality Management District
BAT	Best Available Technology
BCT	Best Conventional Pollutant Control Technology
BIA	Building Industry Association
BMP	Best Management Practice
Basin Plan	Water Quality Control Plan for the San Diego Basin
CAP	Household Hazardous Waste Community Awareness Program
CAR	Critical Aquatic Resources
CASC	Countywide Areas Spill Control Program
CASQA	California Stormwater Quality Association
CC&Rs	Covenants, Codes & Restrictions
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CGP	Construction General Permit
CHP	California Highway Patrol
CIA	Common Interest Area
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CWC	Clean Water Code
CZARA	Coastal Zone Act Reauthorization Amendments of 1990
DA	District Attorney
DAMP	Drainage Area Management Plan
DCIA	Directly Connected Impervious Area
DHS	Department of Health Services
DMV	Department of Motor Vehicles
DOT	Department of Transportation
DTSC	Department of Toxic Substance Control
EA	Enforcing Attorney
ECG	Enforcement Consistency Guide
EHS	Environmental Health Services
EOC	Emergency Operations Center
EPA	Environmental Protection Agency
EPR	Environmental Performance Reporting
ERP	Enforcement Response Plan
ESA	Environmentally Sensitive Area
CDFG	California Department of Fish & Game

<b>Acronym</b>	<b>Definition</b>
GIS	Geographic Information System
GPS	Global Positioning System
HAZMAT	Hazardous Materials
HCA	Health Care Agency
HHW	Household Hazardous Waste
HMI	Hazardous Materials Incident
HOA	Homeowner's Association
HWI	Hazardous Waste Inspector
IBI	Index of Biological Integrity
IC	Incident Commander
ID/IC	Illegal Discharge/Illicit Connection
IPM	Integrated Pest Management
IRWD	Irvine Ranch Water District
IRWMP	Integrated Regional Water Management Plan
IWMD	Integrated Waste Management Department
JPA	Joint Powers Authorities
JRMP	Jurisdictional Runoff Management Plan
LID	Low Impact Development
LIP	Local Implementation Plan (also known as JRMP)
LC	LIP Coordinator
MDAL	Maximum Daily Action Level
MEP	Maximum Extent Practicable
MOU	Memorandum of Understanding
MRP	Monitoring and Reporting Programs
MS4	Municipal Separate Storm Sewer System
NAL	Non-Stormwater Action Level
NAICS	North America Industry Classification System
NNC	Notice of Non-compliance
NCCP	Natural Community Conservation Planning Program
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
OC	Orange County
OCC	Orange County Code
OCFA	Orange County Fire Authority
OCFCD	Orange County Flood Control District
OCP	OC Planning
OCPW	OC Public Works (Formerly RDMD)
O&M	Operations and Maintenance
PEA	Program Effectiveness Assessment
QA/QC	Quality Assurance/Quality Control
ROWD	Report of Waste Discharge
SCCWRP	Southern California Coastal Water Research Project
SDRWQCB	San Diego Regional Water Quality Control Board
SIC	Standard Industrial Classification
SQDF	Stormwater Quality Design Flow

<b>Acronym</b>	<b>Definition</b>
SQDV	Stormwater Quality Design Velocity
SSMP	Sewer System Management Plans
SSO	Sanitary Sewer Overflows
SUSMP	Standard Urban Stormwater Mitigation Plan
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TMDL	Total Maximum Daily Load
WAP	Watershed Action Plan (Formerly Watershed Urban Runoff Management Plan)
WDID	Waste Discharge Identification Number
WDR	Waste Discharge Requirement
WQIP	Water Quality Improvement Plan
WQMP	Water Quality Management Plan

## **EXECUTIVE SUMMARY**

The Jurisdictional Runoff Management Program (JRMP) or Stormwater Local Implementation Plan (LIP) is the City of San Clemente's approach to improving surface water quality through reducing discharges of pollutants to the municipal separate storm sewer system (MS4). As the operator of the MS4, the City of San Clemente (City) is subject to a National Pollutant Discharge Elimination System (NPDES) permit issued by the San Diego Regional Water Quality Control Board (SDRWQCB). The most recent permit, Order No. R9-2013-0001, as amended by Order No. R9-2015-0001 and R9-2015-0100 NPDES Permit No. CAS0109266 (Permit) increases the focus on setting goals for receiving waters and strives for a more holistic watershed planning approach to address issues identified as the highest priorities in each Watershed Management Area (WMA), specifically the San Juan Hydrologic Unit.

The MS4 Permit requires ten (10) south Orange County municipalities, including the City, and the County of Orange and Orange County Flood Control District, collectively called Copermittees, to prepare a watershed-based Water Quality Improvement Plan (WQIP) for the San Juan Hydrologic Unit (901.00) and a City-specific JRMP. The WQIP identifies the highest priority water quality conditions (HPWQCs), corresponding goals, and strategies that the Copermittees will implement to meet the goals. This JRMP serves as the implementation document to define specific programs and activities that the City will implement to improve water quality based on the goals and strategies outlined in the WQIP. The specific water pollutant control program elements of the overall Orange County NPDES Stormwater Program are documented in the Drainage Area Management Plan (DAMP). The objectives of the Countywide DAMP, the WQIP, and city-specific JRMP are to comply with the MS4 Permit requirements and to protect and improve water quality for identified beneficial uses of local surface waters.

### **Copermittees**

The JRMP includes a wide range of continuing and enhanced Best Management Practices (BMPs) and control techniques to help prevent adverse impacts on local water quality from discharges of pollutants into and from the City's storm drainage system. This JRMP is intended to serve as the basis for City compliance during the life of the MS4 Permit, and may be further updated and modified as the City determines necessary, or as directed by the SDRWQCB.

This JRMP consists of ten (10) distinct program elements, which are summarized in the following sections. Each program element includes a focus on pollution prevention measures as well as program effectiveness assessment.

### **Introduction (Section 1)**

This element provides some initial background on the program and then describes the City's environmental setting such as geography and climate, watersheds, impaired waterbodies and environmentally sensitive areas, as well as the overall organization of the JRMP.

## **Program Management (Section 2)**

This element describes the framework for the program management activities including the countywide and local coordination as well as the fiscal analysis for the compliance activities and the data management and reporting requirements.

## **Jurisdictional Work Plan (Section 3)**

This element describes the approach for developing and updating the JRMP to maintain a responsive program in compliance with the MS4 Permit.

## **Legal Authority (Section 4)**

This element describes the City's legal authority for prohibiting unpermitted discharges to the storm drain system and for requiring BMPs in new development and significant redevelopment as well as the legal analyses that can be conducted and any corresponding revisions that have been made to the applicable ordinances.

## **Municipal Activities (Section 5)**

This element describes the programs conducted by the City to address water quality issues related to municipal fixed facilities, field programs, and drainage facilities.

## **Public Education/Public Participation (Section 6)**

This element describes the educational programs conducted by the City in order to educate various public and business target audiences about urban stormwater and non-stormwater pollution and obtain their support in preventing pollution. This element also describes the incorporation of a public participation component.

## **New Development/Significant Redevelopment (Section 7)**

This element describes the programs conducted by the City in order to address water quality issues at the planning and design stage of project development and redevelopment. This element includes controls to incorporate appropriate and required post-construction nonstructural and structural BMPs into the environmental planning and development review process.

## **Construction (Section 8)**

This element describes the programs conducted by the City in order to address water quality issues during the construction stage of project development. This element includes site controls that address appropriate and required practices for erosion and sediment controls as well as on-site hazardous materials and waste management.

## **Existing Development (Section 9)**

This program element contains four distinct programs:

- a. Commercial/Industrial Program – This element describes the programs conducted by the City in order to address water quality issues during the operation of commercial and industrial businesses. The program consists of site prioritization, inspection, and BMP implementation.



- b. Residential – This element describes the programs conducted by the City in order to address water quality issues associated with residential areas and activities. This element also describes the programs conducted by the City in order to address water quality issues associated with the operation and maintenance of common interest areas (CIAs) and Homeowners Associations (HOAs).
- c. Retrofitting Existing Development Areas – This element describes the program for implementing BMPs to address existing developed areas.

**Illegal Discharge/Illicit Connection (Section 10)**

This element describes the programs conducted by the City in order to effectively detect and eliminate unpermitted discharges and unauthorized connections to the municipal storm drain system.

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## **1.0 INTRODUCTION**

### **1.1 PURPOSE**

The City of San Clemente Jurisdictional Runoff Management Plan (JRMP), previously known as the Local Implementation Plan (LIP) describes the program that the City is implementing to protect and improve the quality of local receiving waters such as creeks and coastal waters. The JRMP details the plan that the City is following to comply with the requirements of the State Water Resources Control Board, San Diego Region, Order No. R9-2013-0001 as amended by Order Nos. R9-2015-0001 and R9-2015-0100, National Pollutant Discharge Elimination System (NPDES) municipal separate storm sewer system (MS4) Permit No. CAS0109266 (Permit) issued to the County of Orange and south Orange County cities. This City JRMP document contains all of the information specified in the Permit's Jurisdictional Runoff Management Plan (JRMP) section.

This JRMP describes the activities that the City is undertaking to meet the requirements of the MS4 Permit to protect local surface water quality and beneficial uses by reducing the discharges of pollutants from the City's storm drainage system. The JRMP is intended to serve as the basis for compliance with stormwater permit requirements, and may be modified as needed by the City or as directed by the San Diego Regional Water Quality Control Board (SDRWQCB) to ensure compliance. The JRMP also describes additional activities not required by the Permit that the City is taking to help improve local water quality.

### **1.2 HISTORY OF THE CITY'S STORMWATER COMPLIANCE PROGRAM**

Federal regulations for stormwater discharges went into effect in 1990 (refer to **Section 4.0** for a detailed discussion of Federal, State and local stormwater regulations). Since then, the City has cooperated with the County of Orange, the Orange County Flood Control District and the other cities in Orange County (collectively referred to as the "Copermittees") in complying with NPDES permits issued by the Santa Ana and San Diego Regional Water Quality Boards (Regional Boards). Through this cooperation, many common programs have been developed and integrated in the area-wide Drainage Area Management Plan (DAMP), which serves as the Copermittees' primary policy document for regional compliance with the MS4 Permits. The Copermittees viewed this common approach as the most efficient and effective way to reduce stormwater and urban runoff pollution and meet permit requirements. The MS4 Permits were renewed in 1996, 2002, 2009, and again in 2015. Through the first three permit terms, the DAMP also served as the document under which specific activities were implemented to meet permit requirements. The third and fourth term permits required the development of jurisdictional (local) plans to document specific stormwater compliance activities. This new fifth term permit requires that Copermittees collaborate together on a watershed basis to develop a Water Quality Improvement Plan (WQIP) for the South Orange County cities and update their JRMP. This JRMP will serve as the City-specific plan to address priority water quality conditions, goals, strategies, and schedules in the WQIP. More information about the WQIP can be found in Section 3.

In February 1999, the City Council created a Beach Ad Hoc Committee, with the mission to identify and prioritize issues associated with San Clemente's beaches and coastal zone. A year later, the Committee presented its report, *The State of San Clemente's Coastal Zone and*

*Beaches*, to the Council for consideration. Although the City was implementing the regional stormwater compliance program under the DAMP, the Committee's primary request relating to water quality was that the City "create and implement a comprehensive Urban Runoff Management Plan that includes increased enforcement of existing laws and codes, review of public and private maintenance practices, and public education on how to reduce non-point source pollution." The Council subsequently approved the creation of an Urban Runoff Management Plan (URMP) as a Vital Few Priority Project for Fiscal Year 2000-2001.

At the direction of the City Council, staff began work in late 2000 to develop the URMP. The URMP was approved in early 2002, and consisted of three principal components including structural treatment projects, dry-weather monitoring/illegal discharge detection and elimination, and public education. The URMP also included aerial photography and other mapping data, watershed hydrologic modeling and a manual of Best Management Practices (BMPs), all of which were developed to support anticipated requirements of the third-term MS4 Permit that was being prepared by the SDRWQCB in 2001. The URMP and community input helped focus implementation priorities, with a general community preference toward first implementing source (non-structural) controls for pollution reduction (e.g. public education and water quality monitoring/code enforcement) before implementing structural measures, although the community supported smaller scale structural projects to help remove stormwater pollutants and keep beaches clean while the other measures were taking effect.

In early 2002, the third-term NPDES permit was adopted by the SDRWQCB. The third term NPDES permit departed significantly from the past stormwater management approach and instead of the regional DAMP, the new permit required each city to develop what the permit called a "Jurisdictional Urban Runoff Management Plan (JURMP)" by February 2003. During 2002, the City joined the other Orange County Copermittees in developing model DAMP programs to meet the new permit requirements along with specific Local Implementation Plans (LIPs), also known as JURMPs, for each City. By early 2003, the City completed and submitted its Stormwater LIP document to the SDRWQCB – the URMP was incorporated into the LIP. Since that time, the LIP has been updated multiple times and this document, now using the title Jurisdictional Runoff Management Plan (JRMP), updates the 2010 LIP to reflect the most recent MS4 Permit requirements, and serves as the City of San Clemente's implementation document to identify the programs and activities that are being conducted to reduce stormwater pollution, improve water quality, and comply with MS4 Permit requirements. The following subsections describe the City's environmental setting and organization of this JRMP document.

Currently, some of the Copermittees including the City are pursuing a subvention of funds from the State to pay for certain activities required by Order No. R9-2009-0002 and Order No. R9-2013-0001, as amended by Order Nos. R9-2015-001 and R9-2015-0100, including some of the activities in the JRMP. Nothing in this JRMP should be viewed as a waiver of those claims or as a waiver of the rights of the City to pursue a subvention of funds from the State to pay for certain activities required by the Fourth and Fifth Term Permits, including the implementation of certain activities in this JRMP. In addition, several Copermittees, including the City, have filed petitions with the State Water Resources Control Board

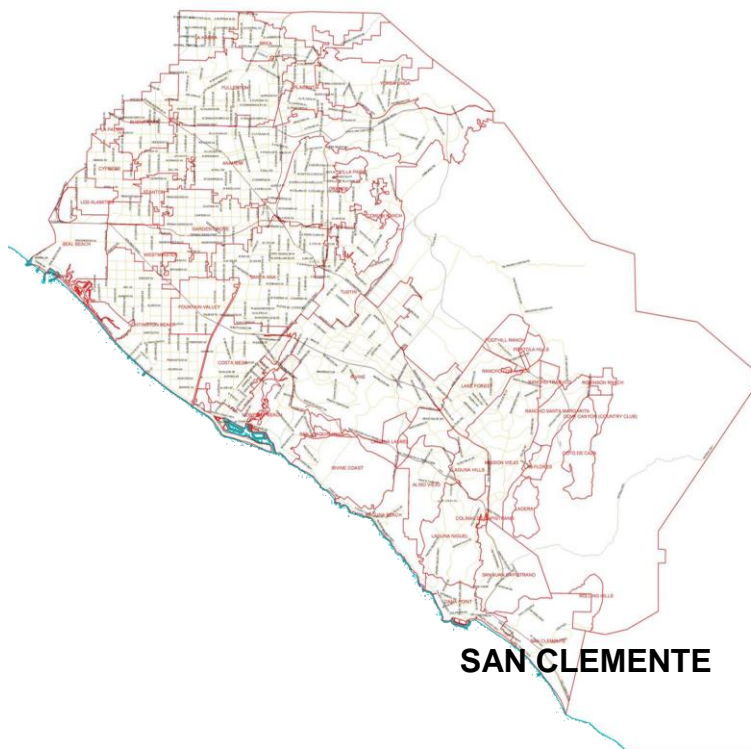
(SWRCB) challenging some of the requirements of the Fifth Term Permit. Nothing in this JRMP should be viewed as a waiver of those claims. Because the SWRCB has not issued a stay of the Fifth Term Permit, Copermitees must comply with the Fifth Term Permit's requirements while the SWRCB process is pending.

### 1.3 ENVIRONMENTAL SETTING

#### 1.3.1 Geography and Climate

The City of San Clemente lies on the southern coast of Orange County, approximately 60 miles south of the City of Los Angeles and approximately 50 miles north of the City of San Diego. The City is bounded to the west by the Pacific Ocean, the north by the cities of Dana Point and San Juan Capistrano, the east by unincorporated areas of the County, and the south by the Camp Pendleton Marine Corps Base. The City covers an area of approximately 18 square miles with a population of approximately 69,000 people. The main state highway link between the cities of Los Angeles and San Diego, Interstate 5, runs northwest/southeast through the City, generally within one mile or less of the coastline. The City's regional location is shown in **Figure 1-1**.

**Figure 1-1: San Clemente Vicinity Map**



The City's climate is a mild Mediterranean setting, with a year-round average temperature of 70 degrees Fahrenheit and an average of 315 days of sunshine each year. Local weather

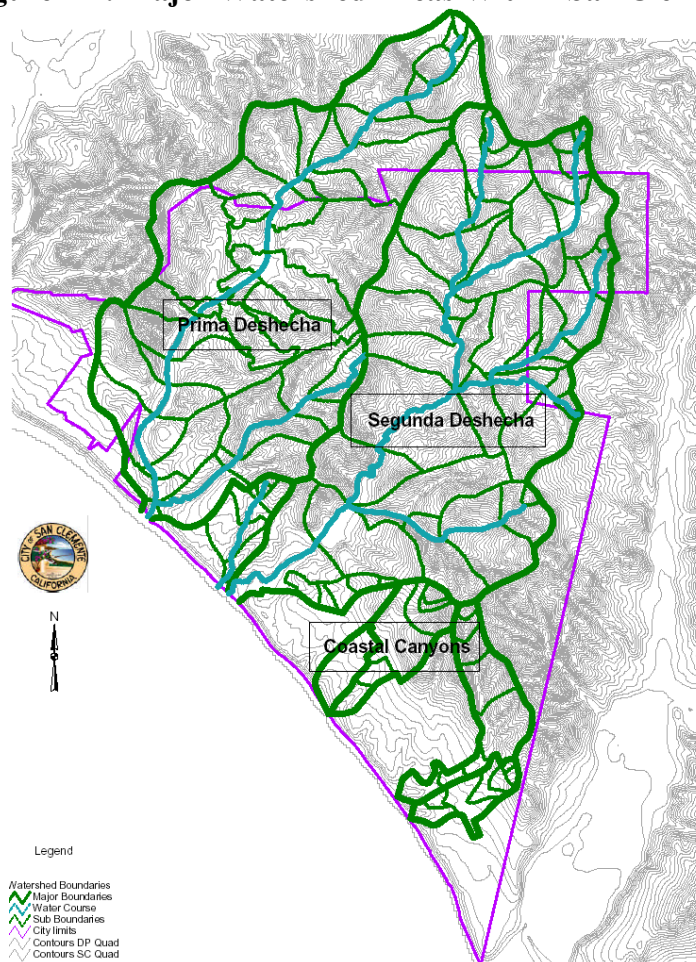
patterns along this area of the Pacific Coast follow a general onshore-offshore flow. The coastal mountain terrain, which roughly parallels the shore, directs precipitation runoff directly toward the shoreline. Nearly all of the annual precipitation falls in only a few storm events between October and April. During times of drought, it is not unusual for years to pass between major rainfalls. It is also common for successive storms of varying durations and intensities to compound their effects, with the heavy rainfall of the second or third storm creating the most severe flood conditions. On average however, the City only receives 10.5 inches of rain per year.

### **1.3.2 Watersheds**

San Clemente is a coastal city primarily characterized by steep coastal mountains that are divided by a series of local canyons. These canyons create the following three principal drainage basins in the San Clemente area: Prima Deshecha Cañada (designated as facility M01 in the regional County drainage map), Segunda Deshecha Cañada (M02) and Southern Coastal Canyons (M00).

The City's watershed areas are within the San Clemente Hydrologic Unit (HU), comprised primarily of the Prima Deshecha Cañada Hydrologic Subarea (HSA) and the Segunda Deshecha Cañada HSA. These main watershed basins are shown in **Figure 1-2**. Watershed management in San Clemente is somewhat unique in that the City boundary limit is very similar to the overall watershed boundary, with the exception of the headwaters of the Prima Deshecha drainage basin, which originate in unincorporated County land occupied by the Prima Deshecha landfill and County open space. One small portion of the City in the northwest drains into the San Juan Creek Watershed and a small portion of the City in the southeast drains to the San Mateo Creek watershed. This means that stormwater discharges are generally controllable through single-city management and that this JRMP essentially serves as the implementation mechanism.

**Figure 1-2: Major Watershed Areas Within San Clemente**



### **1.3.3 Impaired Waters/Environmentally Sensitive Areas (ESAs)**

Under Section 303(d) of the 1972 Clean Water Act (CWA), states are required to develop lists of water quality limited segments of receiving waters, which are impaired waters that do not meet water quality standards or support designated beneficial uses. The law requires that priority rankings be established for the impaired waters on the 303(d) lists and Total Maximum Daily Loads (TMDLs) be developed to improve water quality. The California State Water Resources Control Board (State Board) and its nine Regional Boards are responsible for developing the 303(d) list and for providing an estimated completion date for each proposed TMDL. More information about TMDLs can be obtained from the State Board’s website at [www.waterboards.ca.gov](http://www.waterboards.ca.gov).

**Table 1-1** summarizes the impaired waters that could potentially be affected by activities occurring within the City, based on the *2012 Integrated Report on Water Quality* (which lists impaired waterbodies) approved by the State Board and EPA in 2015.

**Table 1-1: Watersheds, ESA Type, and Pollutants or Stressors for Waterbodies Potentially Affected by Activities within the City of San Clemente**

<b>Watershed<sup>1</sup></b>	<b>ESA</b>	<b>Waterbody</b>	<b>Pollutant / Stressor</b>
Prima Deshecha (901.31)	303(d) Listed Waterbody	Prima Deshecha Creek	Phosphorus, Turbidity, Cadmium, Nickel
Prima Deshecha (901.31)	303(d) Listed Waterbody	Pacific Ocean Shoreline @ Poche Beach	Total Coliform <sup>2</sup> and Enterococcus <sup>3</sup>
Segunda Deshecha (901.32)	303(d) Listed Waterbody	Segunda Deshecha Creek	Phosphorus, Turbidity, Toxicity
Segunda Deshecha (901.32)	303(d) Listed Waterbody	Pacific Ocean Shoreline @ North Beach	Total Coliform <sup>2</sup>
San Clemente Coastal Canyons (901.30)	303(d) Listed Waterbody	Pacific Ocean Shoreline @ San Clemente Pier	Enterococcus <sup>3</sup>
San Clemente Coastal Canyons (901.30)	303(d) Listed Waterbody	Pacific Ocean Shoreline @ South Capistrano Beach at Beach Road	Enterococcus <sup>3</sup>
San Clemente Coastal Canyons (901.30)	303(d) Listed Waterbody	Pacific Ocean Shoreline @ South Capistrano County Beach	Total Coliform <sup>2</sup> and Enterococcus <sup>3</sup>
San Mateo (901.40)	303(d) Listed Waterbody	Pacific Ocean Shoreline @ San Mateo Creek	Total Coliform <sup>2</sup>

Notes on Table 1-1. 1) Value listed in parentheses is the hydrologic unit number as defined in the San Diego Region Basin Plan. 2) 303(d) listing related to Shellfish (SHELL) Beneficial Use impairment. 3) 303(d) listing related to Water Contact Recreation (REC-1) Beneficial Use impairment and beach segment is currently included in the Twenty Beaches and Creek Indicator Bacteria Total Maximum Daily Load (TMDL) program.

Environmentally Sensitive Areas (ESAs) are defined by the SDRWQCB as those areas that include, but are not limited to:

- All CWA Section 303(d) impaired waters
- Areas designated as Areas of Special Biological Significance by the San Diego Regional Water Quality Control Board Basin Plan (Basin Plan)
- Waterbodies designated with the RARE Beneficial Use category in the San Diego Basin Plan
- Areas designated as preserves or their equivalent under the Natural Communities Conservation Planning Program (NCCP)
- Any other ESAs identified by the City

In addition to the CWA Section 303(d) impaired waters as previously discussed, the entire City shoreline is considered an ESA since the San Diego Basin Plan identifies a RARE Beneficial Use category for the Pacific Ocean. It is important to identify ESA locations because certain new development projects and existing developed areas may be subject to specific BMP requirements depending on their proximity to ESAs within the City. This is



discussed further in subsequent sections of this JRMP.

### 1.3.4 Soil Types

There are a limited number of soil types within the San Clemente HU, each of which can contribute varying amounts of sediment in local runoff depending on how loose or consolidated (packed) they are. The primary soils in the San Clemente watershed are:

- Clay
- Clay Loam (soil containing 60-70% silt, 20-45% sand, and 28-40% clay)
- Sandy Loam (soil containing 80-100% silt, 50-70% sand, and 15-20% clay)

A majority of the city is comprised of clay and clay loam. These soils, predominately fine-grained material that is generally well-consolidated, do not provide good percolation properties to absorb precipitation. Therefore, when considering various structural BMPs for controlling runoff in the San Clemente watersheds, technologies that use infiltration principles will not work well in the clay and clay loam soils. However, the canyons at the south end of the city are comprised of sandy loam, and they may provide opportunities for natural infiltration.

### 1.3.5 Land Use

The City consists largely of residential and open space areas, with limited commercial and industrial areas. **Table 1-2** summarizes land use within San Clemente, based on information from a 2001 Assessor Parcel database. **Table 1-2** will be updated when the City’s land use data and map are revised during the General Plan update process in early 2011.

**Table 1-2: City of San Clemente Land Use Summary**

Land Use	Acres	Percent of Total
Residential	5,666	51.1%
Open Space	3,786	34.1%
Mixed Use	477	4.3%
Industrial	268	2.4%
Public/Parking	178	1.6%
Commercial	171	1.5%
Private Institutions and Religious Facilities	16	0.1%
Areas of No Zoning Information	533	4.8%
TOTAL	11,095	100%

## 1.4 JRMP ORGANIZATION

This City of San Clemente JRMP document is organized into ten sections according to an outline agreed upon by the Copermittees. Subsequent JRMP sections are listed in **Table 1-3** below along with NPDES permit references to show how this JRMP addresses the

requirements of the MS4 Permit.

**Table 1-3: San Clemente JRMP Document Organization**

<b>San Clemente JRMP Section</b>	<b>Description</b>	<b>Primary NPDES Permit Section(s)<sup>1</sup></b>
2.0 – Program Management	Framework for program management activities, coordination with Principal Permittee, and City department responsibilities, fiscal resources, and reporting requirements.	F.1,
3.0 – WQIP Plan Development	Framework for Water Quality Improvement Plan development, identification of water quality goals, and an overview of water quality monitoring and assessment.	A, E.1
4.0 – Legal Authority	Overview of Federal, State, and local stormwater regulations; enforce adequate legal authority within jurisdiction	E.5.b
5.0 – Municipal Activities	Activities that City employees are implementing to prevent pollution from entering and discharging from the storm drain system.	F.1,
6.0 – Public Education	The program to communicate with the public about stormwater pollution and ways to protect water quality.	E.7
7.0 – New Development and Significant Redevelopment	The program to ensure that new development and significant redevelopment projects incorporate appropriate and required post-construction water pollution controls in the planning and design process of development projects.	E.3, F.2
8.0 – Construction	Construction site controls that address appropriate and required practices for erosion and sediment control and waste management during project construction.	E.4, F.2
9.0 – Existing Development	The program to inspect, enforce and implement controls for existing development areas such as commercial, industrial and municipal facilities as well as residential management areas	E.5
10.0 – Illegal Discharges/Illicit Connections	The program to detect and eliminate unpermitted discharges and unauthorized connections to the City’s storm drain system.	E.2, E.6, F.2

Notes on Table 1-3. Permit provisions refers to primary permit provision related to the implementing section of the JRMP but other permit provisions may also be covered by JRMP activities.

## **2.0 PROGRAM MANAGEMENT**

The City of San Clemente conducts the following program management activities to implement the JRMP:

- Coordination with the Principal Permittee (County of Orange) and other Copermittees (other Orange County cities) on: 1) program development through the DAMP; 2) common program implementation (such as monitoring, public education and watershed programs); 3) contribution of fiscal resources for shared budgets under the NPDES Implementation Agreement; and 4) overall program direction;
- Coordination with internal City departments to implement the JRMP;
- Fiscal analysis in preparing, approving and tracking shared cost budgets prepared by the Principal Permittee and individual cost budgets prepared by the City; and,
- Data management and compliance reporting.

### **2.1 COUNTYWIDE COORDINATION**

The Utilities Department, Environmental Programs Section coordinates the development, implementation and administration of the City's overall stormwater program. In this capacity, the Environmental Programs Section is the lead program responsible for JRMP and DAMP development, implementation, compliance, fiscal analysis, and reporting.

In addition to managing internal implementation, the Environmental Programs Section also participates with the County of Orange (Principal Permittee), Orange County Flood Control District, and other Orange County cities (collectively referred to as Copermittees) in the countywide NDPEs Stormwater Program described in the DAMP. An Implementation Agreement among the 36 Copermittees defines the roles, responsibilities, and cost sharing formulas governing the program. The City executed the cooperative NPDES Implementation Agreement on June 19, 2002.

The responsibilities of the County of Orange as the Principal Permittee and Copermittees as a whole are defined within the Implementation Agreement, the NPDES Permits, or as otherwise identified within separate funding agreements.

The County of Orange as Principal Permittee is responsible for:

1. Serving as liaison between the CoCopermittees in the Watershed Management Area and the San Diego Water Board on general permit issues, and when necessary and appropriate, representing the Copermittees in the Watershed Management Area before the SDRWQCB;
2. Facilitating the development of the Water Quality Improvement Plan (WQIP) in accordance with the requirements of Provision B of the MS4 Permit;
3. Coordinating the submittal of the deliverables required by Provisions F.1, F.2, F.3.a, and F.3.b of the MS4 Permit; and

4. Coordinating and developing, with the other Principal Watershed Copermittees, the requirements of Provisions F.3.c, F.4, and F.5.b of the MS4 Permit.

The Principal Permittee is not responsible for ensuring that the other Copermittees within the Watershed Management Area are in compliance with the requirements of the MS4 Permit.

Management of the countywide program is performed by means of a committee structure with responsibilities and chairing assigned selectively to the Principal Permittee and the Copermittees. These committees include:

*City Manager's Water Quality Committee*

The City Manager's Water Quality Committee provides budget and overall program review and governance direction. The Committee is comprised of several City Managers and is attended by County staff.

*Technical Advisory Committee (TAC)*

The TAC serves in a program advisory role and provides policy direction for the program budget, development and implementation. It is comprised of one City Engineer, or selected representative, from each of the County Supervisor Districts and a representative from the County of Orange. One responsibility of the TAC is to determine the need to create internal committees and task forces. Task forces are characterized by Permittee and business / non-governmental organization participation and are convened to bring a partnership approach to issues that would benefit from being addressed collaboratively, such as trash and debris.

*Technical Advisory Committee/Planning Advisory Committee*

The Technical Advisory Committee/Planning Advisory Committee (TAC/PAC) serves in a program advisory role to the Copermittees and implements policy previously established by the Copermittees pertaining to land development. The TAC/PAC is comprised of a City Engineer, or selected representative and a Planning Director or selected representative, from one city in each of the County Supervisorial Districts and a representative from the County of Orange

*General Permittee Committee*

The General Permittee Committee is the principal forum for disseminating information for program coordinators and provides a countywide forum to update designated representatives from each Permittee on Program Development.

*Water Quality Improvement Plan Committee (WQIP)*

The WQIP Committee provides a watershed management area forum to engage Copermittees in WQIP development.

*Task Forces/Sub-Committees/Advisory Groups*

- Trash and Debris Task Force
- Legal/Regulatory Authority Task Force

- Local Implementation Plan/Program Effectiveness Assessment LIP/PEA Sub-Committee
- Water Quality Ordinance Authorized Inspectors Sub-Committee
- Public Education Sub-Committee

## **2.2 INTERNAL CITY COORDINATION**

The responsibilities of various City departments for the internal coordination and implementation of JRMP activities are described in **Table 2-1**. A City organizational chart is provided in **Figure 2-1**.

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**Table 2-1: City of San Clemente Department Responsibilities for JRMP Implementation**

<b>Program Element</b>	<b>Department</b>	<b>Activity</b>	<b>Specific Responsibilities</b>
Section 2 – Program Management	<ul style="list-style-type: none"> <li>• Utilities</li> </ul>	<ul style="list-style-type: none"> <li>• Serves as City JRMP/ Stormwater Program Manager</li> </ul>	<ul style="list-style-type: none"> <li>• Prepares annual compliance reports</li> <li>• Reviews shared budgets and prepares internal City budgets</li> <li>• Coordinates with Principal Permittee and other Copermittees for development and implementation of the countywide program through the DAMP</li> <li>• Coordinates/ensures implementation of the JRMP by City departments; administers program</li> <li>• Responds to phone, e-mail, and other input to the City on water quality issues and dispatches appropriate personnel; records responses</li> <li>• Follows up on problems with City compliance</li> </ul>
Section 3 – Plan Development	<ul style="list-style-type: none"> <li>• Utilities</li> </ul>	<ul style="list-style-type: none"> <li>• Oversees development of new DAMP programs and WQIP Implementation</li> </ul>	<ul style="list-style-type: none"> <li>• Coordinates between City departments and the Principal Permittee in the development of new programs and BMP effectiveness studies</li> </ul>
Section 4 – Legal Authority	<ul style="list-style-type: none"> <li>• City Attorney;</li> <li>• Utilities</li> </ul>	<ul style="list-style-type: none"> <li>• Certification of adequate legal authority</li> </ul>	<ul style="list-style-type: none"> <li>• Reviews legal authority, modifies ordinances and provides legal certification</li> <li>• Provides legal support for enforcement actions</li> </ul>
Section 5 – Municipal Activities	<ul style="list-style-type: none"> <li>• Public Works/ Engineering and Utilities</li> </ul>	<ul style="list-style-type: none"> <li>• Manages storm drain inventory/atlas</li> </ul>	<ul style="list-style-type: none"> <li>• Updates electronic storm drain atlas maps</li> </ul>

<b>Program Element</b>	<b>Department</b>	<b>Activity</b>	<b>Specific Responsibilities</b>
	<ul style="list-style-type: none"> <li>• Utilities</li> </ul>	<ul style="list-style-type: none"> <li>• Operates and maintains storm drains and flood control facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Implements applicable BMPs</li> <li>• Reports actions taken to Water Quality Section</li> <li>• Reports changes in storm drain maintenance program</li> </ul>
	<ul style="list-style-type: none"> <li>• Public Works, Utilities and Maintenance;</li> <li>• Beaches, Parks and Rec./ Maintenance and Golf</li> </ul>	<ul style="list-style-type: none"> <li>• Operates and maintains corporate/municipal yards</li> </ul>	<ul style="list-style-type: none"> <li>• Implements applicable BMPs</li> <li>• Reports actions taken to Water Quality Section</li> <li>• Reports municipal yard changes</li> </ul>
	<ul style="list-style-type: none"> <li>• Utilities</li> </ul>	<ul style="list-style-type: none"> <li>• Maintains catch basin stenciling program</li> </ul>	<ul style="list-style-type: none"> <li>• Implements stenciling program</li> <li>• Reports actions taken to Water Quality Section</li> <li>• Reports any stenciling program changes</li> </ul>
	<ul style="list-style-type: none"> <li>• Orange County Fire Authority</li> </ul>	<ul style="list-style-type: none"> <li>• Generates emergency and non-emergency fire fighting discharges;</li> <li>• Operates and maintains fire stations</li> </ul>	<ul style="list-style-type: none"> <li>• Implements applicable BMPs</li> </ul>
	<ul style="list-style-type: none"> <li>• Public Works/Maintenance and Beaches, Parks and Recreation</li> </ul>	<ul style="list-style-type: none"> <li>• Operates parks, community centers, and recreational facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Implements stenciling program</li> <li>• Reports actions taken to Water Quality Section</li> <li>• Reports changes to park facilities</li> </ul>
	<ul style="list-style-type: none"> <li>• Orange County Sheriff</li> </ul>	<ul style="list-style-type: none"> <li>• Operates and maintains police facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Implements applicable BMPs</li> <li>• Reports changes in police facilities</li> </ul>



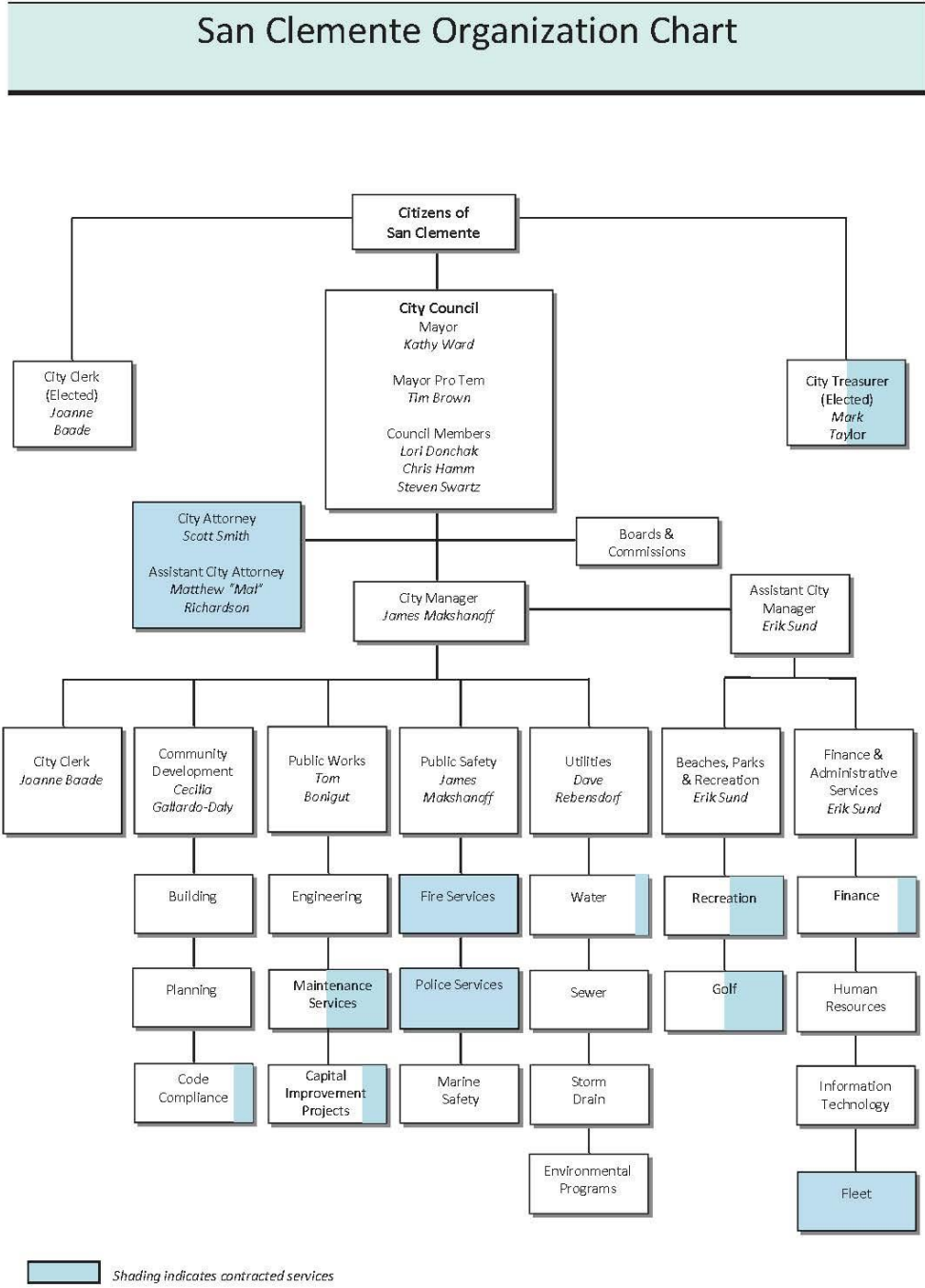
<b>Program Element</b>	<b>Department</b>	<b>Activity</b>	<b>Specific Responsibilities</b>
	<ul style="list-style-type: none"> <li>Public Works/Maintenance</li> </ul>	<ul style="list-style-type: none"> <li>Conducts maintenance field activities;</li> <li>Operates and maintains parking lots, city facilities, city vehicle programs, street sweeping</li> </ul>	<ul style="list-style-type: none"> <li>Implements applicable BMPs</li> <li>Reports actions taken to Water Quality Section</li> </ul>
	<ul style="list-style-type: none"> <li>Utilities</li> </ul>	<ul style="list-style-type: none"> <li>Operates Wastewater Treatment/Water Reclamation Plant and potable water facilities;</li> <li>Manages and implements waste recycling and litter control programs</li> </ul>	<ul style="list-style-type: none"> <li>Implements applicable BMPs</li> <li>Reports actions taken to Water Quality Section</li> </ul>
	<ul style="list-style-type: none"> <li>Public Works/Maintenance, Beaches, Parks and Recreation, and Golf</li> </ul>	<ul style="list-style-type: none"> <li>Manages and implements pesticide/fertilizer and landscape maintenance programs</li> </ul>	<ul style="list-style-type: none"> <li>Implements applicable BMPs</li> <li>Reports actions taken to Water Quality Section</li> </ul>
Section 6 – Public Education	<ul style="list-style-type: none"> <li>Utilities</li> </ul>	<ul style="list-style-type: none"> <li>Manages education/outreach program</li> </ul>	<ul style="list-style-type: none"> <li>Provides training and guidance materials to public and City staff</li> <li>Disseminates information in the City</li> <li>Develops City versions of countywide education materials as appropriate</li> <li>Participates in at least one City event per year</li> <li>Provides information to public at City counters</li> </ul>
Section 7 – New Development	<ul style="list-style-type: none"> <li>Community Development/Planning</li> </ul>	<ul style="list-style-type: none"> <li>Manages General Plan;</li> <li>Manages environmental planning review</li> </ul>	<ul style="list-style-type: none"> <li>Reviews the General Plan for water quality protection</li> <li>Implements use of CEQA checklist to review water quality issues on proposed projects</li> </ul>

<b>Program Element</b>	<b>Department</b>	<b>Activity</b>	<b>Specific Responsibilities</b>
	<ul style="list-style-type: none"> <li>Public Works/Engineering;</li> <li>Community Development/Building</li> </ul>	<ul style="list-style-type: none"> <li>Processes building/grading permits</li> </ul>	<ul style="list-style-type: none"> <li>Advises applicants of water quality requirements</li> <li>Reviews development for water quality issues</li> <li>Verifies plan compliance with water quality requirements</li> </ul>
	<ul style="list-style-type: none"> <li>Public Works/Engineering</li> </ul>	<ul style="list-style-type: none"> <li>Interacts with public;</li> <li>Manages public works projects</li> </ul>	<ul style="list-style-type: none"> <li>Provides information to permit applicants on water quality requirements</li> <li>Verifies plan compliance with water quality requirements in public works projects</li> </ul>
Section 8 – Construction	<ul style="list-style-type: none"> <li>Public Works/Engineering;</li> <li>Community Development/Building</li> </ul>	<ul style="list-style-type: none"> <li>Processes building/grading permits;</li> <li>Manages oversight of construction inspection inventory, prioritization and inspection program</li> </ul>	<ul style="list-style-type: none"> <li>Advises applicants of water quality requirements</li> <li>Verifies plan and NOI compliance with water quality requirements</li> <li>Reports actions taken to Water Quality Section</li> <li>Inventories, prioritizes construction sites</li> <li>Implements inspections, requires corrective actions to be taken</li> </ul>
	<ul style="list-style-type: none"> <li>Public Works/Engineering</li> </ul>	<ul style="list-style-type: none"> <li>Manages Public Works projects and Capital Improvement Project (CIP) projects</li> </ul>	<ul style="list-style-type: none"> <li>Verifies plan compliance with water quality requirements in public works projects and CIPs</li> </ul>
Section 9 – Existing Development	<ul style="list-style-type: none"> <li>Utilities</li> </ul>	<ul style="list-style-type: none"> <li>Manages oversight of the commercial, industrial, residential inspection program</li> </ul>	<ul style="list-style-type: none"> <li>Obtains commercial/industrial inventory information</li> <li>Inventories, prioritizes and maps facilities</li> <li>Implement inspections, require corrective actions to be taken</li> </ul>

<b>Program Element</b>	<b>Department</b>	<b>Activity</b>	<b>Specific Responsibilities</b>
	<ul style="list-style-type: none"> <li>Community Development/Building</li> </ul>	<ul style="list-style-type: none"> <li>Interacts with businesses and the public</li> </ul>	<ul style="list-style-type: none"> <li>Provides information to industrial and commercial businesses and the public</li> </ul>
Section 10 – Illegal Discharges and Illicit Connections	<ul style="list-style-type: none"> <li>Utilities;</li> <li>Community Development/Building;</li> </ul>	<ul style="list-style-type: none"> <li>Enforces City ordinances;</li> <li>Interacts with public;</li> <li>Conducts inspections</li> </ul>	<ul style="list-style-type: none"> <li>Enforces stormwater runoff ordinances</li> <li>Investigates illegal discharges</li> <li>Responds to hotline reports/complaints</li> <li>First responders for spill cleanup and illegal disposal of drums</li> <li>Provides informative pamphlets</li> </ul>

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**Figure 2-1: City of San Clemente Organizational Chart**



In addition to the internal City coordination summarized in **Table 2-1**, City staff engages in the following partnerships:

- Orange County Sherriff: provides law enforcement services to the City.
- Orange County Fire Authority: provides fire protection and related activities services to the City, including Hazardous Material related matters.
- Orange County Health Care Agency: provides management of the City's Used Oil Program. The agency is also the Certified Unified Program Agency (CUPA) for the City and inspects all hazardous waste generators.
- Orange County Flood Control District: provides maintenance for the flood control channels within the City that are within Flood District right-of-way.
- South Orange County Wastewater Authority (SOCWA): provides ocean disposal of the City's treated wastewater.
- The Ecology Center: The City partners with the Ecology Center on educational programs reaching out to the Community. The Ecology Center holds workshops and seminars for kids to adults, runs exhibits and has permanent educational displays dealing with water conservation, stormwater and energy conservation.

## **2.3 FISCAL ANALYSIS**

Since the adoption of the NPDES permits, the City has provided funding for the countywide shared-cost budget and has identified funds for internal compliance activities. The cost of City compliance activities to accomplish the activities described in the JRMP is reported annually in the NPDES JRMP annual report. This report includes information on capital, operations and maintenance, and funding sources.

Although the City is cooperating with the Principal Permittee and other Copermittees with efforts to assess potential funding sources to implement MS4 Permit requirements, the City already has established two utility service fee programs to provide necessary revenue.

### **2.3.1 Storm Drainage Fee Program**

In 1993, the City adopted a storm drainage fee to fund the cost of providing storm drain facility services to parcels assessed the fee. The fee was deemed necessary to pay for improving the quality of storm and surface water as well as the design, construction, operation, maintenance, improvement and replacement of the City's storm drainage facilities. The fee is based on a parcel's expected contribution of runoff, which is determined by an estimate of the impervious area on that parcel. Impervious areas include such things as buildings and pavement, which prevent or restrict stormwater from getting into the soil and increase runoff from a parcel. Similar to other storm drain utilities, the City's storm drainage fee structure is based on the average impervious area for a single-family residential property, and then adjustments are made for other types of property (such as multi-family residential or commercial properties) to increase or decrease the base fee accordingly. The

storm drainage fee schedule is shown in **Table 2-2**.

**Table 2-2: Storm Drainage Fee Schedule**

Property Type	Monthly Fee Amount
Single Family Residential	\$2.96
Multi-Family Residential (per residential unit)	\$2.37
Non-Residential (per acre or fraction thereof)	\$29.60
Undeveloped, Graded	\$1.48 plus \$0.30 per acre for parcels greater than 2 acres
Note: No fee charged to undeveloped and ungraded parcels.	

The storm drainage fee is charged via a line item on the City's monthly utility service bill for those properties within the City that receive utility services from the City. The fee is assessed monthly but charged via a separate semi-annual bill for those properties within the City that receive utility services from another utility service provider. Revenue from the storm drainage fee is placed in a restricted Storm Drain Enterprise Fund and can only be used for storm drain related activities such as system maintenance and upgrades.

### 2.3.2 Urban Runoff Management Fee Program

To conduct increased activities necessary to protect local water quality and comply with the Third Term Permit, the City adopted a temporary, five-year Urban Runoff Management Fee that went into effect in January 2003. This fee program was renewed in 2007 and in 2013 for another six-year term, and will expire automatically on June 30, 2020. This fee was adopted in compliance with Proposition 218 (California Constitution Article XIII D Section 6), which requires voter approval of such property-related fees. The Urban Runoff Management Fee schedule is shown in **Table 2-3**.

**Table 2-3: Urban Runoff Management Fee Schedule**

Property Type		Monthly Fee Amount
Single Family Residential	Private street	\$5.10
	Public street	\$6.23
Multi-Family Residential (per residential unit)	Private street	\$4.08
	Public street	\$4.98
Non-Residential (per acre or fraction thereof)	Private street	\$51.00
	Public street	\$62.30
Undeveloped, Graded	Private street	\$2.55 plus \$0.51 per acre for parcels greater than 2 acres
	Public street	\$3.12 plus \$0.62 per acre for parcels greater than 2 acres
Note: Private street fee is lower since the City does not sweep private streets.		

The Urban Runoff Management Fee has the same basis as the Storm Drainage Fee and is

billed as a line item utility charge similar to the Storm Drainage Fee. As with the Storm Drainage Fee, Urban Runoff Management Fee revenue is placed in a restricted Clean Ocean Enterprise Fund and can only be used for activities to support implementation of the City's urban runoff management/stormwater permit compliance program.

### **2.3.3 Grant Funds**

To supplement City funds for implementation of JRMP activities, the City actively seeks and applies for applicable grant funds. In the past the City received grant funds from EPA, the State Water Board, and the County of Orange. However, when available grant funding is typically awarded on a competitive basis and therefore not guaranteed.

### **2.3.4 Other Funding Sources**

The City also generates revenue from water quality violation fines and from parking enforcement (street sweeping violations) that are used to help fund the JRMP program.

### **2.3.5 JRMP Annual Budget**

The City's JRMP budget varies annually, but averages about \$2 million per year. Detailed budget information is provided each year through the City's Annual Budget process, as well as through the City's NPDES JRMP Annual Report submittal.

## **2.4 DATA MANAGEMENT AND REPORTING**

The Permit requires the preparation of a JRMP Annual Progress Report for submittal to the SDRWQCB and United States Environmental Protection Agency (USEPA) Region IX no later than January 31 of each year for the subsequent reporting period of July 1 to June 30 as an attachment to the Water Quality Improvement Plan (WQIP) Annual Report. The JRMP Annual Report prepared by the City is available for review in the Environmental Programs Section.

The City completes a Jurisdictional Runoff Management Program Annual Report Form covering implementation of its jurisdictional activities during the annual reporting period. Each Annual Report verifies and documents compliance with the MS4 Permit.

The County of Orange serves as the Principal Permittee and is responsible for preparing the WQIP Annual Report. This report will include:

1. The receiving water and MS4 outfall discharge monitoring;
2. The progress of the special studies and the findings, interpretations and conclusions of a special study, or each phase of a special study, upon its completion;
3. The findings, interpretations and conclusions from the assessments required pursuant to Permit Provision D.4; and



4. The progress of implementing the WQIP, including, but not limited to, the following:
  - The progress toward achieving the interim and final numeric goals for the highest priority water quality conditions for the Watershed Management Area;
  - The water quality improvement strategies that were implemented and/or no longer implemented by each of the Copermittees during the reporting period and previous reporting periods;
  - The water quality improvement strategies planned for implementation during the next reporting period;
  - Proposed modifications to the water quality improvement strategies, the public comments received and the supporting rationale for the proposed modifications;
  - Previous modifications or updates incorporated into the WQIP and/or each Copermittee's Jurisdictional Runoff Management Plan document and implemented by the CoCopermittees in the Watershed Management Area; and
  - Proposed modifications or updates to the Water Quality Improvement Plan and/or each Copermittee's Jurisdictional Runoff Management Plan document.

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### **3.0 JURISDICTIONAL WORK PLAN**

This section describes the approach being taken by the City in developing and updating the JRMP to maintain a responsive program in compliance with the Permit. Program updates are informed by an adaptive management process focused on high priority water quality issues by revising, adding or deleting BMPs and activities in response to performance assessment and research. This feedback loop forms the framework for revision and improvement of the program and its documentation.

#### **3.1 DAMP, JRMP AND WATERSHED WORK PLANS**

The Principal Permittee, in conjunction with the City and the other Copermittees, have developed a comprehensive framework for storm water management, described in the Drainage Area Management Plan (DAMP) and Water Quality Improvement Plan (WQIP), which are updated as appropriate in conjunction with the Report of Waste Discharge and each new Municipal Permit's findings and requirements. There is a model programmatic County-wide approach for urban stormwater management on two levels:

- Implementing a baseline set of source control BMPs and activities that are considered proven and cost-effective, and are recommended for inclusion or reference in the Copermittees' JRMPs at the *local jurisdictional MS4 level*. The JRMP primarily addresses non-structural and pollution prevention controls applicable to a specific site or in the storm drain system, as well as localized structural BMPs, as required by Provision E of the Permit and as further determined appropriate by the City.
- A framework for collective action at the *multi-jurisdictional watershed level*, focusing on solving the highest priority water quality issues and conditions, and documenting issues and progress through the WQIP reports compiled by the Principal/Lead Permittee with input by the Copermittees.

#### **3.2 FRAMEWORK FOR BMP SELECTION AND EFFECTIVENESS ASSESSMENT**

The WQIP provides the framework for collective action at the multi-jurisdictional watershed level, focusing on solving the highest priority water quality issues and conditions (HPWQCs) including: pathogen health risk, channel erosion/geomorphic impacts, and unnatural water balance/flow regime. In order to assure that resources for pollution prevention and removal BMPs are strategically expended, the City typically evaluates any potential new structural or preventative BMP technologies or practices on a limited scale, or consults evaluations conducted by others, before considering broader-scale implementation. Implementation is pursued in a prioritized manner on a schedule consistent with available resources. After pilot and/or broader implementation, local effectiveness is assessed to determine if further adjustments or modifications are needed to the BMP implementation or program priorities. These iterative efforts are discussed and reported in the Annual Jurisdictional Work Plan progress updates submitted with the JRMP/WQIP Annual Report.

The BMP selection and effectiveness assessment process may include, but is not limited to, input from the following factors and information sources, as available and applicable:

- A review of technical literature (such as the ASCE/EPA databases)

- A review of existing control programs
- Demonstration or research projects by City or other entities
- Input from vendors, consulting firms, other municipalities, or other agencies
- Water quality and flow data and modeling
- User and operational/maintenance staff feedback
- Opinion surveys
- Beneficial Use assessment
- Cost and cost/benefit
- Technical feasibility
- Acceptability by the community
- Ease or difficulty of implementation
- Maintenance requirements
- Pollutant prevention/removal performance
- Multiple resource benefits or impacts

The program evaluation framework is based on the California Stormwater Quality Association (CASQA, 2015) method, which presents a hierarchy of potential outcomes at six levels:

- Outcome Level 6: Receiving Water Conditions
- Outcome Level 5: MS4 Contributions
- Outcome Level 4: Source Conditions
- Outcome Level 3: Target Audience Actions
- Outcome Level 2: Barriers & Bridges to Action
- Outcome Level 1: Stormwater Program Activities

The Report of Waste Discharge, the region-wide Annual Unified Reports, the WQIP Reports and the City's Annual JRMP/LIP Performance Effectiveness Assessment Reports provide a history of program and BMP activities implemented and progress toward meeting water quality standards and addressing regional high priority water quality conditions. The City's current baseline BMPs to reduce, eliminate or mitigate pollutant impacts are summarized in Sections 5 through 10. The annual assessments may be adapted or modified over the Permit term to improve their usefulness. Any modifications to the program or to programmatic assessment methods are also reported annually, with corresponding revisions made to the JRMP as appropriate.

### **3.3 WATER QUALITY MONITORING**

#### **3.3.1 WQIP Monitoring and Assessment Program**

Through the annual cost-share agreement described in Section 2, the City participates financially to support the implementation of the following WQIP monitoring and assessment programs:

- *The High Priority Water Quality Condition Monitoring Program* monitors the effectiveness of strategies, and progress towards goals and schedules associated with the WQIP identified highest priority water quality conditions (HPWQCs);
- *The Receiving Water Monitoring Program* is intended to measure the long-term health of the watersheds;

- The *MS4 Outfall Monitoring Program* monitors the discharges from the MS4 outfalls in order to assess the effectiveness of Copermittee JRMPs at prohibiting non-storm water discharges into the MS4 and reducing pollutants in storm water discharges.
- *The TMDL Monitoring Program* monitors progress toward achieving compliance with interim and final numeric targets specified in the Twenty Beaches and Creeks Bacteria TMDL.
- *Special Studies* address pollutant and/or stressor data gaps and/or develops information necessary to more effectively address the pollutants and/or stressors that cause or contribute to the HPWQCs.

The data collected as part of the WQIP monitoring programs and special studies is then evaluated annually by the Copermittees in conjunction with information collected during the implementation of the JRMP programs in order to assess the progress of water quality improvement strategies. A detailed description of the WQIP Monitoring and Assessment can be found in Section 4 of the WQIP.

### **3.4 WATER QUALITY IMPROVEMENT STRATEGIES**

#### **3.4.1 DAMP/JRMP Strategies**

Sections 5 through 10 identify the City's baseline BMPs modeled after the countywide DAMP and are focused on reducing pollutant discharges from the MS4 to the maximum extent practicable (MEP). Table 3-1 further identifies the WQIP HPWQCs (pathogen health risk, channel erosion/geomorphic impacts, and unnatural water balance/flow regime) and target pollutants that are addressed through these strategies.

#### **3.4.2 WQIP Strategies**

Beyond the City's baseline DAMP/JRMP Strategies, WQIP strategies include non-structural programs and special studies and structural BMPs focused on the WQIP identified HPWQCs. These efforts can be divided into multi-jurisdictional regional WQIP strategies implemented through the Principal Permittee (see Table 3-1 and Section 3 of the WQIP) and jurisdictional WQIP strategies implemented by the City through the JRMP.

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**Table 3-1: Summary of Jurisdictional and Watershed Strategies – City of San Clemente**

Strategy		HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP
<b>DAMP/JRMP Strategies</b>					
Municipal Activities	Trash and Debris Control	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> <li>•Unnatural Water</li> <li>Balance/Flow Regime</li> </ul>	<u>WQIP Priority Pollutants</u> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Trash</li> <li>•Pesticides</li> <li>•Turbidity</li> <li>•Toxicity</li> </ul> <u>Other Pollutants</u> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	Citywide	JRMP Section 5
	Drainage Facility Maintenance – MS4 Inspections/Cleaning				
	Street Sweeping				
	Structural BMP Maintenance at Municipal Projects				
	Pesticide & Fertilizer Management				
	Municipal Staff Training and Education				
Public Education	Nonpoint Source Pollution Awareness	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> <li>•Unnatural Water</li> <li>Balance/Flow Regime</li> <li>•Channel Erosion/</li> <li>Geomorphic Impacts</li> </ul>	<u>WQIP Priority Pollutants</u> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Trash</li> <li>•Pesticides</li> <li>•Turbidity</li> <li>•Toxicity</li> </ul> <u>Other Pollutants</u> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	Citywide	JRMP Section 6
	Household Hazardous Waste Collection				
	Absorbent Landscaping/Impervious Area Dispersion Incentive Program				
	Irrigation Runoff Prevention				

Strategy		HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP
New Development/ Redevelopment	Water Quality Management Plan Review & Post Construction BMP Inspection	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> <li>•Unnatural Water Balance/Flow Regime</li> <li>•Channel Erosion/Geomorphic Impacts</li> </ul>	<u>WQIP Priority Pollutants</u> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Trash</li> <li>•Pesticides</li> <li>•Turbidity</li> <li>•Toxicity</li> </ul> <u>Other Pollutants</u> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	Citywide	JRMP Section 7
Construction	Construction BMPs – Plan Check & Inspection	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> <li>•Unnatural Water Balance/Flow Regime</li> <li>•Channel Erosion/Geomorphic Impacts</li> </ul>	<u>WQIP Priority Pollutants</u> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Trash</li> <li>•Turbidity</li> </ul> <u>Other Pollutants</u> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	Citywide	JRMP Section 8
Existing Development	Industrial Facility Inspections	<ul style="list-style-type: none"> <li>•Unnatural Water Balance/Flow Regime</li> </ul>	<u>WQIP Priority Pollutants</u> <ul style="list-style-type: none"> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Trash</li> <li>•Toxicity</li> </ul> <u>Other Pollutants</u> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> </ul>	Industrial Facilities within the City	JRMP Section 9



Strategy	HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP	
	Commercial/Food Facility Inspections	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> <li>•Unnatural Water Balance/Flow Regime</li> </ul>	<u>WQIP Priority Pollutants</u> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Trash</li> <li>•Pesticides</li> <li>•Toxicity</li> </ul> <u>Other Pollutants</u> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> </ul>	Commercial/ Food Facilities within the City	JRMP Section 9
	Mobile Business Program	<ul style="list-style-type: none"> <li>•Unnatural Water Balance/Flow Regime</li> </ul>	<u>WQIP Priority Pollutants</u> <ul style="list-style-type: none"> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Toxicity</li> </ul> <u>Other Pollutants</u> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> </ul>	Citywide	JRMP Section 9
	Residential Management Area CIA/HOA Inspections	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> <li>•Unnatural Water Balance/Flow Regime</li> </ul>	<u>WQIP Priority Pollutants</u> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Trash</li> <li>•Pesticides</li> <li>•Turbidity</li> <li>•Toxicity</li> </ul> <u>Other Pollutants</u> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	City Residential Management Areas	JRMP Section 9

Strategy		HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP
Illegal Discharge/ Illicit Connection	Illegal Discharge Investigations, Spill Response	•Pathogen Health Risk •Unnatural Water Balance/Flow Regime	<u>WQIP Priority Pollutants</u> •Bacteria/Pathogens •Non-stormwater discharges •Nutrients •Trash •Pesticides •Turbidity •Toxicity <u>Other Pollutants</u> •Metals •Oil & Grease •Sediment	Citywide	JRMP Section 10
	Illicit Connection Inspections				
<b>WQIP Strategies</b>					
Regional WQIP Strategies	<u>Control Activities for Pathogen Health Risk</u> •Comprehensive Human Waste Source Reduction Program	•Pathogen Health Risk	<u>WQIP Priority Pollutants</u> •Bacteria/Pathogens •Non-stormwater discharges •Nutrients	South Orange County Watershed Management Area	WQIP Section 3
	<u>Control Activities for Unnatural Water Balance</u> •Expanded transitional monitoring observations •Detailed flow monitoring at priority outfalls •High-resolution imagery analysis •Flow regime characterization •Outfall prioritization •Outfall capture feasibility studies •Incentives for low water use landscaping and/or irrigation source controls	•Unnatural Water Balance/Flow Regime	<u>WQIP Priority Pollutants</u> •Bacteria/Pathogens •Non-stormwater discharges •Nutrients •Trash •Pesticides •Turbidity •Toxicity <u>Other Pollutants</u> •Metals •Oil & Grease •Sediment	South Orange County Watershed Management Area	WQIP Section 3

Strategy		HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP
	<u>Control Activities for Channel Erosion</u> •Restoration Alternatives and Feasibility Studies •Finalize Conceptual Geomorphically-Referenced Basis of Design (GRBoD) Guidelines •Programmatic Permitting Framework for Geomorphically-Referenced Basis of Design Projects •LiDAR Data Acquisition and Analysis •Coordination with upland controls proposed for Pathogen Health Risk and Water Balance HPWQCs •Watershed Management Area Analysis Coarse Sediment Supply Analysis	•Channel Erosion/ Geomorphic Impacts	<u>WQIP Priority Pollutants</u> •Bacteria/Pathogens •Nutrients •Turbidity •Toxicity <u>Other Pollutants</u> •Sediment	South Orange County Watershed Management Area	WQIP Section 3
Jurisdictional Non-structural WQIP Strategies	Poche Beach Falconry Program: Consider implementation on an annual basis	•Pathogen Health Risk	<u>WQIP Priority Pollutants</u> •Bacteria/Pathogens	Poche Beach	JRMP Section 3
	Recreational Vehicle Waste Disposal Education Program	•Pathogen Health Risk	<u>WQIP Priority Pollutants</u> •Bacteria/Pathogens	Citywide	JRMP Section 3
	Permitted Discharge Inventory	•Unnatural Water Balance/Flow Regime	<u>WQIP Priority Pollutants</u> •Non-stormwater discharges	Citywide	JRMP Section 3

Strategy	HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP
<p>Jurisdictional Structural WQIP Strategies</p> <p>Poche Beach Project – Urban Runoff Treatment Facility (County of Orange Facility)</p> <p><u>Description:</u> 1.1 MGD capacity urban runoff treatment facility. Sand filtration and ultraviolet light (UV) disinfection.</p> <p><u>Drainage Area:</u> 4,450 acres</p> <p><u>Construction Schedule:</u> Completed in 2009; operations initiated July 2010</p> <p><u>Construction Costs:</u> Approximately \$3.0 million including construction, inspection &amp; performance testing.</p>	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> </ul>	<p><u>WQIP Priority Pollutants</u></p> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> </ul>	<p>Prima Deshecha Subwatershed</p>	<p>JRMP Section 3</p>

Strategy	HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP
<p>Segunda Deshecha Dry Weather Diversion</p> <p><u>Description:</u> The City collects dry weather urban runoff from the 4,800 acre M02 watershed and conveys flows to a pressure sand filtration system for treatment. The treated effluent is discharged to the City's land outfall combining with the secondary treated wastewater for ocean disposal.</p> <p><u>Drainage Area:</u> Approximately 4800 Acres</p> <p><u>Construction Schedule:</u> Completed 2009</p> <p><u>Construction Costs:</u> \$3.4 million Funded through a \$1.8 million Prop 40 SWRCB Grant, \$719,839 US EPA Grant, and City Funds</p>	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> <li>•Unnatural Water Balance/Flow Regime</li> </ul>	<p><u>WQIP Priority Pollutants</u></p> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Trash</li> <li>•Pesticides</li> <li>•Turbidity</li> <li>•Toxicity</li> </ul> <p><u>Other Pollutants</u></p> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	<p>Segunda Deshecha (M02) Subwatershed</p>	<p>JRMP Section 3</p>
<p>Riviera Dry Weather Diversion</p> <p><u>Description:</u> A concrete curb in the flow line of this open channel segment that directs low flow through a screen into a 6-inch PVC pipe which is connected to the sanitary sewer. The pipe has a valve used to close the diversion during the wet season.</p> <p><u>Drainage Area:</u> Approximately 282 acres.</p> <p><u>Construction Schedule:</u> Completed 2001</p> <p><u>Construction Costs:</u> \$5,000</p>	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> <li>•Unnatural Water Balance/Flow Regime</li> </ul>	<p><u>WQIP Priority Pollutants</u></p> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Trash</li> <li>•Pesticides</li> <li>•Turbidity</li> <li>•Toxicity</li> </ul> <p><u>Other Pollutants</u></p> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	<p>Riviera Storm Drain Subwatershed</p>	<p>JRMP Section 3</p>

Strategy	HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP
<p>Linda Lane Dry Weather Diversion</p> <p><u>Description:</u> An underground structure with a valve that is used to close the diversion during the wet season.</p> <p><u>Drainage Area:</u> Approximately 135 acres.</p> <p><u>Construction Schedule:</u> Completed 2001</p> <p><u>Construction Costs:</u> \$7,500</p>	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> <li>•Unnatural Water Balance/Flow Regime</li> </ul>	<p><u>WQIP Priority Pollutants</u></p> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> <li>•Trash</li> <li>•Pesticides</li> <li>•Turbidity</li> <li>•Toxicity</li> </ul> <p><u>Other Pollutants</u></p> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	<p>Linda Lane Storm Drain Subwatershed</p>	<p>JRMP Section 3</p>
<p>Pier Bowl Vortex Separator</p> <p><u>Description:</u> Hydrodynamic separation unit which separates trash &amp; debris and oil/grease from runoff via centrifugal force in an underground vault.</p> <p><u>Drainage Area:</u> Approximately 77 acres.</p> <p><u>Construction Schedule:</u> Completed 2006</p> <p><u>Construction Costs:</u> \$213,000</p>	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> </ul>	<p><u>WQIP Priority Pollutants</u></p> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Nutrients</li> <li>•Trash</li> </ul> <p><u>Other Pollutants</u></p> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	<p>Pier Bowl Storm Drain Subwatershed</p>	<p>JRMP Section 3</p>

Strategy	HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP
<p>Mariposa Beach Access Vortex Separation Unit</p> <p><u>Description:</u> Hydrodynamic separation unit which separates trash &amp; debris and oil/grease from runoff via centrifugal force in an underground vault.</p> <p><u>Drainage Area:</u> Approximately 51 acres.</p> <p><u>Construction Schedule:</u> Completed 2006</p> <p><u>Construction Costs:</u> \$213,000</p>	<p>•Pathogen Health Risk</p>	<p><u>WQIP Priority Pollutants</u></p> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Nutrients</li> <li>•Trash</li> </ul> <p><u>Other Pollutants</u></p> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	<p>Mariposa Storm Drain Subwatershed</p>	<p>JRMP Section 3</p>
<p>Calafia Vortex Separator</p> <p><u>Description:</u> Hydrodynamic separation unit which separates trash &amp; debris and oil/grease from runoff via centrifugal force in an underground vault.</p> <p><u>Drainage Area:</u> Approximately 160 acres.</p> <p><u>Construction Schedule:</u> Completed 2006</p> <p><u>Construction Costs:</u> \$213,000</p>	<p>•Pathogen Health Risk</p>	<p><u>WQIP Priority Pollutants</u></p> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Nutrients</li> <li>•Trash</li> </ul> <p><u>Other Pollutants</u></p> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	<p>Calafia Storm Drain Subwatershed</p>	<p>JRMP Section 3</p>

Strategy	HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP
<p>Linda Lane Vortex Separator</p> <p><u>Description:</u> Hydrodynamic separation unit which separates trash &amp; debris and oil/grease from runoff via centrifugal force in an underground vault</p> <p><u>Drainage Area:</u> Approximately 8 acres</p> <p><u>Construction Schedule:</u> Completed 2012</p> <p><u>Construction Costs:</u> \$224,000</p>	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> </ul>	<p><u>WQIP Priority Pollutants</u></p> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Nutrients</li> <li>•Trash</li> </ul> <p><u>Other Pollutants</u></p> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	<p>Linda Lane Storm Drain Subwatershed</p>	<p>JRMP Section 3</p>
<p>El Portal Vortex Separator</p> <p><u>Description:</u> Hydrodynamic separation unit which separates trash &amp; debris and oil/grease from runoff via centrifugal force in an underground vault.</p> <p><u>Drainage Area:</u> Approximately 91 acres.</p> <p><u>Construction Schedule:</u> Completed 2006</p> <p><u>Construction Costs:</u> \$213,000</p>	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> </ul>	<p><u>WQIP Priority Pollutants</u></p> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Nutrients</li> <li>•Trash</li> </ul> <p><u>Other Pollutants</u></p> <ul style="list-style-type: none"> <li>•Metals</li> <li>•Oil &amp; Grease</li> <li>•Sediment</li> </ul>	<p>El Portal Storm Drain Subwatershed</p>	<p>JRMP Section 3</p>



Strategy	HPWQC Targeted	Target Pollutants	Geographic Extent of Implementation	Location in JRMP or WQIP
<p>Water District “Smart Landscape” Rebate Programs</p> <p><u>Description:</u> Through the Municipal Water District of Orange County (MWDOC) in cooperation with SCWD, incentive programs relating to outdoor water conservation and the prevention of water waste (runoff) have been in effect since 2004-05.</p> <p><u>Drainage Area:</u> Citywide</p> <p><u>Construction Schedule:</u> Ongoing</p> <p><u>Construction Costs:</u> Homeowner cost shared</p>	<ul style="list-style-type: none"> <li>•Pathogen Health Risk</li> <li>•Unnatural Water Balance/Flow Regime</li> </ul>	<p><u>WQIP Priority Pollutants</u></p> <ul style="list-style-type: none"> <li>•Bacteria/Pathogens</li> <li>•Non-stormwater discharges</li> <li>•Nutrients</li> </ul> <p><u>Other Pollutants</u></p> <ul style="list-style-type: none"> <li>•Sediment</li> </ul>	<p>Citywide</p>	<p>JRMP Section 3</p>



### *Jurisdictional Non-Structural WQIP Strategies*

- Poche Beach Falconry Program – Bacteria related water quality objective exceedances at Poche Beach have been linked to seagull fecal waste along the beach. To address these exceedances the City may hire a falconer to scare seagulls away from Poche Beach during the summer months. past implementation has dramatically reduced the number of exceedances that have occurred at the beach and addresses the HPWQC of pathogen health risk.
- Recreational Vehicle Waste Disposal Education Program - Recreational vehicles are a unique source of pollutants because they are mobile sources that are largely unregulated. To address discharges from recreational vehicles the City implements an illegal discharge detection and elimination program that includes public outreach, a water pollution hotline, staff training, and clean-up of illegal discharges. The Principal Permittee is also planning to develop a BMP factsheet on proper recreational vehicle waste disposal which will be distributed by the City. The program’s goal is to address the HPWQC of pathogen health risk.
- Permitted Discharge Inventory - The City will utilize available information and requests specific information from the RWQCB to prepare an inventory of permitted dischargers within the City. The purpose of this inventory is to characterize the potential contribution of these sources to flows at MS4 outfalls as part of addressing the HPWQC of unnatural water balance/flow regime.

### *Jurisdictional Structural WQIP Strategies*

- Poche Clean Beach Project Urban Runoff Treatment Facility – This urban runoff treatment bacteria disinfection facility is located at Poche Beach on the City’s boundary with Dana Point and treats urban runoff from Prima Deshecha Channel prior to its discharge to the surf zone at Poche Beach. Project development costs were approximately \$3 million, with funding coming from the City, the State Clean Beaches Initiative, the County, and the Miocean public interest group. The South Coast Water District presently operates the facility through operations costs funded by the County and City.
- Storm Drain Dry Weather Diversions – Three dry weather diversions have been installed at coastal storm drain outlets within the City. All low flow urban runoff is diverted into the sanitary sewer system in these drainage areas where it is then treated to remove pollutants (see **Table 3-1** for project descriptions).
  - Segunda Deshecha
  - Riviera
  - Linda Lane
- Vortex Separators – The City has installed five vortex separators in storm drains throughout the City. The separators are treatment devices used to remove solids, trash, debris, petroleum hydrocarbons and associated pollutants from urban runoff. The devices are located at the outlet of the following drainage areas (see **Table 3-1** for project descriptions):
  - Pier Bowl
  - Mariposa
  - Calafia

- Linda Lane
- El Portal
- West Palizada
- Landscape Retrofits – Examples include weather-based irrigation controllers (aka SmarTimers), edgescaping where existing irrigated lawn area along the edge of a sidewalk, street curb, driveway, etc. is replaced with lower impact landscaping and permeable ground covering, and other irrigation improvements to improve water efficiency and reduce runoff. Landscape retrofits target the HPWQCs of pathogen health risk, channel erosion/geomorphic impacts and unnatural water balance/flow regime. City landscape retrofit project descriptions are listed in **Table 3-1**:
  - Water District “Smart Landscape” Rebate Programs
  - Median Retrofits

### **3.5 PUBLIC PARTICIPATION**

The City has a Coastal Advisory Committee (CAC), which is a panel of seven community members appointed by the City Council to advise it on coastal and water quality issues. The earlier URMP and LIP documents were developed with input and review from the CAC, as well as general community input and review through public meetings hosted by the CAC. This updated JRMP was also reviewed by the CAC and members of the public were given the opportunity to review this JRMP and provide comment. This JRMP is also available on the City's web site, so that any interested party can learn about and provide input on the City's efforts to reduce stormwater pollution and improve local water quality. The general public always has the opportunity to provide comments to the City via the twice-monthly City Council meetings, the monthly CAC meetings, by sending an email to the City's Environmental Programs Section email at: [cleanwater@san-clemente.org](mailto:cleanwater@san-clemente.org), or by simply calling the City's Utilities Department, Environmental Programs Section at (949) 366-1553.

### **3.6 REPORTING**

JRMP Annual Reports will be submitted along with the WQIP Annual Reports on January 31, subsequent of the reporting year. The JRMP Annual Report prepared by the City is available for review in the Environmental Programs Section.

## **4.0 LEGAL AUTHORITY**

### **4.1 FEDERAL REGULATIONS**

#### **4.1.1 Clean Water Act**

The principal law that serves to protect the nation's waters is the Federal Water Pollution Control Act, which was originally enacted in 1948. This legislation, which today is more commonly referred to as the Clean Water Act (CWA), underwent significant revision when Congress, in response to the public's growing concern of widespread water pollution, passed the Federal Water Pollution Control Act Amendments of 1972.

The 1972 legislation established two fundamental, national goals: eliminate the discharge of pollutants into the nation's waters and achieve water quality that is both "fishable" and "swimmable." The 1972 amendments to the CWA also prohibited the discharge of any pollutant to waters of the United States from any point source (e.g., a discharge pipe) unless the discharge was authorized by a National Pollutant Discharge Elimination System (NPDES) permit. However, non-point source discharges (i.e., stormwater or urban runoff) were not fully covered under the NPDES permit program until Congress amended the CWA in 1987.

In the 1987 CWA amendments, Congress directed the Environmental Protection Agency (EPA) to establish a permitting framework under the NPDES program to address stormwater discharges associated with urban areas and certain industrial activities. EPA subsequently developed a two-phased NPDES permitting program.

Relative to nationwide stormwater management, there are several sections of the CWA that are important:

- Section 303(d): Total Maximum Daily Loads (TMDLs)
- Section 319: Non-point Source Prevention and Control Program
- Section 402: NPDES Program

A TMDL is a regulatory method for establishing the amount of pollutants that a waterbody can accept before beneficial uses are adversely impacted. TMDLs are implemented for impaired waters to help restore the beneficial uses of those waters. Beneficial uses are defined as the uses of water necessary for the survival or well-being of man, plants and wildlife. These uses of water serve to promote the tangible and intangible economic, social and environmental goals of mankind. Examples include drinking, swimming, industrial and agricultural water supply, and the support of fresh and saline aquatic habitats. In California, the State Water Resources Control Board (SWRCB) is responsible for preparing a list of impaired waters (known as the 303(d) list) that serves as the basis for establishing TMDLs.

#### *San Diego Regional Board Bacteria TMDL*

Currently the City of San Clemente is a responsible Copermittee for the Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region (Bacteria TMDL). The Bacteria TMDL has been incorporated into the MS4 Permit. Details related to this TMDL can be found on the San Diego Regional Water

Quality Control Board (SDRWQCB) website here:

[http://www.waterboards.ca.gov/sandiego/water\\_issues/programs/tmdls/bacteria.shtml](http://www.waterboards.ca.gov/sandiego/water_issues/programs/tmdls/bacteria.shtml)

Several beach segments in the City of San Clemente and South Orange County are subject to the Bacteria TMDL, which sets numeric limits for bacteria levels during dry weather and during and immediately after storms. Fecal indicator bacteria originate from the intestinal flora of warm-blooded animals, and their presence in surface water is used as an indicator of human pathogens. Pathogens can cause illness in recreational water users and people who harvest and eat filter-feeding shellfish. Bacteria have been historically used as indicators of human pathogens because they are easier and less costly to measure than the pathogens themselves.

Contact Water Recreation (REC-1) is one of the beneficial uses for the Pacific Ocean Shoreline for which this TMDL is being implemented. REC-1 includes uses of water for recreational activities involving body contact with water. These uses include, swimming, wading, water-skiing, skin and SCUBA diving, surfing, white water activities, fishing, or use of natural hot springs.

As part of the WQIP process to identify priority and highest priority water quality conditions, the WQIP identified Human Pathogen Health Risk as one of the Highest Priority Water Quality Conditions. Based on the Bacteria TMDL, the South Orange County WQIP incorporates numeric goals and timelines by which bacteria levels are expected to be achieved, and strategies to meet the goals based on the requirements of the TMDL.

Recreational water use along San Clemente beaches is of great importance to San Clemente residents and visitors and the local economy. This JRMP outlines the strategies that the City of San Clemente plans to implement to reduce the bacteria exceedances at the Pacific Ocean Shoreline to protect REC-1 beneficial uses.

#### **4.1.2 Federal NPDES Permit Program**

CWA Section 402 prohibits the discharge of pollutants into waters of the United States from any point source without an NPDES permit. Although this program initially focused on point-source discharges of municipal and industrial wastewater, results of studies conducted by the EPA in the 1970's and 1980's identified contaminated stormwater as one of the primary causes of water quality impairment. To regulate stormwater (non-point source) discharges, EPA developed a two-phased NPDES permit program as discussed below.

##### *NPDES Permit Program: Phase I*

In November 1990, under Phase I of its stormwater program, the EPA published NPDES permit requirements for municipal and industrial stormwater discharges, which included the following:

- Municipalities that own and operate separate storm drain systems serving populations of 100,000 or more, or that contribute significant pollutants to waters of the United States, must obtain municipal stormwater NPDES permits.
- A municipality must develop and implement a stormwater management program to obtain a permit.
- The municipal stormwater management program must address how to reduce

pollutants in industrial stormwater discharges and other discharges that are contributing a substantial pollutant load to their systems.

- Facilities that are discharging stormwater associated with industrial activity, including construction activities that disturb 5 or more acres, must acquire industrial stormwater NPDES permit coverage.

#### *NPDES Permit Program: Phase II*

On August 7, 1995, EPA amended the NPDES permit requirements in order to focus on Phase II stormwater discharges, such as discharges caused by:

- Commercial, light industrial, and institutional activities;
- Construction activities under 5 acres and greater than one acre; and
- Municipal storm drain systems serving populations under 100,000.

Similar to Phase I requirements, the NPDES Phase II permit program also required the development and implementation of stormwater management plans to reduce such discharges. The Phase II program went into effect in early 2003, and affected agencies were required to apply for NPDES Phase II permits at that time. Although the City's population is below 100,000, the City is considered part of a larger urbanized area, and therefore the City, along with other Orange County cities and the County itself, has been covered under a Phase I NPDES permit since 1990. More information on the NPDES permit program is available on the EPA's website at <https://www.epa.gov/npdes>.

## **4.2 STATE REGULATIONS**

### **4.2.1 Porter-Cologne Water Quality Control Act**

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne; California Water Code Section 13000), the SWRCB is provided with the ultimate authority over state water rights and water quality policy. However, Porter-Cologne also established nine Regional Water Quality Control Boards (Regional Boards) to provide oversight on water quality issues at a regional and local level. San Clemente lies within the jurisdiction of the San Diego Regional Water Quality Control Board SDRWQCB (Region 9).

Although the Regional Boards are responsible for a variety of water quality functions, one primary function is the preparation and updating of regional Basin Plans, which serve to control water quality for surface and ground waters within various hydrologic and geographic regions. Basin Plans establish:

- The beneficial uses of individual water bodies to be protected;
- Water quality standards, commonly known as water quality objectives, for both surface water and groundwater;
- Actions necessary to maintain these standards such that non-point and point-source pollution in California waters is controlled.

The full Basin Plan is available from Region 9 through their office or website ([www.waterboards.ca.gov/sandiego](http://www.waterboards.ca.gov/sandiego)).

#### **4.2.2 Water Quality Control Plan for Ocean Waters of California (Ocean Plan)**

The Ocean Plan was created by the SWRCB in 1972 and has been amended from time to time since then. The objective of the Ocean Plan is to protect "the quality of the ocean waters for use and enjoyment by the people of the State." The provisions of the Ocean Plan apply to both point source and non-point source discharges to the ocean waters of California. The Plan sets forth water quality objectives and effluent limitations for the oceans of the State. The Ocean Plan is prepared by the SWRCB to focus only on ocean waters since the coastline encompasses a number of regions (the plan is available at [www.waterboards.ca.gov](http://www.waterboards.ca.gov)). As discussed previously, the Basin Plans prepared by each region complement the Ocean Plan by focusing on inland surface and ground waters within each of the nine Regional Board jurisdictions.

#### **4.2.3 California Coastal Non-point Pollution Control Program**

The Coastal Zone Act Reauthorization Amendments (CZARA) of 1990 requires states with coastal zones to develop and implement Coastal Non-point Pollution Control Programs. The objective of this program is for states and local authorities to work jointly to develop and employ management measures to control non-point source pollution, including urban runoff, to restore and protect urban waters. The California Coastal Commission and the Regional Boards are responsible for development and implementation of the California Coastal Non-point Pollution Control Program. CZARA provides guidance on required management measures to address various sources of non-point source pollution, including urban runoff but excluding discharges regulated by NPDES permits. CZARA requirements also apply to stormwater discharges that are not regulated under the current Phase I NPDES program. More information is available at: <http://www.coastal.ca.gov/nps/npsndx.html>.

#### **4.2.4 California NPDES Permit Programs**

In many states, EPA has delegated administration of the NPDES permit program to the state water quality control authority. In California, the SWRCB and its nine Regional Boards administer the NPDES permit program. Currently, discharges from construction, industrial, and municipal activities are regulated under the NPDES program, all of which are described further below.

##### *Construction Permits*

Construction site stormwater management is governed by the SWRCB under Water Quality Order No. 2009-0009-DWQ (NPDES General Permit No. CAS000002). These regulations prohibit discharges of stormwater to waters of the United States from construction projects that disturb one or more acres of soil unless the discharge is in compliance with an NPDES permit.

The California Construction General Permit (CGP) is enforced by the nine Regional Boards and requires all dischargers where construction activity disturbs one or more acres to:

- Develop and implement a Stormwater Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off site into receiving waters;



- Eliminate or reduce non-stormwater discharges to storm drainage systems and other waters of the nation;
- Perform inspections of all BMPs.

Construction activity subject to this CGP includes clearing, grading, disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre of total land area. Construction activity that disturbs less than one acre of soil is subject to this CGP if the construction activity is part of a larger common development plan (encompassing one or more acres) or if the construction causes significant impairment to local water quality. 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 protect public health and safety.

A construction project that involves a dredge and/or fill discharge to any jurisdictional surface water (e.g., wetland, channel, pond, or marine water) also needs a CWA Section 404 permit from the U.S. Army Corps of Engineers and a CWA Section 401 Water Quality Certification from the Regional Board. Stormwater discharges from dredge spoil placement, which occur outside of Corps jurisdiction (upland sites), and are part of construction activity that disturbs one or more acres of land are covered by the CGP.

It is the responsibility of the landowner to obtain coverage under this CGP before beginning construction activities. To obtain coverage, the landowner must file a Notice of Intent (NOI) with a vicinity map and the appropriate fee with the State Board. Coverage under this permit does not occur until the applicant develops an adequate SWPPP for the project. Section A of the CGP outlines the required contents of a SWPPP. For proposed construction activity on easements or on nearby property by agreement or permission, the entity responsible for the construction activity is required to file an NOI and filing fee and is responsible for development of the SWPPP, all of which must occur prior to commencement of construction activities.

This CGP does not apply to stormwater discharges from:

- Tribal Lands;
- Construction under one acre, unless part of a larger common plan of development or sale;
- Projects covered by an individual NPDES Permit for stormwater discharges associated with construction activity; and
- Landfill construction that is subject to the Industrial General Permit.

For more information, please visit the SWRCB website at [https://www.waterboards.ca.gov/water\\_issues/programs/stormwater/construction.html](https://www.waterboards.ca.gov/water_issues/programs/stormwater/construction.html).

### *Industrial Permits*

Industrial site stormwater management is governed by the SWRCB under Industrial General Permit (IGP) Water Quality Order 2014-0057-DWQ (NPDES General Permit No. CAS000001). These regulations prohibit discharges of stormwater to waters of the United States, unless in compliance with a NPDES permit, from a broad range of industrial

activities, including mining, manufacturing, disposal, recycling, and transportation.

To receive coverage under and comply with the IGP, the owner or operator of an industrial facility must:

- Send the State Board an NOI to comply with the General Permit;
- Prepare and implement a SWPPP that:
  1. Discusses characteristics of the site and specific pollutants which could impact stormwater quality; and
  2. Describes BMPs that the owner or operator will implement to control sources of stormwater pollution to the maximum extent practicable;
- Verify that any illicit connections to storm drains have been eradicated;
- Develop and execute a Monitoring Plan to assess the effectiveness of BMPs through visual inspection of storm drains during wet and dry weather and storm sampling;
- Maintain a copy of the SWPPP and Monitoring Plan onsite such that it is available for regulatory agency staff and public inspection;
- Prepare and submit an annual report with monitoring results and a certificate of compliance by July 1st annually; and
- Pay an annual fee.

An industrial facility has the option to request an individual, site-specific NPDES permit instead of through the IGP. However, Regional Boards typically only consider adopting an individual permit when the facility has exceptional characteristics or poses a considerable threat to stormwater. Industrial permit information is available from the State Board website at: [http://www.waterboards.ca.gov/water\\_issues/programs/stormwater/industrial.shtml](http://www.waterboards.ca.gov/water_issues/programs/stormwater/industrial.shtml).

#### *Municipal Permits*

The Regional Boards implement the municipal stormwater NPDES permit program through area-wide permits for urban areas that are considerable sources of pollutants or contribute to water quality standard violations. Regardless of population, the area-wide permits cover all municipalities within the defined urban area. Thus, San Clemente is included in the regional Orange County NPDES Phase I permit described below even though the City's population is less than the threshold for a Phase I NPDES permit.

#### *Orange County Municipal NPDES Permit*

In 1990, the County of Orange, the Orange County Flood Control District (OCFCD) and incorporated cities of Orange County (collectively referred to as the Copermittees) obtained two regional NPDES Municipal Stormwater permits. The Santa Ana Regional Water Quality Control Board issued a permit for central and north Orange County while the San Diego Regional Water Quality Control Board issued an almost identical permit for south Orange County. To guide the stormwater permit program, the Copermittees developed a Drainage Area Management Plan (DAMP), which was approved by both Regional Boards in 1993. The Permits were renewed in 1996, 2002, 2009 and again in 2013. The permits are available from the Regional Board websites as follows:

- Santa Ana Region NPDES permit: [www.waterboards.ca.gov/santaana](http://www.waterboards.ca.gov/santaana)
- San Diego Region NPDES permit: [www.waterboards.ca.gov/sandiego](http://www.waterboards.ca.gov/sandiego)

### **4.3 LOCAL REGULATIONS**

The Permit requires implementation of a program to reduce pollutants in stormwater discharges from commercial, industrial, and residential areas to the "maximum extent practicable" (MEP). To ensure that the NPDES program is being properly implemented, the City has a number of ordinances related to the regulation of discharge of pollutants to the City's storm drain system as discussed in the following subsections. To provide enforcement of water quality related ordinances, the City has designated water quality enforcement staff to conduct proactive enforcement and to respond to complaints of water quality violations.

#### **4.3.1 Stormwater Runoff Control: Chapter 13.40**

This section of the City's Municipal Code is commonly referred to as the "Water Quality Ordinance", and defines and prohibits illicit connections and illegal discharges to the City's storm drain system. The Water Quality Ordinance states that no person shall:

- Construct, maintain, operate and/or utilize any illicit connection;
- Cause, allow or facilitate any prohibited discharge;
- Act, cause, permit or suffer any agent, employee, or independent contractor, to construct, maintain, operate or utilize any illicit connection, or cause, allow or facilitate any prohibited discharge.

The Water Quality Ordinance also includes provisions to:

1. Require that all new development and significant redevelopment include water quality BMPs per the JRMP and DAMP requirements;
2. Require that businesses and residents implement appropriate BMPs to protect water quality;
3. Allow the City to inspect commercial and residential sites according to NPDES permit requirements; and
4. Conduct enforcement actions when violations of the Water Quality Ordinance or related ordinances are found.

As required by the Permit, City staff and the City Attorney conducted a review of the Stormwater Runoff Code to comply with the new Permit. The Stormwater Runoff Code complies with the 2013 Permit and can be accessed by searching for "Municipal Code" on the City's webpage at [www.san-clemente.org](http://www.san-clemente.org).

#### **4.3.2 Development Review Process: Chapter 17.12**

This section of the Municipal Code requires review under the California Environmental Quality Act (CEQA) and related environmental impact assessment for applicable projects. In compliance with NPDES permit requirements, the City's development review process and requirements include additional provisions for water quality. The environmental review and development review process requirements are discussed in greater detail in Section 7.

#### **4.3.3 Excavations and Grading: Chapter 15.36**

The Excavations and Grading Ordinance regulates excavation, grading construction, and establishes administrative requirements for the issuance of permits in accordance with the requirements in the Uniform Building Code. The grading chapter in the Municipal Code Sections 15.36.020 through 15.36.420 replaced chapter 70 of the Uniform Building Code,

### *Excavation and Grading.*

The City Engineer creates the rules, procedures, and interpretations in order to govern this section. This chapter is intended to "safeguard life, limb, property, and the public welfare by regulating grading on private property in the City of San Clemente". This code includes, among other requirements, provisions for proper erosion and sediment control during grading activities. In compliance with NPDES permit requirements, the City's grading ordinance includes additional provisions for water quality.

The grading permit ends once grading activity is completed. The NPDES permit requirement that all source control and structural BMPs be maintained is regulated not through the grading ordinance, but through the Storm Water Runoff Control Ordinance and the maintenance requirements for the project Water Quality Management Plan (WQMP), which continues for the life of the facility. WQMP requirements are discussed in detail in Section 7.

Also, the amendments to the grading ordinance give the City Engineer the flexibility to include certain site-specific conditions in grading permits. Given the likelihood that SDRWQCB requirements will change over time as more is learned about the water quality problems associated with stormwater and urban runoff, the grading ordinance was drafted to give the City Engineer the ability to include those changes in grading permits without the need for an amendment to the ordinance for every new requirement.

#### **4.3.4 Litter Ordinance: Chapter 8.40**

The Anti-Litter Ordinance prohibits the disposal of any waste material on any public or private property. This provides another mechanism by which the City may ensure that litter is properly disposed of, which reduces discharges of pollutants to the City's storm drain system.

#### **4.3.5 Solid Waste Ordinance: Chapter 8.68**

The Solid Waste Ordinance regulates where solid and liquid wastes, including hazardous and industrial wastes may, and may not be deposited or discharged. This also supports the City's efforts in ensuring that these types of wastes are not discharged into the City's storm drain system.

#### **4.3.6 Animal Control Ordinance: Chapter 6.08**

The Animal Control Ordinance, Chapter 6.08.120, regulates nuisances due to animal excreta. Since such excreta can be a source of bacterial contamination of creeks and shoreline waters along the coast, this ordinance helps support efforts to prevent these wastes from discharging into the City storm drain system. The ordinance requires that animal excreta be promptly picked up and disposed of properly. Also, with only a few exceptions, the City prohibits dogs from most City parks, golf course, and beaches, which further helps to prevent deposition of animal waste in these areas.

#### **4.3.7 Water Service System: Chapter 13.04**

This section of the Municipal Code pertains to the water system. This chapter includes a

water consumption rate schedule, which consists of a tiered pricing system where the unit cost of water provided increases depending on the amount consumed. This pricing system encourages water conservation, which helps to reduce urban runoff by reducing the amount of water from over-irrigation, hard/impervious surface hosing (i.e. driveways) and car washing, etc.

#### **4.3.8 Sewer Service System: Chapter 13.24**

This section of the Municipal Code pertains to the sewer system, and includes provisions to prohibit certain waste discharges and to require permits, inspection and approval of work for sewer connections etc.

#### **4.3.9 Waste Discharge Pretreatment and Source Control Program: Chapter 13.28**

As part of the South Orange County Wastewater Authority (SOCWA), it is mandatory that the City of San Clemente adopt and implement "an industrial waste pretreatment program to protect the environment and the wastewater treatment system workers and facilities." Some of the objectives of this chapter are to:

- Ensure compliance with various regulatory agencies and certain NPDES requirements;
- Prevent the introduction of pollutants from heavy metals and non-compatible wastes discharged to the public sewer;
- Improve the ability to recycle and reclaim wastewaters and sludges from the sewage treatment system;
- Encourage waste minimization and material substitution by industrial users;
- Encourage the reuse, recycling and reduction of water, industrial wastewater and sludge discharged to the sewer system;
- Establish an effective monitoring program for the control of industrial wastewaters; and
- Prevent the introduction of pollutants into sewage facilities that can pass through the treatment works, inadequately treated, into the receiving waters, or otherwise be incompatible with the sewage facilities.

#### **4.3.10 Other Codes**

The City has adopted provisions of the Uniform Building Code, Fire Code, Plumbing Code and other applicable codes in its Municipal Code. These provisions, among other requirements, contain requirements that no person shall construct or operate any illicit connection or cause or allow any prohibited discharge, and that no flammable liquids will be discharged to the storm sewer system.

The City adopted a ban on smoking at public beaches in an effort to reduce cigarette waste along the shoreline. The City also adopted a policy prohibiting the use of Styrofoam food service ware products at City facilities and City-sponsored events in an effort to reduce the discharges of these products to receiving waters. The City now also includes specific water quality and recycling requirements in its Special Event permits.

#### **4.4 STATEMENT OF ADEQUATE LEGAL AUTHORITY**

The City did take necessary steps to revise its Municipal Code to ensure that the City of San Clemente has the legal authority to implement and enforce the requirements in 40 CFR 122.26(d)(2)(i)(A-F) and the MS4 Permit. The Statement of Legal Authority was provided as an attachment to the FY 2017-18 JRMP Annual Report.

## **5.0 MUNICIPAL ACTIVITIES PROGRAM**

The City of San Clemente owns and operates a number of facilities such as: parks; community centers; corporation/maintenance yards; streets and parking lots; potable water, sanitary sewer and storm drain pipes; and administrative office buildings. The operation of these facilities can generate potential pollutants that have the potential to be discharged to the storm drain system and local receiving waters. This section addresses the City's program for reducing polluted urban runoff from municipal areas and activities in compliance with the NPDES Permit.

### **5.1 INVENTORY AND PRIORITIZATION OF MUNICIPAL FACILITIES AND FIELD PROGRAMS**

As required by the NPDES Permit, the City maintains a watershed-based inventory of all municipal Fixed Facilities (e.g. City Hall, Municipal Golf Course, etc.), Field Programs (e.g. street sweeping or landscape maintenance), and its storm drainage system. This inventory is maintained by the City's Public Works Department, Environmental Programs Section and is updated annually before the start of each wet season (October 1). See Appendix A for a copy of the City of San Clemente Municipal inventory.

Each of the City facilities or types of field programs in the City's inventory are prioritized based on the potential for a facility or area to discharge polluted non-stormwater and reflect the priorities set forth in the WQIP. threat to water quality. This prioritization is included with the inventory maintained by the City's Utilities Department, Environmental Programs Section, and is used to establish facility and activity inspection frequencies as discussed in Section 5.3.

### **5.2 MAINTENANCE PROCEDURES AND BMP REQUIREMENTS**

City staff performs operations and maintenance (O&M) activities at Fixed Facilities, within Field Programs, and at storm drainage facilities. In addition to the existing baseline protocols for performing routine O&M activities at municipal sites, City staff is also required to implement the mandatory minimum Best Management Practices (BMPs) prescribed in Table 5-1 regardless of priority. For those municipal areas or activities tributary to a Clean Water Act 303(d) impaired water body segment in which the area or activity generates pollutants for which the water body segment is impaired, enhanced measures will be designated. Similarly, additional controls will be designated for municipal areas and activities within or directly adjacent to or discharging directly to the ocean or other receiving waters within environmentally sensitive areas.

As discussed in Section 1.2.3, the City has the following water bodies listed as impaired:

- Pacific Ocean Shoreline at various San Clemente Beach Segments;
- Prima Deshecha Cañada Channel (impaired for phosphorous, turbidity, cadmium and nickel); and
- Segunda Deshecha Cañada Channel (impaired for phosphorous, turbidity and toxicity).

The Pacific Ocean is also listed as an ESA. The City has decided to require additional controls for phosphorous, turbidity and bacterial indicators throughout the City. Most of the City of San Clemente drains to either Prima Deshecha Cañada Channel or Segunda Deshecha Cañada Channel, and the entire City drains to the Pacific Ocean.

### *Phosphorous*

Phosphorous is an inorganic substance that commonly exists in the form of mineral salts that are either dissolved or suspended in water. Primary sources of phosphorous in urban runoff are fertilizers and eroded soils. Excessive discharge of phosphorous to water bodies and streams can cause excessive aquatic algae and plant growth. Such excessive production, referred to as cultural eutrophication, may lead to excessive decay of organic matter in the water body, loss of oxygen in the water, release of toxins in sediment, and the eventual death of aquatic organisms.

All construction sites must implement the following BMPs regardless of priority, season or location:

- Materials containing phosphorous shall be prevented from entering the storm drain system to the maximum extent practicable;
- Green waste (i.e., grass clippings, removed vegetation) must be properly disposed and shall not at any time be allowed to enter the storm drain system;
- Fertilizers and other chemicals containing phosphorous shall be properly stored in a covered area with secondary containment;
- Fertilizers and other chemicals containing phosphorous shall be applied according to label and shall not be applied 24 hours prior to predicted rain events (40% chance or more); and
- Employees and subcontractors shall be informed of these requirements.

### *Turbidity*

Turbidity is a measure of the clarity of a liquid. As turbidity values increase, clarity decreases. Turbidity can be caused by increased sediment in runoff. Increases in turbidity can suppress aquatic vegetation growth, adversely affect aquatic life. All construction sites must implement the following BMPs regardless of priority, season or location:

- Materials contributing to turbidity shall be prevented from entering the storm drain system to the maximum extent practicable;
- Construction-related wastes such as paint, concrete materials, stucco materials, and trash shall be properly stored or disposed of; and,
- Employees and subcontractors shall be informed of these requirements.

### *Bacteria*

Bacteria are ubiquitous microorganisms (present, appearing, or found everywhere) that thrive under certain environmental conditions. Their proliferation can be caused by the transport of animal or human fecal wastes from the watershed. The decomposition of excess organic waste (landscape trimmings) can also cause increased growth of bacteria in the water. Water containing excessive bacteria and viruses can alter the aquatic habitat and create a harmful environment for humans and aquatic life. Table 5-1 lists the minimum



BMPs for municipal facilities and associated activities to prevent pollutants from reaching the storm drain system.

**Table 5-1: Minimum Designated BMPS for Municipal Land Uses and Activities**

Area or Activity	Good House-keeping	Preventative Maintenance	Material and Waste Handling	Material Storage	Spill Response	Additional ESA/303(d) BMPs
Roads and Streets	✓	✓				✓
Parking Facilities	✓	✓				✓
Wastewater/ Reclamation Facilities	✓	✓	✓	✓	✓	✓
Sanitary Sewage Collection System	✓	✓			✓	✓
Water Distribution System	✓	✓			✓	✓
Storm Drain Conveyance System	✓	✓			✓	✓
Corporate Yards	✓	✓	✓	✓	✓	✓
Parks and Landscape Maintenance	✓		✓	✓	✓	✓

All construction sites, whether private or municipal, must implement the following BMPs regardless of priority, season or location:

- Materials contributing bacteria shall be prevented from entering the storm drain system to the maximum extent practicable;
- Portable toilets shall be located on a level surface at least 20 feet from the storm drain system;
- Portable toilets shall have secondary containment;
- Portable toilets shall be maintained and all wash water shall be collected and prevented from entering the storm drain system; and
- Employees and subcontractors shall be informed of these requirements.

*Good Housekeeping*

Good Housekeeping means that the area is kept generally clean. Materials and equipment shall be stored in designated areas so as to avoid contact with wind and water. On a daily basis, loose materials shall be swept and stored appropriately in covered areas, stockpiles shall be tarped and sand-bagged, and water shall not be allowed to run through materials. Trash or other debris shall be collected routinely. Facilities shall be inspected for trash at

least weekly. Utility distribution/conveyance systems shall be inspected according to maintenance schedules. Streets and hardscapes shall be swept twice per month, per the City's sweeping schedule.

#### *Preventative Maintenance*

Material, equipment, conveyance systems and hardscapes shall be inspected often to assess the integrity of the device or structure. Routine maintenance shall be performed to avoid leaks, spills and accidents.

#### *Material and Waste Handling*

Materials shall be stored in designated areas so as to avoid contact with wind and water. Green waste from landscaping activities should either be collected and removed from the site or shall be spread as mulch on designated greenscapes. At no time shall grass clippings be disposed of in streets, parking lots or storm drain catch basins. Stockpiles shall be covered and bermed at the end of each day when dry and at all times during rains. Materials and wastes shall be stored in covered areas with adequate secondary containment. Materials shall be handled in such a way so as to avoid spillage. Any spills shall be cleaned immediately. Hazardous fluids shall be used only in designated areas, and any spills should be reported immediately to the Pollution Reporting Hotline at (949) 366-1553. Hazardous wastes shall be stored consistent with (Orange County Fire Authority) OCFA requirements.

#### *Material Storage*

Materials shall be stored in designated areas so as to avoid contact with wind and water. Stockpiles shall be covered and bermed at the end of each day when dry and at all times during rains. Equipment shall be stored in good condition, and all exposed components containing automotive fluid residue shall be covered. Equipment shall be checked daily for leaks and shall be repaired when a leak is detected. Drip pans are to be used to capture any leaking fluids. Materials and wastes shall be stored in covered areas with adequate secondary containment. Absorbent materials for spill cleanup shall be stored immediately adjacent to all liquid storage areas.

#### *Spill Response*

All spills shall be immediately captured and cleaned. Dry spills shall be cleaned with a broom. Wet spills shall be cleaned with a mop, rags, or absorbent materials. Waste materials shall be disposed of in the trash if non-hazardous or appropriately if otherwise. If the area needs to be power-washed, all wash water shall be collected and disposed of appropriately and shall not reach the storm drain system. Staff shall contact Utilities for assistance with spill response as required.

#### *Additional ESA / 303(d) BMPs*

Materials or wastes that may contribute bacteria, turbidity or nutrients shall be handled and stored with increased precaution. Bacteria are ubiquitous microorganisms that thrive under certain environmental conditions and can come from various sources. Turbidity can be caused by increased sediment in runoff. Increases in turbidity can suppress aquatic vegetation growth, adversely affect aquatic life. Nutrients are inorganic substances, such as

nitrogen and phosphorus. They commonly exist in the form of mineral salts that are either dissolved or suspended in water.

Primary sources of nutrients in urban runoff are fertilizers and eroded soils. Excessive discharge of nutrients to water bodies and streams can cause excessive aquatic algae and plant growth. Such excessive production, referred to as cultural eutrophication, may lead to excessive decay of organic matter in the water body, loss of oxygen in the water, release of toxins in sediment, and the eventual death of aquatic organisms.

Green wastes, such as grass clippings, shall be collected and removed or spread as mulch when applicable. Watering activities shall be closely monitored to avoid overwatering and overspray. Dirt and soil stockpiles shall be adequately maintained, covered and bermed. Tracked materials shall be cleaned at the end of the day when dry or immediately during rains. Landscape chemicals, such as fertilizers, shall be stored properly so as to avoid being conveyed to the storm drain system. Port-a-potties shall have secondary containment and shall be placed at least twenty (20) feet from all storm drain inlets. No routine maintenance shall be performed when rain is imminent (forecast greater than 40% chance of rain).

The City has a number of BMP Fact Sheets (provided in Appendix B) that include descriptions of specific BMPs for common municipal activities that may discharge pollutants and provide a focus on the Pollution Prevention measures that a facility should implement. The fact sheets also offer optional enhanced BMPs that may be required at specific sites if operational history, inspection findings, or other special situations warrant implementation. Also included in this appendix is a Fact Sheet on BMPs designated for special events as required by the Permit.

### **5.2.1 Management of the Municipal Storm Drain System**

The City Department roles and responsibilities related to operation and maintenance of the City storm drain system are summarized in Section 2. As required by the Permit, storm drain maintenance activities include the following:

- Inspection and removal of accumulated waste (i.e., sediment, trash, debris, and other pollutants) between May 1 and September 30 of each year;
- Additional cleaning as necessary between October 1 and April 30 of each year;
- Record keeping of cleaning and the overall quantity of waste removed;
- Proper disposal of waste removed pursuant to applicable laws; and
- Measures to eliminate waste discharges during maintenance and cleaning activities

#### *Improved Drainage System Sections*

The Utilities Department maintains, cleans and performs repairs to the pipes and channels that comprise the "improved" sections of the municipal storm drain system. The division also performs routine video and walk through inspections during the year to ascertain the overall condition of the conveyance system as well as to identify potential illicit connections. The division uses in-house staff and/or contractors to inspect all catch basins in the City annually prior to each wet season. In addition to providing routine maintenance activities, Utilities crews provide emergency response to illegal spills that threaten water quality.

### *Coastal Canyon Sections*

The Maintenance Division uses in-house staff and/or contractors to maintain the unimproved coastal canyons that ultimately drain to the Pacific Ocean. Prior to each wet season, staff and/or contractors walk each drainage area and manually removes any debris or excess vegetation from the canyons.

### **5.2.2 Management of Pesticides, Herbicides and Fertilizers**

To reduce or eliminate the discharge of pollutants associated with the application, storage, and disposal of pesticides, herbicides and fertilizers from municipal areas and activities, the City's Integrated Pest Management (IPM) Program makes use of a number of BMPs including:

- City staff is trained regarding the proper management of pesticides, herbicides, and fertilizers;
- Contractors are required to provide all appropriate permits and certifications regarding the storage and application of pesticides, herbicides, and fertilizers;
- When practical, IPM measures rely primarily on non-chemical solutions.
- The City attempts to employ native vegetation when possible and practical;
- The City and its contractors schedule irrigation and chemical application so as to prevent runoff; and
- The City properly collects and disposes of unused pesticides, herbicides and fertilizers.

The City's IPM Program has been in place for a number of years, and the City has found that limiting the palette of fertilizers and pesticides used is good business sense. San Clemente's parks make primary use of organic nitrogen based fertilizers, which work well in the City's heavy clay soils and are effective since they do not create plant burn or require immediate watering following application. Additionally, San Clemente uses only a limited variety of pesticides and herbicides for ease of tracking, and only uses pesticides as a last resort.

### **5.2.3 Used Oil Disposal**

The City's Fleet Maintenance and Golf facilities both recycle used oil and oil filters using contracted services. In addition the County of Orange Environmental Health Division implements the California Department of Resources Recycling and Recovery (CalRecycle) Used Oil Recycling Grant Program for 13 cities and the unincorporated areas of south Orange County, including the City of San Clemente. The primary program goals include the following:

- Provide the public with convenient used oil collection locations;
- Develop materials to motivate the public to recycle used motor oil; and
- Perform outreach to educate public regarding used oil recycling, collection center locations and general pollution prevention.

The impact of the regional efforts described below, supplemented by the efforts of the countywide Public Education program (as described in Section 6.0) reaches all residents within the County.

### *Certified Collection Centers*

There are a number of certified collection centers located in the various cities in the County. These centers are publicized in various brochures developed by the Orange County Environmental Health Division, on a number of County and city websites, and on flyers developed by the Regional Public Education Subcommittee. Additional centers are actively recruited on a continuous basis. The County works with and provides assistance to these centers to ensure a cooperative environment between the public and the centers. Each certified center is inspected annually and follow-up inspections are performed as needed.

### *Public Education*

The Used Oil Recycling Program implements a variety of Public Education activities to reach the Do-It-Yourselfers (DIYers). These activities include, but are not limited to:

- Community events that provide direct interaction and education to the public, including both the DIYers and children. Some of the events are in coordination with city events, such as Earth Day, 4th of July celebrations, and Coastal and Watershed Cleanup Day;
- Regional advertisements including cable television, radio and print media (door hangers), car shows, and an interactive web site;
- Distribution of oil change tools to enhance oil recycling activities, promote information on, and use of Collection Centers:
  - Re-usable Oil Drain Containers
  - Bottom-Of the-Bottle drain kits (drains all new oil from bottles)
  - Shop towels
  - Information brochure
  - Distribution of materials to boaters and beach goers at various beach events including bilge pad exchange.
  - School education activities to teach pollution prevention to children:
    - Children's Drinking Water Festival
    - Youth Expo (OC Fairgrounds)
    - High School Auto Shop education programs

The County of Orange Environmental Health Division surveys the public at the various events prior to distribution of giveaways to assess the public's understanding of the benefits of the used oil program.

#### **5.2.4 Household Hazardous Waste Disposal**

The City maintenance yard returns used vehicle batteries to their distributor, North American Battery, for proper disposal. In addition to this, there are collection boxes at City Hall, the Community Center, and the City's Community Development building where city staff and city residents can drop off household batteries.

In late 2008, the City and its franchise waste hauler implemented a door-to-door Household Hazardous Waste (HHW) collection program for residential customers. Under this continuing program, residential customers can call for special pickups of the following types of wastes that are prohibited from being disposed in the landfill:

- Universal waste (e.g. fluorescent bulbs and tubes, common household batteries, and non-empty aerosol cans);
- Electronic waste (e.g. televisions, computers, monitors, printers, VCR's, cell phones, stereos, speakers, etc.);
- Mercury containing devices (e.g. lamps, thermometers, thermostats, gauges, electronic switches, etc.);
- Home generated sharps waste (e.g. syringes, hypodermic needles, and lancets, etc.).
- Automotive maintenance and repair products (e.g. motor oil, oil filters, antifreeze; lead-acid batteries, brake fluid, etc.);
- Lawn and garden chemicals (e.g. pesticides, herbicides, fungicides, etc.);
- Cleaning products (e.g. bathroom cleaners, drain cleaners, chlorine bleach, solvents, oven cleaners, etc.); and
- Home improvement supplies (e.g. stains, paints, varnish, paint thinners, chemical strippers, glue, pool chemicals, etc.).

In addition, the County of Orange Waste & Recycling Department owns and operates the Prima Deshecha landfill north of the City. This location also includes a Household Hazardous Waste Collection Centers (HHWCC), which is a "Stop-and-Swap Center" that allows residents to drop off household, yard, and car maintenance products they no longer need as well as and pick up other products they can use at home, at no cost to local residents. Typical products include paint, automotive supplies, pesticides, weed killers, cleaning products and more.

Commercial customers must contract with licensed haulers to properly dispose of hazardous waste.

### **5.2.5 Litter Control**

The City has a number of programs in place to remove trash, prevent illegal dumping, and promote recycling. These programs include the following:

- Local beach and neighborhood clean-up events;
- Free "bulky item pickups" and HHW pickups for San Clemente solid waste customers (by arrangement with the City's waste hauler);
- Christmas tree collection and recycling (by arrangement with the City's waste hauler);
- Two (2) mulch events per year for City residents to receive 2 free bags of mulch per household from the green waste collection program; and
- Continued involvement with the South County Recycles Team, sponsoring one Earth Day event and an environmental awards program.

### **5.2.6 Solid Waste Recycling**

In collaboration with the South County Recycles Team, the City has developed recycling newsletters, brochures, utility bill inserts/messages and an environmental awards program to improve the effectiveness of its recycling program. The City continually updates its website to provide current information on recycling and water conservation. The City partnered with the County of Orange and its waste hauler to design and construct a construction and demolition (C&D) facility in South County that opened in 2009.

Additionally, the City has developed and fully implemented a C&D ordinance requiring construction sites to divert 75 percent of all construction debris from the landfills.

### 5.2.7 Street Sweeping

The City conducts regular sweeping of public streets. Residential streets are swept twice monthly and commercial and other selected streets are swept more frequently, typically three times per week. Street sweeping on private streets must be provided by the HOA to meet or exceed what the City provides for public residential streets.

## 5.3 INSPECTION AND ENFORCEMENT

The City conducts inspections of municipal facilities, field programs, and storm drain facilities to verify that the designated minimum BMPs for each area or activity are implemented, properly maintained, and effective at protecting water quality. The frequency of inspections is based on the priority assigned to a particular facility or field program in the City's inventory (all storm drain facilities are considered as high priority). The inspection frequencies for municipal facilities and field programs are summarized in **Table 5-2**. The City's corporation yards are inspected quarterly, even though the Permit only requires annual inspections.

**Table 5-2: Inspection Frequencies**

Facility/Program	Inspection Frequency
<b>Fixed Facilities</b>	
Municipal Corporation Yards	Quarterly
Fixed Facility	Annually
<b>Field Programs</b>	
Field Programs	Annually
<b>Drainage Facilities</b>	
Drainage Facilities (All)	Annually Before the Wet Season, with Additional Inspections as Needed During the Wet Season

### 5.3.1 Inspection Documentation

The City documents inspection findings of facilities and field programs in a software database. The documentation is maintained by the City's Environmental Programs Section.

### 5.3.2 Enforcement

The City is required to enforce its ordinances for all municipal areas and activities. An enforcement action would typically occur as a result of an inspection or in response to a report by the public or a City staff member. The City's inspectors, managers, and supervisors have internal enforcement authority through established City personnel rules and regulations procedures. Depending on the severity of the violation, enforcement can range from a verbal warning to disciplinary actions. Internal enforcement will occur when a violation of City regulations or the Permit can be attributed to an individual's or group of individuals' negligence. The burden of enforcement will be placed on the supervisor(s) of that individual

or group of individuals. In the case of continuous or substantial violations by an individual or group of individuals, the supervisor(s) may also be held accountable.

If a facility or an activity results in continuous or substantial violations, the manager of the facility or activity may also be held accountable for the violation, even if operations of the facility or activity are under contract. The primary methods of internal enforcement include verbal warnings, written warnings, and formal disciplinary actions as noted below:

#### *Verbal Warnings*

A common initial method of requesting corrective action and enforcing compliance is a verbal warning from the inspector to the responsible supervisor or employee. Verbal warnings are often sufficient to achieve correction of the violation, often while the inspector is present. The inspector should notify the appropriate supervisor of the violation and document the violation. A specific timeframe for correcting the problem and a follow-up inspection date should be provided and documented by the inspector.

#### *Written Warnings*

If a deficiency noted in a verbal warning is not corrected prior to the next inspection or the severity of the violation is such that a verbal warning is not strong enough, a written notice of violation may be issued describing the infraction that is to be corrected and the date by which the correction must be made. Additionally, a follow-up inspection should be scheduled. Based on the degree of severity of the violation, the City inspector may also take into account any history of similar or repeated violations by the responsible party at this or other sites. A copy of the written notice is provided to the responsible party and appropriate supervisor and placed in the active inspection file. Once the violation has been corrected to the satisfaction of the inspector, the inspector will document compliance in the inspection file.

#### *Disciplinary Actions*

If a municipal employee is the cause of non-compliant activities, the City may choose to take disciplinary actions against the employee in accordance with established personnel rules and regulations procedures. By following the internal enforcement procedures, any substantial violation or repeated violations will be adequately documented to support the decided disciplinary action.

## **5.4 CONTROL MEASURES TO PREVENT SANITARY SEWER SYSTEM DISCHARGES INTO THE MS4**

### **5.4.1 Source Control BMPs**

The City is the responsible agency for the operation and maintenance of the sanitary sewer system. The City O&M plan focuses on inspecting, repairing, and, as necessary, replacing degraded pipelines. The City cleans sewer lines in its system annually with a jetter truck, and visually inspects the entire system with a camera every 5 years to identify any leaks, breaks, or pipe segments that need to be replaced. The City maintains a working inventory of locations with a history of problems and the problematic locations are inspected and cleaned on an increased frequency basis, depending on the persistency and severity of the



particular situation. The City maintains approximately \$1 million in its annual budget for sewer repairs on a prioritized basis. The City also implements a Fats, Oils & Grease (FOG) program, which entails inspections of approximately 250 restaurants within the systems' service area, to assure adequate maintenance of grease traps. All sewage spill incidents reported to the City, including those occurring on private property, are reported to the State and are posted on the SSO Incident Map maintained by the State Board on its website: [www.waterboards.ca.gov/water\\_issues/programs/sso/sso\\_map/sso\\_pub.shtml](http://www.waterboards.ca.gov/water_issues/programs/sso/sso_map/sso_pub.shtml).

#### **5.4.2 Preventative Measure Non-Structural BMPs to Abate Infiltration from Sanitary Sewer to MS4**

The City of San Clemente implements measures to prevent and limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems (MS4s), data collection processes to screen for and identify potential areas where problems may occur, and, where necessary, conduct source investigations to locate and abate sources. Such measures include:

- MS4 video and visual based inspections;
- Sanitary sewer system video inspections;
- Plan checks for new development and construction projects to identify potential cross-connections;
- Tracking inspection results of waste interceptors and holding tanks at food facilities that generate Fats, Oils, and Grease;
- Conducting desk-top and/or field based investigations in locations where infiltration is suspected and may be affecting surface water flows;
- Training of municipal staff and contractors conducting field operations on the MS4, sanitary sewer maintenance and those who respond in the field; and
- Implement Building ordinance compliance and Code Enforcement procedures, as necessary.

### **5.5 EDUCATION AND TRAINING**

For an effective stormwater program to be efficiently implemented, its staff must have sufficient knowledge, experience, and skills. Education and training is the key to the success of the City's stormwater program. To assist the responsible municipal and contract/lease staff in understanding the Model Maintenance Procedures, the Principal Permittee will coordinate, develop and present a number of different training modules in accordance with the *Orange County Stormwater Program Training Program Framework: Core Competencies*. The City will support this effort by requiring the appropriate employees to attend training sessions, and conduct applicable train-the-trainer sessions, if necessary. In addition to Permittee sponsored training, the City provides the means for staff to attend training seminars or workshops related to stormwater management and water quality conducted by other organizations, as needed. Records of both Permittee and non-Permittee sponsored training provided to City staff are maintained. More information on education and training can be found in Section 6 of this document.



## **6.0 PUBLIC EDUCATION**

This section summarizes the training and education activities implemented by the City of San Clemente as Copermittee and County as Principal Permittee, in order to maintain compliance with the NPDES MS4 Permit. The City's education and training program strives to measurably increase knowledge regarding MS4s, impacts of runoff on receiving waters, and potential Best Management Practice (BMP) solutions as well as measurably change the behavior of target communities in an effort to reduce storm water pollution and eliminate prohibited non-storm water pollutant releases to MS4s and the environment.

Individual residences, construction sites and industrial/commercial facilities present differing potential threats to stormwater quality. Educational programs and activities account for these differences and cater to the following specific target audiences

- Municipal Departments, Personnel and Contractors;
- Construction Site Owners, Developers, Property Owners and Contractors;
- Industrial and Commercial Owners and Operators;
- Mobile Businesses; and
- The Residential Management Areas.

All of the target audiences above receive fundamental background information regarding stormwater pollution, pollution prevention methods, and BMPs. This is accomplished by regional County efforts and localized City efforts as described in this document, outlined in the DAMP, and reported in the annual report.

### **6.1 COUNTYWIDE MODEL PUBLIC EDUCATION PROGRAM**

The City supports and participates in a strong countywide public education program called *H<sub>2</sub>OC*, which provides program consistency and promotes sharing of resources, resulting in efficient program implementation. This campaign is built upon a foundation of cooperative Copermittee development of programs and materials, implementation at Countywide and city levels, and the validation of its success through the use of opinion surveys and other direct measures of public behavior.

Education efforts of *H<sub>2</sub>OC* follow a two-pronged approach comprising large-scale broad residential and business outreach programs as part of a foundational campaign and small-scale behavior-based action campaigns to build a base of residents from which the Education Program can document adoption of specific BMPs.

The City participates in the NPDES Public Education Subcommittee which is comprised of Copermittee representatives that meet monthly to collaboratively direct *H<sub>2</sub>OC*. This participation ensures program strategies and materials that are developed are appropriate to residents and businesses within the City. The objectives of the Model Public Education Program are to provide the following:

- Increase urban runoff pollution awareness;
- Increase awareness for specific segments of the community of the importance of

- participation in controlling non-point source pollution;
- Provide information on alternative behaviors and practices that can contribute to controlling non-point source pollution;
- Provide the public with opportunities to participate in the development, implementation, and refinement of the Water Quality Improvement Plan (WQIP); and
- Track public awareness in the educational programs and changes in behavior toward activities more protective of water quality.

The foundational campaign forms the underpinning of *H<sub>2</sub>OC* based on maintaining a consistent water quality message and includes overall program branding, school and business outreach, pollutant-specific and residential program outreach and annual development and implementation of a media plan. The primary goal of the foundational campaign is to achieve permit compliance by increasing knowledge of residents and businesses and changing behavior over time. The success of these efforts is measured through the achievement of impressions and building engagement in *H<sub>2</sub>OC*.

### **6.1.1 School Outreach**

*H<sub>2</sub>OC* uses agreements and relationships with organizations that outreach to school-aged children to deliver messaging on pollution prevention. These organizations, such as the Orange County Department of Education (OCDE), Discovery Science Center (DSC), the Pacific Marine Mammal Center, and the Ocean Institute, provide an avenue for disseminating materials and messaging in a format conducive to student learning. Materials developed to inform children of stormwater pollution prevention behaviors are designed to encourage adoption of BMPs at school and in the home, as well as meet California Content Standards.

### **6.1.2 Business Outreach**

The City will continue to distribute materials developed specifically for food service establishments (FSEs), mobile businesses, automotive service centers and detailing establishments, pet care businesses, pest control operators, landscape service companies, gasoline service stations and the land development and construction industry.

Previously developed outreach materials targeting the construction industry will be supplemented by materials promoting residential and commercial implementation of LID techniques, retrofitting of existing development and encouragement of infiltration (where applicable).

### **6.1.3 Pollutant-Specific Outreach**

Outreach materials are developed for residents and businesses in Orange County regarding specific pollutants of concern and reviewed annually and updated by *H<sub>2</sub>OC* as needed. City-specific materials supplement these efforts ensuring that pollution issues specific to the City are adequately addressed. Pollutant-specific outreach to the residential community includes proper use and disposal of pesticides and fertilizers, proper disposal of pet waste, residential automobile washing, water conservation and proper disposal of household hazardous waste. Pollutant-specific outreach to businesses will focus on water conservation, reduction of metals in runoff and proper use and disposal of chemicals and

other hazardous wastes.

#### **6.1.4 Residential Program**

The Residential Program includes recommendations (“*Tips*”) for pollution-prevention methods for residential areas. Specific pollution prevention practices identified for each residential activity that poses a threat to water quality are provided in the Residential BMP fact sheets presented in Appendix C. The City uses the implementation strategies discussed in Section 9.2 to encourage pollution prevention in residential areas.

#### **6.1.5 Speakers Bureau**

A speakers’ bureau was developed for *H<sub>2</sub>OC* to supplement the previous outreach efforts through local Chambers of Commerce. On behalf of the Copermittees the County as Principal Permittee distributes requests for presentations to local groups such as Chambers of Commerce, Rotary Clubs, Kiwanis Clubs, Key Clubs, National Honor Society groups and environmental groups (e.g. Sierra Club).

#### **6.1.6 Action Campaigns**

To document sustainable behavior change, *H<sub>2</sub>OC* pairs general pollution prevention outreach (via the Foundational Campaign) with localized action campaigns that focus on changing specific behaviors in small, community-based target groups. The action campaigns utilize Community-Based Social Marketing (CBSM)<sup>1</sup> techniques to document behavior change on a more frequent scale.

Community-Based Social Marketing involves four basic steps:

1. Identifying barriers and motivators to an activity;
2. Developing a strategy that utilizes tools to leverage those barriers and motivators in order to affect behavior change;
3. Pilot the strategy; and
4. Evaluate the strategy and refine it for future implementation.

By simplifying campaign messaging and requesting adoption of specific BMPs, *H<sub>2</sub>OC* seeks to remove the uncertainty caused by offering a large number of stormwater pollution-preventing behaviors in favor of one single high-impact action.

##### *Overwatering is Out*

The ultimate goal of the *Overwatering is Out* action campaign is to improve water quality through eliminating residential irrigation runoff. This is accomplished by encouraging residents to sign up for program messaging (i.e. tips to reduce overwatering) and to commit to making changes to their irrigation habits or landscape to reduce runoff. Built into the program is also the ability to quantify behavior changes that are the direct result of the action campaign.

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<sup>1</sup> McKenzie-Mohr, Doug & Smith, William (1999). *Fostering sustainable behavior: An introduction to community-based social marketing*. Gabriola Island, B.C.: New Society ([www.CBSM.com](http://www.CBSM.com))

The City supports the *Overwatering is Out* action campaign by utilizing print media advertisements and distribution of eNewsletters, and an online retargeting campaign that directs users to the [www.overwateringisout.com](http://www.overwateringisout.com) website or the City's stormwater website [www.sccleanocean.org](http://www.sccleanocean.org).

## **6.2 CITY OF SAN CLEMENTE PUBLIC EDUCATION FOCUS**

In addition to working with the countywide Public Education Subcommittee, the City has initiated its own outreach strategy, reflective of the City's unique coastal character. Through the Clean Ocean Program, staff pursues a number of outreach avenues with the primary intention to provide environmental education to San Clemente residents, business owners, students and tourists. Educational initiatives are summarized below.

### **6.2.1 Municipal Departments and City Staff Education**

The City's municipal education program includes training and education for all levels of personnel. Specialized departmental training targets understanding of the principals of the permit that are affected by specific departmental roles.

#### *Municipal BMP Implementation*

All municipal staff and contractors responsible for selecting, implementing and evaluating BMPs, or who perform activities which generate pollutants, are trained to identify appropriate BMPs for each activity and implement them appropriately.

Municipal personnel, applicators and distributors responsible for BMP implementation associated with storage, application and disposal of pesticides, herbicides and fertilizers are trained throughout the permit term by Environmental Programs personnel on implementation procedures to prevent water quality impacts to the MS4 system as required by the Permit.

#### *Infiltration from Sanitary Sewer to MS4*

The City operates its own sanitary sewer which has strict controls and procedures for limiting infiltration of seepage from the sewer to the MS4 system. Municipal staff is trained regularly on these controls and procedures.

### **6.2.2 Construction Training and Education**

As early in the planning and development process as possible and all through the permitting and construction process the City educates project applicants, developers, contractors, property owners, and other responsible parties for new development, redevelopment, and retrofit projects. The City, with the assistance of counter staff and developers, provides outreach to the community including:

- Distributing fact sheets and the construction handbook with permits;
- Distributing fact sheets and one-on-one review during plan check, preconstruction and construction inspection;
- Sending pre-rainy season reminders to all construction sites with grading permits; and
- Participating in pre-rainy season training with developers/contractors.

All inspections of construction sites include education and outreach on storm water pollution prevention, if warranted, as required by the Permit.

### **6.2.3 Outreach and Training to Industrial & Commercial Site Owners/Operators**

The City provides education and training on storm water pollution prevention during commercial and industrial site inspections. The City proactively and reactively outreaches to businesses within the community by:

- Discussing environmental responsibility and distributing BMP information to business owners/operators during inspections;
- Providing information with applications and renewals for business licenses or permits; and
- Presenting information to various local business associations.

The City's Commercial and Industrial education program uses all media as appropriate to measurably increase the knowledge of owners and operators of commercial and industrial activities regarding MS4s, impacts of runoff on receiving waters, and potential BMP solutions for their industry or circumstance. Part of the training goals are to measurably change the behavior of Commercial and Industrial communities and thereby reduce storm water pollutant releases and eliminate prohibited non-storm water discharges to MS4s and the environment. The City analyzes inspection records and notices of violations to determine if a change in behavior is being achieved.

### **6.2.4 Food Service Establishments**

City staff conduct NPDES inspections of all Food Service Establishments (FSEs) annually. The Orange County Health Care Agency (OCHCA) supplements these inspections by conducting NPDES inspections as part of their routine restaurant inspections. The City also has an extensive Fats, Oil and Grease (FOG) program implemented by the Sewer Division which includes FSE inspections. NPDES violations are reported to City Water Quality Code Enforcement officers for follow up inspection and enforcement. All inspectors are trained to provide NPDES education to property owners and managers in situations where grease and/or trash facilities are shared by multiple facilities.

### **6.2.5 Household Hazardous Waste (HHW)**

As noted previously in Section 5, the City has implemented a door-to-door universal waste program for all residents which include the collection of medical sharps, e-waste, and household hazardous waste (HHW). Residents are educated through mail campaigns, advertising, the City website, and at local events. Businesses are given the resources and education to dispose of their waste appropriately through certified haulers.

The California Department of Resources Recycling and Recovery (CalRecycle) provides grant funding to support local government programs promoting used oil recycling. There are several certified used oil recycling centers in the City of San Clemente that will recycle residential used oil and oil filters at no charge. The City and County jointly advertise this

service through public education materials and at local events. Information on this program can be found at <https://www.calrecycle.ca.gov/UsedOil/>.

### **6.2.6 Residential Outreach**

The City has initiated its own outreach strategy branded the Clean Ocean Program which is reflective of the City's unique coastal character. Through the Clean Ocean Program and Water Conservation Program, staff pursue a number of outreach avenues with the primary intention of providing environmental education to San Clemente residents, underserved audiences, CIA/HOA managers and residents, for both high-risk behaviors and allowable behaviors and discharges. Media campaigns are a core component to the outreach effort and utilize local newspapers, magazines, the local movie theater, the City's primary website and coastal camera ([www.san-clemente.org](http://www.san-clemente.org)), the City's Clean Ocean website ([www.sccleanocean.org](http://www.sccleanocean.org)), and the City's Cox television station. City staff also communicate with residents at local events, through speaking engagements, and when educating through code enforcement violations.

The program strives to measurably change the behavior of target communities. Although difficult to accurately assess, residential increase in knowledge regarding MS4s, impacts of runoff on receiving waters, and potential BMP solutions are analyzed through regional survey data and City Notice of Violation records for residential water quality violations.

## **6.3 PUBLIC PARTICIPATION**

Public participation allows the public to be directly involved with the JRMP and helps further implementation of the program by expanding City resources and fostering a sense of community and stewardship within the City. The City encourages public participation through the following methods:

### *Facilitating Public Input/Feedback*

The City provides opportunities for residents to ask questions and give comments about the Clean Ocean Program. City newsletters and the program website ([www.sccleanocean.org](http://www.sccleanocean.org)) include contact information that people can use to communicate with municipal staff. City staff are encouraged to spend time talking with businesses or residents they encounter in their daily jobs. The City also collects feedback during public workshops, monthly publicly-noticed Coastal Advisory Committee meetings, and City Council Meetings where the opportunity is given in the updating, development, and implementation of this Plan.

### *Public Reporting*

To receive complaints or tips of illegal discharges, the City's Utilities Department operates the City of San Clemente Water Pollution Reporting Hotline: (949) 366-1553. This number operates 24 hours per day, seven days per week. City staff answers this number during normal City business hours, and an answering service handles calls outside of normal City business hours. The answering service forwards information to on-call City staff.

### *Speakers Bureau*

City staff is available to speak to organizations such as the Chamber of Commerce, business groups, homeowners associations, schools, and service clubs. The County, through a



consultant, outreaches to groups within the City offering to speak on Stormwater topics. These speaking engagements are handled by City staff, the County, or the consultant group as appropriate.

#### **6.4 REPORTING**

The City reports results of its public education and outreach efforts on an annual basis in its JRMP Annual Report. The Regional Public Education Program will be annually evaluated in the WQIP Annual Report.

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## **7.0 NEW DEVELOPMENT/REDEVELOPMENT**

The NPDES Permit requires the City to implement a plan to minimize the short- and long term impacts on receiving water quality from new development and redevelopment projects. To reduce these impacts, the city has established design standards for new development and significant redevelopment projects that require implementation of BMPs including Low Impact Development (LID) techniques, hydromodification controls, source controls and treatment controls. Implementation of these design standards ensures that the hydrologic impacts that can arise from watershed imperviousness are mitigated and consequently this key element of the Program addresses all of the HPWQCs identified in the WQIP.

### **7.1 GENERAL PLAN ASSESSMENT**

In February 2014, the City Council adopted the City's "Centennial General Plan." The plan guides many important community decisions through 2028 – the Centennial year of the City's founding. The Plan provides effective water quality and watershed protection principles and policies that direct land-use decisions and require implementation of consistent water quality protection measures for all development and redevelopment projects.

### **7.2 CEQA ENVIRONMENTAL REVIEW PROCESS**

During the period of the Fourth Term Permit Term, the city reviewed and revised as necessary its environmental review process to include requirements for evaluation of water quality effects and identification of appropriate mitigation measures.

### **7.3 DEVELOPMENT PROJECT REVIEW, APPROVAL, AND PERMITTING**

During the review, approval, and permitting of proposed projects, the City requires all new development and significant redevelopment projects to address the quality and quantity of stormwater runoff. Priority projects, as defined below, are further required to incorporate permanent, post-construction BMPs into the project design. Further, priority development projects discharging to areas that are not concrete lined all the way to the ocean are required to meet an interim hydromodification standard using control BMPs in a way that prevents runoff from a project from exceeding the baseline condition under certain conditions. "New Development" and "Priority Development" projects are defined as follows:

#### *New Development*

These projects include all public and private residential (whether single family, multi-unit or planned unit development), industrial, commercial, retail, and other nonresidential construction projects, or grading for future construction, for which either a discretionary land use approval, grading permit, building permit or nonresidential plumbing permit is required.

#### *Priority Development Project (PDP)*

These projects include those projects where 5,000 square feet or more of impervious surface area will be created or added on to an existing developed site. Significant redevelopment includes, but is not limited to the following:

- Expansion of a building footprint or addition or replacement of a structure;
- Structural development including an increase in gross floor area and/or exterior construction or remodeling;
- Replacement of impervious surface that is not part of a routine maintenance activity

where impervious material(s) are removed, exposing underlying soil during construction; and

- Land disturbing activities related with structural or impervious surfaces.

Priority Development Projects do not include routine maintenance activities such as:

- Trenching and resurfacing associated with utility work;
- Resurfacing and reconfiguring surface parking lots;
- Construction of new sidewalks, pedestrian ramps, or bike lanes on public and private existing roads; and
- Replacement of damaged pavement.

To ensure that new development and priority development projects incorporate post-construction BMPs into the project design, the City requires project-specific Water Quality Management Plans (WQMPs) to document appropriate BMPs that will be incorporated into project designs to address stormwater quality and quantity. The Orange County Copermittees created a Model WQMP and Technical Guidance Document (TGD) that contains all of the information specified for the BMP Design Manual (previously referred to as the Standard Storm Water Mitigation Plan under Order No. R9-2009-0002) called out in the Fifth Term Permit, and for the purposes of permit compliance is equivalent to and considered to be a BMP Design Manual. The following subsections provide more detail on the City's WQMP requirements as well as the City's project review and approval process for water quality. The City also requires all new development and priority development project applicants to submit a signed checklist indicating that the applicant understands the WQMP regulations and requirements. Additional WQMP reference materials, including a Model WQMP and Technical Guidance Document (TGD), WQMP information sheet, requirements summary, template document, and checklist are provided on the City's website at [www.san-clemente.org](http://www.san-clemente.org).

#### **7.4 INTERIM HYDROMODIFICATION CRITERIA**

The City requires that private and public projects discharging to a drainage area that is not (1) entering an underground storm drain discharging directly to the ocean, or (2) conveying to channels whose bed and bank are concrete lined all the way from the point of discharge to the ocean implement hydromodification standards to address hydromodification requirements. Projects meeting these criteria must determine the design hydromodification control BMPs to implement that will prevent runoff from a project from exceeding the baseline condition under specific conditions outlined in the permit (see Model WQMP and TGD on the City's website at [www.san-clemente.org](http://www.san-clemente.org)). The goal of the standard is to prevent runoff from a proposed project from contributing additional erosive forces in the receiving stream channel.

#### **7.5 WQMP PREPARATION, REVIEW AND APPROVAL**

##### *Projects Requiring a WQMP*

The City requires a WQMP for all private and public projects that qualify as one of the Priority Project categories listed in Table 7-1, regardless of project size. Projects that do not fall into a Priority Project category are considered as Non-Priority Projects. A project-specific WQMP for a Non-Priority Project may or may not be required at the discretion of

City staff per the City’s Stormwater Runoff Control Ordinance (Municipal Code Chapter 13.40). Non-Priority Projects not required to develop a project-specific WQMP are required to complete a Non-Priority Project Water Quality Checklist.

**Table 7-1: Priority Project Categories for New Development and Significant Redevelopment Projects**

<b>Priority Projects Include:</b>
<ul style="list-style-type: none"> <li>• New development projects that create 10,000 square feet or more of impervious surfaces (collectively over the entire project site). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.</li> </ul>
<ul style="list-style-type: none"> <li>• Redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site on an existing site of 10,000 square feet or more of impervious surfaces). This includes commercial, industrial, residential, mixed-use, and public development projects on public or private land.</li> </ul>
<ul style="list-style-type: none"> <li>• New and redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface (collectively over the entire project site), and support one or more of the following uses: <ul style="list-style-type: none"> <li>• (i) Restaurants. This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812).</li> <li>• (ii) Hillside development projects. This category includes development on any natural slope that is twenty-five percent or greater.</li> <li>• (iii) Parking lots. This category is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.</li> <li>• (iv) Streets, roads, highways, freeways, and driveways. This category is defined as any paved impervious surface used for the transportation of automobiles, trucks, motorcycles, and other vehicles.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• New or redevelopment projects that create and/or replace 2,500 square feet or more of impervious surface (collectively over the entire project site), and discharging directly to an Environmentally Sensitive Area (ESA). “Discharging directly to” includes flow that is conveyed overland a distance of 200 feet or less from the project to the ESA, or conveyed in a pipe or open channel any distance as an isolated flow from the project to the ESA (i.e. not commingled with flows from adjacent lands).</li> </ul>
<ul style="list-style-type: none"> <li>• New development projects, or redevelopment projects that create and/or replace 5,000 square feet or more of impervious surface, that support one or more of the following uses: <ul style="list-style-type: none"> <li>• (i) Automotive repair shops. This category is defined as a facility that is categorized in any one of the following Standard Industrial Classification (SIC) codes: 5013, 5014, 5541, 7532-7534, or 7536-7539.</li> <li>• (ii) Retail gasoline outlets (RGOs). This category includes RGOs that meet the following criteria: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.</li> </ul> </li> </ul>
<ul style="list-style-type: none"> <li>• New or redevelopment projects that result in the disturbance of one or more acres of land and are expected to generate pollutants post construction.</li> </ul>

Public project WQMPs are required for public (City) projects that qualify as a Priority Development Project. Although the City does not plan and design some of these categories of projects per se, some City projects may have similar functions or characteristics or may conduct similar activities after construction is completed. Therefore, some of the City's public agency projects will be considered Priority Development Projects requiring a WQMP. For example, a new corporation yard may include a vehicle and equipment maintenance facility, which is very similar to an automotive repair shop. However, the City does not require WQMPs for City projects consisting of:

- Routine maintenance or emergency construction activities required to protect public health and safety;
- Interior remodeling with no outside exposure of construction materials or construction waste to stormwater;
- Mechanical permit work;
- Electrical permit work; or
- Sign permit work.

#### *WQMP Preparation*

Priority Development Projects (and Non-Priority Projects designated by City staff) are required to submit a project-specific WQMP to the City for review and approval before issuance of any grading and/or building permits. The purpose of the WQMP is to document appropriate BMPs that will be incorporated into project designs to address stormwater quality and quantity. Specific BMP requirements are discussed in the following section. WQMPs for Priority Projects must:

- Include all source control BMPs (routine non-structural and routine structural) unless not applicable to the project;
- Consider site design BMPs and document those site design BMPs included and those not included; and
- Include treatment control BMPs (unless the City grants a waiver for infeasibility of all treatment control BMPs).

The City requires all other (Non-Priority) projects to implement source control BMPs and consider implementing site design BMPs.

The Orange County Copermittees created a Model WQMP and Technical Guidance Document (TGD) that contains all the information specific for the BMP Design Manual and should for purposes of compliance be considered to be a BMP Design manual.

#### *BMP Requirements*

A combination of source control BMPs (routine non-structural and routine structural BMPs) and site design BMPs is generally the most effective means of pollution prevention because they minimize the need for treatment. The City requires treatment controls to be included for all priority projects, in addition to source controls, to meet requirements of the Third Term Permit to minimize, to the maximum extent practicable, the discharge of pollutants to the storm drain system or receiving waters. The categories of stormwater pollution control BMPs required for the Non-Priority and Priority Development Project categories are summarized in Table 7-2 and further defined in following subsections.

**Table 7-2: BMP Requirements for Priority and Non-Priority Project Categories**

<b>BMP Category</b>		<b>Applicable Projects</b>
<b>Source Control BMPs</b>	<b>Routine Non-Structural BMPs</b>	Required for all projects – as applicable
	<b>Routine Structural BMPs</b>	Required for all projects – as applicable.
<b>Site Design BMPs</b>		All projects must consider implementation of Site Design BMPs.
<b>Treatment Control BMPs or Regional Program</b>		All priority projects.

Routine Source Control BMPs

Routine source control BMPs include both non-structural and structural practices. Non-structural BMPs are behaviors, practices, and regulations that prevent runoff pollution or reduce exposure of pollutants to stormwater. All new development and significant redevelopment projects in the City of San Clemente must implement all of the non-structural BMPs listed in Table 7-3 as appropriate for the proposed project. Routine structural source control BMPs are low-technology practices designed to prevent pollutants from contacting stormwater runoff or to prevent discharge of contaminated runoff to the storm drainage system. In addition to non-structural source control BMPs, all new development and significant redevelopment projects in the City of San Clemente must implement all of the routine structural BMPs listed in Table 7-4 as appropriate to the proposed project. Information about these BMPs are located in Exhibit 7.III of the South Orange County Model Water Quality Management Plan, Technical Guidance Document.

**Table 7-3: Routine Non-Structural Source Control BMPs**

<b>Model WQMP Number</b>	<b>Name</b>
N1	Education for Property Owners, Tenants and Occupants
N2	Activity Restrictions
N3	Common Area Landscape Management
N4	BMP Maintenance
N5	Title 22 CCR Compliance (How the development will comply)
N6	Local Industrial Permit Compliance
N7	Spill Contingency Plan
N8	Underground Storage Tank Compliance
N9	Hazardous Materials Disclosure Compliance
N10	Uniform Fire Code Implementation
N11	Common Area Litter Control
N12	Employee Training
N13	Housekeeping of Loading Docks
N14	Common Area Catch Basin Inspection
N15	Street Sweeping Private Streets and Parking Lots
N16	Commercial Vehicle Washing

**Table 7-4: Routine Structural Source Control BMPs**

<ul style="list-style-type: none"> <li>• Provide storm drain system stenciling and signage</li> </ul>
<ul style="list-style-type: none"> <li>• Design and construct outdoor material storage areas to reduce pollution introduction</li> </ul>
<ul style="list-style-type: none"> <li>• Design and construct trash and waste storage areas to reduce pollution introduction (e.g. provide covered trash enclosures)</li> </ul>
<ul style="list-style-type: none"> <li>• Use efficient irrigation systems and landscape design, water conservation, smart controllers, and source control</li> </ul>
<ul style="list-style-type: none"> <li>• Protect slopes and channels and provide energy dissipation</li> </ul>
<ul style="list-style-type: none"> <li>• Incorporate requirements applicable to individual project features:               <ul style="list-style-type: none"> <li>– Dock areas</li> <li>– Maintenance bays</li> <li>– Vehicle wash areas</li> <li>– Outdoor processing areas</li> <li>– Equipment wash areas</li> <li>– Fueling areas</li> <li>– Hillside landscaping</li> <li>– Wash water control for food preparation areas</li> <li>– Community car wash racks</li> </ul> </li> </ul>



### Low Impact Development (LID) BMPs

LID BMPs are intended to collectively minimize directly connected impervious areas, limit loss of existing infiltration capacity, and protect areas that provide important water quality benefits necessary to maintain riparian and aquatic biota, and/or are particularly susceptible to erosion and sediment loss. The following LID BMPs must be implemented at all priority projects where technically feasible:

- Maintain or restore natural storage reservoirs and drainage corridors (including depressions, areas of permeable soils, swales, and ephemeral and intermittent streams.
- Projects with landscaped or other pervious areas must, where feasible, drain runoff from impervious areas (rooftops, parking lots, sidewalks, walkways, patios, etc.) into pervious areas prior to discharge to the MS4. The amount of runoff from impervious areas that is to drain to pervious areas shall not exceed the total capacity of the project's pervious areas to infiltrate or treat runoff, taking into consideration the pervious areas' geologic and soil conditions, slope, and other pertinent factors.
- Projects with landscaped or other pervious areas must, where feasible, properly design and construct the pervious areas to effectively receive and infiltrate or treat runoff from impervious areas, prior to discharge to the MS4. Soil compaction for these areas shall be minimized. The amount of the impervious areas that are to drain to pervious areas must be based upon the total size, soil conditions, slope, and other pertinent factors.
- Projects with low traffic areas and appropriate soil conditions must construct walkways, trails, overflow parking lots, alleys, or other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.

### Site Design BMPs

The principal objective of site design BMPs is to prevent pollution of stormwater by minimizing the introduction of pollutants and conditions of concern that may result in significant impacts generated from site runoff to the stormwater conveyance system. One approach to achieve this objective is to reduce stormwater runoff flows and volumes and reduce pollutants through appropriate site design BMPs. Benefits of site design BMPs include:

- Reduced size of downstream treatment controls and conveyance systems;
- Reduced pollutant loading to treatment controls; and
- Reduced hydraulic impact on receiving streams.

Site design BMPs, including, but not limited to those BMPs listed in Table 7-5, should be considered for all projects.

**Table 7-5: Site Design BMPs**

• Minimize Impervious Area/Maximize Permeability (C-Factor Reduction)
• Minimize Directly Connected Impervious Areas (DCIAs) (C-Factor Reduction)
• Create Reduced or "Zero Discharge" Areas (Runoff Volume Reduction)
• Conserve Natural Areas (C-Factor Reduction)

### Treatment Control BMPs

Treatment Control BMPs are engineered technologies designed to remove pollutants from urban and stormwater runoff and may be necessary to supplement source control and site design BMPs to reduce pollution from stormwater discharges to the maximum extent practicable. The type of treatment control BMP(s) to be implemented at a site depends on a number of factors: type of pollutants in the stormwater runoff, volume or flow of stormwater runoff to be treated, project site conditions, and receiving water conditions. Land requirements, and costs to design, construct and maintain vary according to the specific Treatment Control BMP(s) selected for a specific project.

Unlike flood control measures that are designed to handle higher peak flows, stormwater Treatment Control BMPs are designed to treat the more frequent, lower-flow storm events, or the initial portions of runoff from larger storm events (typically referred to as the first-flush events). Small, frequent storm events represent most of the total average annual rainfall for the area. Therefore the flow and volume from such small events is targeted for treatment.

### *WQMP Review and Approval*

The City requires project applicants to submit a WQMP checklist and Project WQMP as follows:

- Checklist with application, indicating that applicant understands the regulations and requirements, and distinction between Priority and Non-Priority Project designations.
- For Priority Projects:
  - A preliminary WQMP with preliminary plans, indicating all BMPs and site design considerations.
  - A final WQMP with final plans, which must be approved for permit issuance.
- For Non-Priority Projects, BMPs must be indicated on plans submitted for review.
- For both Priority and Non-Priority projects, the WQMP must include details on BMP operation and maintenance plan, and the WQMP must be approved by the City and recorded with the County before the City will issue any grading or building permits.
- The WQMP must be prepared in accordance with the Model WQMP and TGD (including WQMP checklist) provided on the city's website at [www.san-clemente.org](http://www.san-clemente.org).

After submittal of a project-specific WQMP, City staff review the WQMP to ensure that it addresses site design BMPs, routine structural and non-structural BMPs, treatment control BMPs (if applicable), and the mechanism(s) by which long-term operation and maintenance of all structural BMPs will be provided. Non-priority projects, while usually not required to submit a WQMP, must still incorporate routine structural and non-structural BMPs. To ensure thorough and consistent reviews of Project WQMPs, the City uses a checklist form during review of submitted WQMPs. The checklist is available on the city's website at [www.san-clemente.org](http://www.san-clemente.org).

As part of the standard conditions of approval for proposed development projects, the City requires that the following conditions related to water quality be satisfied before Final Map approval or any permit issuance or grading plan approval, whichever comes first:

- For projects that are subject to the California Statewide Construction Activity General NPDES Permit, the project owner or designee must provide the City with evidence of such permit coverage. Evidence of permit coverage is typically demonstrated by providing a copy of the Waste Discharge Identification (WDID) Number issued by the State Water Board. Alternatively, the project owner or designee may provide a copy of a completed and signed permit application form (known as the Notice of Intent or NOI form) along with a proof of mailing to the State Water Board.
- For projects where the ultimate occupied use is known and where that use is subject to the California Statewide Industrial Activity General NPDES Permit, the project owner or designee must provide the City with evidence of such permit coverage. Evidence of permit coverage is typically demonstrated by providing a copy of the Waste Discharge Identification (WDID) Number issued by the State Water Board. Alternatively, the project owner or designee may provide a copy of a completed and signed permit application form (known as the Notice of Intent or NOI form) along with a proof of mailing to the State Water Board.
- Construction plans submitted by the applicant for plan check must incorporate all of the structural BMPs identified in an approved Project WQMP. Therefore, the City encourages applicants to obtain approval of the final Project WQMP prior to submitting construction plans for plan check. Before issuing a grading or building permit, the City requires notes and BMPs to be included on the plan sheets to explicitly identify specific practices that will be implemented during project construction to reduce or eliminate the discharges of pollutants to the storm drain system and receiving waters.
- The project owner or designee must submit for review and obtain City Engineer approval of a project-specific WQMP that complies with City requirements. The project-specific WQMP submitted for approval must include an Operation and Maintenance (O&M) Plan, as well as demonstrate that a mechanism or agreement acceptable to the City has been executed for the long-term funding and performance of BMP operation, maintenance, repair, and/or replacement. The O&M Plan for structural BMPs that is prepared by the applicant for private sector projects or by the responsible City department or its architect/engineer contractor for public projects must describe and/or include:
  - Structural and non-structural BMPs
  - Employee responsibilities and training for BMP operation and maintenance
  - Operating schedule
  - Maintenance frequency and schedule
  - Specific maintenance activities
  - Required permits from resource agencies, if any
  - Forms to be used in documenting maintenance activities
  - Record keeping requirements (at least 5 years)

At a minimum, the City requires the annual inspection and maintenance of all structural BMPs. The project owner must record the WQMP with the County Recorder's office.

For projects with land use permits, the City reviews the environmental (CEQA) documentation (including the Mitigation Monitoring and Reporting Program), the conditions of approval and the approved Project WQMP for an understanding of the water quality issues and structural BMPs required. The City reviews construction plans for conformity with the approved Project WQMP. If the selected BMPs were approved in concept during the land use entitlement process, the City requires the applicant to submit detailed construction plans showing locations and design details of all BMPs that are in substantial conformance with the preliminary approvals. For projects that do not need discretionary review, the City uses the approved Project WQMP while reviewing the construction plans for consistency.

Prior to starting grading or construction activities for its public projects, the City ensures that the construction plans for its own projects reflect the structural BMPs described in the approved Project WQMP. In conducting the design review/plan check process for its public projects, the City reviews the construction plans and specifications for conformity with the approved Project WQMP.

*Permit Closeout, Certificates of Use, and Certificates of Occupancy*

Before the close out of permits and issuance of certificates of use and occupancy, the City assures that all of the requirements in the Project WQMP have been satisfied by requiring the project applicant to:

- Demonstrate that all structural BMPs described in the Project WQMP have been constructed and installed in conformance with approved plans and specifications;
- Demonstrate that the applicant is prepared to implement all non-structural BMPs described in the Project WQMP; and
- Demonstrate that an adequate number of copies of the Project WQMP are available on-site.

Following satisfactory inspection, those structural BMPs agreed to during the planning process, that are proposed to be within City right-of-ways or on land to be dedicated to City ownership, are accepted. Upon acceptance, responsibility for operation and maintenance (O&M) transfers from the developer or contractor to the appropriate City department, including the funding mechanism identified in the approved Project WQMP.

If a property owner or a private entity, such as a homeowners association (HOA), retains or assumes responsibility for O&M of structural BMPs, the City requires access for inspection through an agreement. If the City becomes the responsible party for operating and maintaining structural BMPs on private property, an easement is established to allow for entry and proper management of the BMPs. Such access easements are binding throughout the life of the project, or until the BMPs requiring access are acceptably replaced with a BMP not requiring access. Funding for the long-term O&M of structural BMPs will be front-funded, or otherwise guaranteed via mechanisms such as approved assessment districts or other funding mechanisms.

For the City's public projects, upon completion of construction when contract close-out occurs, the responsibility for O&M of the structural BMPs will transfer from the contractor to the appropriate City department. The City has the authority to approve the transfer of structural BMPs to any other public entity within its jurisdiction and shall negotiate satisfactory O&M standards with the public agencies accepting the O&M responsibilities. Alternatively, the responsibility for the O&M of structural BMPs may be transferred to a private entity through contracts or lease agreements. In any such transfer agreement, the City shall be identified as a third-party beneficiary empowered to enforce maintenance agreements.

#### *Post-Construction BMP Inspection and Verification*

The City conducts verifications to assure that Project WQMPs are being implemented and that BMPs are being properly maintained. The City may conduct these verifications by inspection, self-certifications, surveys, or other equally effective approaches as determined by the City. The City provides a summary of the verifications conducted in its JRMP Annual Report.

### **7.6 EDUCATION AND TRAINING**

Education and training is the key to the success of the City's Stormwater Program. To assist the responsible municipal and contract/lease staff in understanding the New Development/Significant Redevelopment program, several different annual training sessions are conducted by the County of Orange. In order to ensure that the program is being implemented properly, the City ensures that appropriate City and contractor staff attend the training sessions.

In addition to Permittee sponsored training, the City provides the means for staff to attend training seminars or workshops related to stormwater management and water quality conducted by other organizations, as needed.

Records of both Permittee and non-Permittee sponsored training provided to City staff are maintained by the City's Environmental Programs Section.

### **7.7 PROGRAM ASSESSMENT**

The City submits an annual progress report, which provides the basis for evaluating the City's efforts towards the reduction of pollutants from new development and significant redevelopment. The annual progress report includes information such as changes made to the City's General Plan, CEQA and development review processes, information on Project WQMPs approved and verified by the City, and documentation of training received by the City staff.

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## **8.0 CONSTRUCTION**

This section discusses requirements and guidelines for pollution prevention methods that must be used by construction site owners, developers, contractors, and other responsible parties in order to protect water quality from discharges associated with construction site activities. The City ensures that public and private construction projects adhere to the requirements of this section to prevent the generation and discharge of pollutants from construction sites to the City's storm drain system. The specific responsibilities of City departments and internal coordination of JRMP activities related to construction activities are discussed in Section 2.

### **8.1 INVENTORY AND PRIORITIZATION OF CONSTRUCTION SITES**

The City's Environmental Programs Section is responsible for maintaining a watershed-based inventory of all construction sites within the City, where construction sites are defined to include:

- All sites covered by the California General Construction Permit;
- All sites with a local Grading Permit; and
- All sites with a local Building Permit (except those sites specific to interior remodels or utilities).

The City of San Clemente's watershed-based construction site inventory is updated annually before the start of each rainy season (October 1). During the update process, projects for which building or grading permit(s) have expired or have been closed, and projects that have been completed, are removed from the inventory. New projects are also added to the inventory.

After the inventory list is updated, the construction sites are prioritized based on the nature and size of the construction activity, topography, and the characteristics of soils and receiving water quality. Priorities will at a minimum be updated annually in conjunction with the annual update of the inventory.

### **8.2 BMPS FOR CONSTRUCTION PROJECTS**

All construction projects, regardless of size or priority, are required to implement BMPs to prevent discharges into the storm drain system or watercourses. All private and public construction projects are required, at a minimum, to implement and be protected by an effective combination of erosion and sediment controls and waste and materials management BMPs. The minimum requirements are summarized in Table 8-1. These minimum requirements are conveyed to construction contractors as part of the permit conditions and plan notes. In addition, they are reviewed as a part of the pre-construction meeting for projects that require a meeting with the inspector and/or project manager prior to beginning work.

**Table 8-1: Minimum Requirements for All Construction Sites**

<b>CATEGORY</b>	<b>MINIMUM REQUIREMENTS</b>
Management Measures	<ul style="list-style-type: none"> <li>i. Pollution prevention where appropriate;</li> <li>ii. Development and implementation of a site specific run-off management plan;</li> <li>iii. Minimization of areas that are cleared and graded to only the portion of the site that is necessary for construction;</li> <li>iv. Minimization of exposure time of disturbed soil areas;</li> <li>v. Minimization of grading during the wet season and correlation of grading with seasonal dry weather periods to the extent feasible;</li> <li>vi. Limitation of grading to a maximum disturbed area as determined by the City before either temporary or permanent erosion controls are implemented to prevent storm water pollution. The City has the option of temporarily increasing the size of disturbed soil areas by a set amount beyond the maximum, if the individual site is in compliance with applicable storm water regulations and the site has adequate control practices implemented to prevent storm water pollution;</li> <li>vii. Temporary stabilization and reseeded of disturbed soil areas as rapidly as feasible;</li> <li>viii. Wind erosion controls;</li> <li>ix. Tracing controls;</li> <li>x. Non-stormwater management measures to prevent illicit discharges and control storm water pollution sources;</li> <li>xi. Waste management measures;</li> <li>xii. Preservation of natural hydrologic features where feasible;</li> <li>xiii. Preservation of riparian buffers and corridors where feasible;</li> <li>xiv. Evaluation and maintenance of all BMPs, until removed; and</li> <li>xv. Retention, reduction, and proper management of all storm water pollutant discharges on site to the MEP standard.</li> </ul>



CATEGORY	MINIMUM REQUIREMENTS
Erosion and Sediment Controls	<ul style="list-style-type: none"> <li>i. Erosion prevention. Erosion prevention is to be used as the most important measure for keeping sediment on site during construction;</li> <li>ii. Sediments controls. Sediment controls are to be used as a supplement to erosion prevention for keeping sediment onsite during construction;</li> <li>iii. Slope stabilization must be used on all active slopes during rain events regardless of the season and on all inactive slopes during the rainy season and during rain events in the dry season; and</li> <li>iv. Permanent revegetation or landscaping as early as feasible.</li> </ul>

Enhanced BMPs

The City requires enhanced or additional BMPs should the project site pose an exceptional threat to water quality. In determining the potential threat, the City considers the following factors:

- a) Soil erosion potential or soil type;
- b) Site slopes;
- c) Project size and type;
- d) Sensitivity and proximity to receiving water bodies;
- e) Non-storm water discharges;
- f) Ineffectiveness of other BMPs;
- g) Proximity and sensitivity of aquatic threatened and endangered species of concern;
- h) Known effects of Advanced Sediment Treatment (AST) chemicals; and
- i) Any other relevant factors

If an exceptional threat to water quality is determined based on the above factors, the City will require implementation of advanced treatment for sediment at construction sites (or portions thereof).

Table 8-2 identifies the construction-specific BMPs developed by the California Stormwater Quality Association (CASQA) that have been designated by the City for use as appropriate on construction sites. The selection and use of individual BMPs must be appropriate for activities of each specific construction project to meet the requirements of this section. The CASQA Construction BMP Handbook and individual BMP fact sheets for the BMPs listed in **Table 8-2** are available through annual BMP Handbook subscriptions with CASQA ([www.casqa.org](http://www.casqa.org)).

**Table 8-2: Designated CASQA Construction BMPs**

<b>BMP Category</b>	<b>BMP #</b>	<b>BMP Name</b>
Erosion Control	EC-1	Scheduling
	EC-2	Preservation of Existing Vegetation
	EC-3	Hydraulic Mulch
	EC-4	Hydroseeding
	EC-5	Soil Binders
	EC-6	Straw Mulch
	EC-7	Geotextiles, Plastic Covers and Erosion Control Blankets/ Mats
	EC-8	Wood Mulching
	EC-9	Earth Dikes/ Drainage Swales and Lined Ditches
	EC-9	Earth Dikes/ Drainage Swales and Lined Ditches
	EC-10	Outlet Protection/ Velocity Dissipation Devices
	EC-11	Slope Drains
	SE-1	Silt Fence
	SE-2	Desilting Basin
	SE-3	Sediment Trap
	SE-4	Check Dam
	SE-5	Fiber Rolls
	SE-6	Gravel Bag Berm
	SE-7	Street Sweeping and Vacuuming
	SE-8	Sandbag Barrier
SE-9	Straw Bale Barrier	
SE-10	Storm Drain Inlet Protection	
Wind Control	WE-1	Wind Erosion Control
Tracking Control	TC-1	Stabilized Construction Entrance/ Exit
	TC-2	Stabilized Construction Roadway
	TC-3	Entrance/Outlet Tire Wash
Non-Stormwater Control	NS-1	Water Conservation Practices
	NS-2	Dewatering Operations
	NS-3	Paving and Grinding Operations
	NS-4	Temporary Stream Crossing
	NS-5	Clear Water Diversion
	NS-6	Illicit Connection/Illegal Discharge Detection and Reporting
	NS-7	Potable Water/Irrigation
	NS-8	Vehicle and Equipment Cleaning
	NS-9	Vehicle and Equipment Fueling
	NS-10	Vehicle and Equipment Maintenance
	NS-11	Pile Driving Operations
	NS-12	Concrete Curing
	NS-13	Concrete Finishing
	NS-14	Material and Equipment Use Over Water

BMP Category	BMP #	BMP Name
	NS-15	Structure Demolition/Removal Over or Adjacent to Water
	NS-16	Temporary Batch Plants
	NS-17	Streambank Stabilization
Waste Management and Materials Pollution Control	WM-1	Material Delivery and Storage
	WM-2	Material Use
	WM-3	Stockpile Management
	WM-4	Spill Prevention and Control
	WM-5	Solid Waste Management
	WM-6	Hazardous Waste Management
	WM-7	Contaminated Soil Management
	WM-8	Concrete Waste Management
	WM-9	Sanitary/ Septic Waste Management
	WM-10	Liquid Waste Management

The Permit requires that the City establish additional controls for areas and activities tributary to Clean Water Act Section 303(d) impaired water bodies (where an area or activity generates pollutants for which the waterbody is impaired). The Permit also requires that the City establish additional controls for areas and activities within or directly adjacent to receiving waters with Environmentally Sensitive Areas (ESAs).

### 8.3 DOCUMENTATION REQUIREMENTS

#### 8.3.1 Requirements for General Permit Sites

Construction sites that are subject to the California Construction General Permit (CGP) are required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP) meeting the requirements of the CGP. Although the SWPPP document must be site-specific, it is permissible to use a template to help in developing the SWPPP. CASQA and other organizations have SWPPP templates available, but the construction site owner is responsible for ensuring the SWPPP complies with the requirements of the CGP.

The CGP (enforced by the nine Regional Boards) requires all dischargers where construction activity disturbs one or more acres of land (or less than one acre if the project is part of a larger common plan of development that will exceed one acre) to obtain permit coverage. It is the responsibility of the landowner to obtain coverage under this CGP. More information can be obtained from the State Board website at [www.waterboards.ca.gov](http://www.waterboards.ca.gov).

#### *Private Construction Projects Covered by the General Permit*

The following bullets describe the process that is followed by a private construction project:

- For private projects, the project owner, developer or contractor is responsible for preparing the Notice of Intent (NOI) form for CGP coverage and submitting it to the State Water Resources Control Board (SWRCB).
- Before issuing a grading or building permit, the City requires proof of General Permit coverage and may require submittal of an approved Project Water Quality Management Plan (WQMP) (refer to Section 7.0). Generally, the project owner or

his/her designee can demonstrate proof of CGP coverage by providing the City with either: a) the permit receipt letter issued by the SWRCB which includes a permit number (referred to as the project "WDID" number); or b) a copy of the signed NOI form along with a proof of mailing.

- Private construction projects covered by the CGP must also develop Erosion and Sediment Control Plans (ESCPs) that show proposed locations of the erosion and sediment control and waste management BMPs that will be implemented during the construction project to comply with the minimum requirements as discussed in this section. The City will not issue permits until a project-specific ESCP is approved.
- Once the project owner, developer or contractor receives a grading or building permit (if applicable), the SWPPP must be prepared by the owner, developer or contractor, and must be implemented year-round throughout the duration of the project's construction. It is important to note that the City of San Clemente and its staff are not responsible for reviewing, approving or enforcing the SWPPP; these are responsibilities of the RWQCB. City inspector(s) may choose to use the SWPPP as a tool for on-site inspections.
- The City inspects and enforces local permit(s) and ordinances, and notifies the RWQCB of non-compliance when the non-compliance meets the criteria of posing a threat to human or environmental health.
- Once project construction is completed and the site fully complies with the final stabilization requirements of the CGP, the owner/developer submits a Notice of Termination (NOT) to the SWRCB.

#### *Public Construction Projects Covered by the General Permit*

The following bullets describe the process that is followed by public construction projects:

- The City's Project Manager will prepare the NOI and submit it to the SWRCB.
- The SWPPP will be prepared by the City or its contractor, before the contractor is allowed to start construction activities. Note that City inspectors will enforce provisions in the SWPPP as well as approved plans. RWQCB staff may also enforce the SWPPP requirements.
- Before the contractor is allowed to start, the City or its contractor may be required to submit an approved Project WQMP (refer to Section 7.0).
- During construction, the City will inspect and enforce the contract documents and will notify the RWQCB when non-compliance meets the criteria of posing a threat to human or environmental health.
- Once the project is completed, the City will submit an NOT to the State Board.

### **8.3.2 Requirements for Other Sites**

#### *Private Construction Projects Not Covered by the General Construction Permit*

Private construction projects not covered by the CGP, but covered under a grading permit, are required to develop Erosion and Sediment Control Plans (ESCPs). These ESCPs must show proposed locations of the erosion and sediment control and waste management BMPs that will be implemented during the construction project to comply with the minimum requirements as discussed in this section.

*Public Works Construction Projects Not Covered by the General Construction Permit*

Public works construction projects not covered by the General Permit are required to: 1) comply with the appropriate pollution prevention control practices in accordance with the minimum requirements as discussed in this section; 2) comply with the current edition of the "Green Book" Standard Specifications for Public Works Construction; and 3) develop and implement ESCPs. Medium priority construction sites shall meet the minimum requirements as discussed in this section.

## 8.4 INSPECTION AND REPORTING REQUIREMENTS

### 8.4.1 Inspection Responsibilities and Frequencies

The City conducts inspections of construction sites to verify that the requirements of this section of the JRMP are being implemented and maintained, that they appropriately comply with local permits and ordinances as well as CGP requirements (for public works projects covered by the CGP), and that they continue to protect water quality. Construction sites are inspected, according to the established priority, until construction activity is complete as shown in Table 8-3. The City typically exceeds the minimum required inspection frequencies listed in Table 8-3 since City inspectors include stormwater inspections as part of every inspection conducted.

**Table 8-3: Inspection Frequency of Construction Sites**

	<b>Wet Season (October 1 - April 30)</b>	<b>Dry Season (May 1 - September 30)</b>
Sites $\geq$ 30 acres with rough grading or active slopes	Every 2 weeks	Annually in Aug or Sep
Sites $\geq$ 1 acre tributary to a CWA 303(d) water body segment impaired for sediment or within or directly adjacent to, or directly discharging to a receiving water with an ESA	Every 2 weeks	Annually in Aug or Sep
Other sites determined to be a significant threat to water quality.	Every 2 weeks	Annually in Aug or Sep
All other sites $\geq$ 1 acre but not meeting the criteria above.	Monthly	As Needed
Sites $<$ 1 acre	As Needed	As Needed

### 8.4.2 Inspection Documentation Procedures

The City documents all construction site inspections and non-compliance reports using a checklist or other written reports. The City retains records of all inspections and noncompliance reporting for a period of at least three years.

## 8.5 ENFORCEMENT

Enforcement of construction projects is conducted by City's inspectors and/or other staff who possess internal enforcement authority through established policies and procedures. Threat to water quality is assessed by inspectors for construction site runoff that will not be reasonably controlled by the BMPs in place or if a failure of BMPs is resulting in the release of sediments or other pollutants. Observed violations are documented by the City inspectors as discussed above.

If a significant and/or immediate threat to water quality is observed by an inspector, the City requires that the construction site developer/contractor immediately cease the discharge. Table 8-4 summarizes the City's enforcement steps that will be taken by inspectors for private construction projects and for public works construction projects.

**Table 8-4: Enforcement Actions for Construction Projects**

<b>Private Construction Projects</b>	<b>Public Construction Projects</b>
Verbal Warning	Verbal Warning
Written Warning Notice of Non-Compliance Administrative Citations or Fines	Written Warning Notice of Non-Compliance
Stop Work Order	Enforcement of Contract Withholding of Payment Bond Administrative Citations or Fines Stop Work Order Revocation of Contract
Revocation of Permit(s) and/or Denial of Future Permits	
Civil and Criminal Court Actions	Civil and Criminal Court Actions
Referral to Other Agencies for Enforcement Support	

The City considers a site non-compliant when one or more violations of local ordinances, permits, or plans exist on the site. If a non-compliant private construction project meets the criteria of posing a threat to human or environmental health as discussed in the following subsection, the RWQCB is notified as required. Oral notification to the RWQCB of non-compliant private construction sites that are determined to pose a threat to human or environmental health are provided within 24-hours of the discovery of non-compliance. Such oral notification is followed up by a written report and submitted to the RWQCB within 5 days of the incidence of non-compliance. Written notification(s) identify the type(s) of non-compliance, describe the actions necessary to achieve compliance, and include a time schedule, subject to the modifications by the RWQCB, indicating when compliance will be achieved.

## 8.6 EDUCATION AND TRAINING

City staff responsible for understanding and implementing the construction component of the JRMP attends annual training sessions. In addition to training sponsored by the Copermittees, staff may also attend training seminars or workshops related to general water quality and stormwater management during construction conducted by other organizations. The Principal Permittee will coordinate, develop and present a number of different training modules in accordance with *The Orange County Stormwater Program Training Program Framework: Core Competencies* as an option for City staff to attend.

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## 9.0 EXISTING DEVELOPMENT

The NPDES Permit requires the City to implement a program to minimize the short- and long-term impacts on receiving water quality from all types of existing development within its jurisdiction. The existing development program addresses commercial, industrial, residential, and common interest area/homeowner association (CIA/HOA) areas pursuant to the NPDES Permit. These areas are addressed under the following sections:

- Section 9.1 – Commercial/Industrial
- Section 9.2 – Residential Management Area
- Section 9.3 – CIA/HOA program

### 9.1 COMMERCIAL / INDUSTRIAL FACILITIES

#### 9.1.1 Pollution Prevention and Program Administration

The City’s commercial and industrial component includes specifications for pollution prevention measures for such facilities and activities located within the City. Specific pollution prevention practices that are generally recognized in each discharger’s industry or business, or in the discharger’s activity, as being effective and economically advantageous, are inspected by the City with frequencies as per the NPDES Permit. The City’s authorized inspectors document inspection details and reference a list of proper best management practices to verify the implementation of pollution-prevention measures by such facilities.

#### 9.1.2 Source Identification

The City is required to develop and annually update a watershed-based inventory (database) of all commercial and industrial facilities within its jurisdiction, regardless of the site ownership. The process for conducting the inventory is explained in the Section 9 of the DAMP.

Industrial sites are defined to include all sites with descriptions matching those defined by the EPA to be "industrial" (Table 9-1).

**Table 9-1: Industrial Facility EPA Categories**

<b>Industrial Facility Category</b>	<b>SIC Code</b>
i – Facilities with stormwater effluent limitations (subject to Code of Federal Regulations Section 40, Subchapter N)	Varies
ii – Manufacturing	2000-3999
iii – Mineral, Metal, Oil and Gas Mining or Extraction	1000-1499
iv – Hazardous Waste	4953
v – Landfills	4953
vi – Recycling	5015, 5093
vii – Steam Electric Plants	4911
viii – Transportation	4000-4999
ix – Treatment Works (subject to Code of Federal Regulations Section 40, Part 403).	Varies
x – Light Industrial Activity	2000-3999

For each of the categories in Table 9-1, EPA assigns a number of Standard Industrial Classification (SIC) codes (also shown in Table 9-1). The inventory of industrial facilities is then generally completed by matching SIC codes and facility descriptions. However, the City's Business License Section tracks facilities based on a category class, not based on SIC codes. If SIC codes are provided, they often aren't accurate, making it difficult to develop and maintain the inventory as specified in the permit. Therefore, City staff expend significant effort to consider all information about each facility to verify the appropriateness of its inclusion in the industrial inventory. A copy of the City's Industrial Inventory is included as Appendix D.

Commercial sites include the following per the NPDES Permit:

- Automobile repair, maintenance, fueling, or cleaning
- Airplane repair, maintenance, fueling, or cleaning
- Boat repair, maintenance, fueling, or cleaning
- Equipment repair, maintenance, fueling, or cleaning
- Automobile and other vehicle body repair or painting
- Mobile automobile or other vehicle washing
- Automobile (or other vehicle) parking lots and storage facilities
- Retail or wholesale fueling
- Pest control services
- Eating or drinking establishments including food markets
- Mobile carpet, drape or furniture cleaning
- Cement mixing or cutting
- Masonry
- Painting and coating
- Botanical or zoological gardens and exhibits
- Landscaping
- Nurseries and greenhouses
- Golf courses, parks and other recreational areas/facilities
- Cemeteries
- Pool and fountain cleaning
- Marinas
- Portable Sanitary services
- Building material retailers and storage
- Animal facilities
- Mobile pet services
- Power washing services
- Other sites and sources with a history of un-authorized discharges to the MS4

A copy of the City's Commercial Inventory is included as Appendix E.

### 9.1.3 Inspection of Commercial and Industrial Sites/Sources

The City conducts commercial and industrial facility inspections as required by the MS4 Permit. The City's inspection procedure includes but not limited to the following activities:

1. Review of BMP implementation plans, if the site uses or is required to use such a plan;
2. Review of facility monitoring data, if the site is required to monitor its runoff;
3. Check for coverage under the Industrial General Permit (Notice of Intent (NOI) and/or Waste Discharge Identification Number), if applicable;
4. Assessment of compliance with the City's ordinances and permits related to runoff;
5. Assessment of BMP implementation, maintenance and effectiveness;
6. Visual observations for non-stormwater discharges, potential illicit connections, and potential discharge of pollutants in stormwater runoff; and
7. Education and training on stormwater pollution prevention, as conditions warrant.

Prior to the commencement of the wet season, the City will notify the SDRWQCB of the industrial sites that are subject to the Industrial General Permit or other individual NPDES permit with alleged violations. Information may also be provided as part of the jurisdictional annual report, Program Effectiveness Assessment, (PEA), if submitted prior to the rainy season. Such notification will include, but not be limited to, the following:

1. Facility name and WDID number, if enrolled under the General Industrial Permit;
2. Site Location, including address and GPS coordinates;
3. Current violations or suspected violations; and
4. Past facility violation history.

#### *Inspection Frequencies*

As required by the Permit, the City conducts an annual water quality inspection on at least 20 percent of the sites inventoried (excluding mobile sources and food facilities). Other inspection frequencies are determined based on the findings of the City's inspection program and the following factors:

1. Type of activity conducted and SIC code;
2. Materials used at the facility;
3. Amount and type of wastes generated;
4. Pollutant discharge potential;
5. Non-stormwater discharges;
6. Size of facility;
7. Proximity to receiving water bodies;
8. Sensitivity of receiving water bodies;
9. Whether the facility is subject to the General Industrial Permit or an individual NPDES permit;
10. Whether the facility has filed a No Exposure Certification/Notice of Non-Applicability;
11. Facility design;

12. Total area of the site, area of the site where industrial or commercial activities occur, and area of the site exposed to rainfall and runoff;
13. The facility's compliance history; and
14. Any other relevant factors.

#### **9.1.4 Food Service Establishments**

The City of San Clemente and the Orange County Health Care Agency (OCHCA) will collaborate to conduct annual water quality inspections of food service establishments (FSEs) to meet permit requirements. Water quality issues are documented and included in the OCHCA's monthly reports. South Orange County Cities are responsible for conducting follow-up inspections on facilities with water quality issues to confirm the implementation of best management practices for pollution prevention and to address the following activities:

1. Trash storage and disposal;
2. Grease storage and disposal;
3. Maintenance of trash collection area and grease interceptors;
4. Proper discharge of wash water (e.g., from floor mats, driveways, sidewalks, etc.);
5. Identification of outdoor sewer and MS4 connections; and
6. Education of property managers when grease and/or trash facilities are shared by multiple facilities.

#### **9.1.5 Mobile Businesses**

As required by the Permit, a regional mobile business pilot program for Orange County area was developed in August 2010. The mobile businesses addressed in this program are those that provide one or more of the following services:

1. Cleaning (e.g., power sweeping, washing) driveways and parking lots;
2. Cleaning building exteriors (except sand blasting, window cleaning);
3. Driveway cleaning (e.g., power sweeping, washing) services;
4. Parking lot cleaning (e.g., power sweeping, washing) services;
5. Power washing building exteriors;
6. Pressure washing (e.g., buildings, decks, fences); and
7. Steam cleaning building exteriors.

#### *General Best Management Practices*

Mobile business owners, managers and/or operators are required to follow and implement the minimum best management practices as specified in the Mobile Businesses BMP Fact Sheet IC24 in Appendix F.

#### **9.1.6 BMP Implementation**

The City has designated a minimum set of activity-specific BMPs for all commercial and industrial facilities, as set forth in Section 9.4 of the DAMP and modified according to City requirements. The City has designated the Commercial and Industrial BMPs shown in Table 9-2 below (and provided in Appendix F) that are necessary to prevent or mitigate pollution

generated from the specific activities at each site. The corresponding fact sheets are available on the City's website.

**Table 9-2: Designated Commercial/Industrial BMPs**

<b>Activities/Sources</b>	<b>Fact Sheets</b>
Automobile mechanical repair, maintenance, fueling, or cleaning	IC18 Vehicle & Equipment Fueling IC19 Vehicle & Equipment Maintenance and Repair IC20 Vehicle & Equipment Washing and Steam Cleaning
Boat mechanical repair, maintenance, fueling, or cleaning	IC13 Over watering activities IC18 Vehicle & Equipment Fueling IC19 Vehicle & Equipment Maintenance and Repair IC20 Vehicle & Equipment Washing and Steam Cleaning
Equipment repair, maintenance, fueling, or cleaning	IC18 Vehicle & Equipment Fueling IC19 Vehicle & Equipment Maintenance and Repair IC20 Vehicle & Equipment Washing and Steam Cleaning
Automobile and other vehicle body repair or painting	IC14 Painting, Finishing, and Coating of Vehicles, Boats, Building and Equipment IC19 Vehicle & Equipment Maintenance and Repair
Mobile automobile or other vehicle washing	IC20 Vehicle & Equipment Washing and Steam Cleaning
Automobile (or other vehicle) parking lots and storage facilities	IC15 Parking and Storage Area Maintenance
Retail or wholesale fueling	IC18 Vehicle & Equipment Fueling
Eating or drinking establishments	IC22 Eating and Drinking Establishments
Mobile carpet, drape or furniture cleaning	IC4 Carpet Cleaning
Cement mixing or cutting	IC5 Concrete and Asphalt Production, Application and Cutting
Masonry	IC5 Concrete and Asphalt Production, Application and Cutting
Building Maintenance and Light Construction	IC3 Building Maintenance IC5 Concrete and Asphalt Production, Application and Cutting IC6 Contaminated or Erodible Surface Areas
Outdoor Activities	IC6 Contaminated or erodible surface areas IC9 Outdoor drainage from indoor areas IC10 Outdoor loading/unloading of materials IC11 Outdoor Process Equipment Operation and Maintenance

Activities/Sources	Fact Sheets
	IC12 Outdoor Storage of Raw Materials, Products, and Containers
Painting and coating	IC14 Painting, Finishing, and Coating of Vehicles, Boats, Building and Equipment
Botanical or zoological gardens and exhibits, animal boarding, veterinary and pet retail establishments	IC2 Animal Handling Areas IC7 Landscape Maintenance IC8 Nurseries and Greenhouses
Landscaping	IC7 Landscape Maintenance
Nurseries and greenhouses	IC8. Nurseries and Greenhouses
Golf courses, parks and other recreational areas/facilities	IC6 Contaminated or Erodible Surface Areas IC7 Landscape Maintenance
Pool and fountain cleaning	IC16 Pool and Fountain Cleaning
Marinas	IC13 Over Water Activities
Portable sanitary services	IC21 Waste Handling and Disposal
Animal facilities	IC2 Animal Handling Areas

The City requires the implementation of the designated BMPs at each commercial and industrial facility based on site-specific conditions in order to limit that facility’s impact upon receiving water quality. If particular BMPs are not feasible at any specific site, other equivalent BMPs will be implemented.

### 9.1.7 Enforcement

City inspectors with enforcement authority issue enforcement actions to commercial or industrial facility owners and operators determined to be out of compliance. The inspectors document each observed violation. The enforcement mechanisms available to inspectors include the following (depending on the severity of the violation), which are discussed in detail in Section 10:

- Verbal Warnings;
- Notices of Non-Compliance;
- Administrative Citations;
- Cease and Desist Orders; and
- Infractions and Misdemeanors.

If a significant and/or immediate threat to water quality is observed by a City inspector, action is taken to require the facility owner and/or operator to immediately cease the discharge.

While these measures typically escalate in enforcement action, they are not required to be issued in the exact order presented here. City inspectors apply or recommend any of the enforcement steps as appropriate. The City of San Clemente ensures that violations of a similar nature are subjected to similar types of enforcement remedies.

### **9.1.8 Training and Outreach**

City staff responsible for understanding and implementing the Industrial Component of the JRMP attends annual training sessions. In addition to training sponsored by the Copermittees, staff may also attend training seminars or workshops related to general water quality and stormwater management at industrial sites, as conducted by other organizations.

### **9.1.9 Program Assessment**

The City submits the JRMP annual report each year to the County of Orange (the Principal Permittee), and the County then compiles the annual reports from all Orange County cities into a single comprehensive submittal to the SDRWQCB. The City's JRMP annual report provides the basis for evaluating the City's efforts towards the reduction of water pollution from industrial and commercial sites. The annual report demonstrates commitment to pollution prevention and source reduction by providing an iterative evaluation process.

In assessing the effectiveness of the City's program the following items will be addressed:

- Assessment of inspection/enforcement efficacy, based on follow-up inspections (track improvements in compliance with City's ordinance requirements and type of follow-up action);
- Assessment of whether facilities are implementing or adequately implementing BMPs (evaluate outreach and inspection efforts to convey the program);
- Overall assessment of program element effectiveness; and
- Specific action plans and timeframes for implementing necessary improvements.

## **9.2 RESIDENTIAL MANAGEMENT AREA PROGRAM**

The City has developed and implemented an extensive program that aims to reduce pollutant runoff from residential management areas (RMAs) and activities to the maximum extent practicable (MEP) Over 50 percent of the City has a residential land use designation, which includes single-family and multi-family residences. Since residential land use comprises a large area of the City, residential activities can have a considerable effect on the quality of receiving water in the City. For that reason, the City has further developed and continues to implement multiple activities that aim to reduce non-storm water discharges and pollutant runoff from residential areas.

The residential program consists of the following to meet Permit requirements:

- Prevent illicit discharges into the storm drain system;
- Reduce residential discharges of storm water pollutants from the MS4 to the MEP; and
- Prevent residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

The program identifies the following activities which pose a high threat to water quality:

- a. Automobile repair, maintenance, washing, and parking;
- b. Home and garden care activities, including irrigation runoff, and product use (pesticides, herbicides, and fertilizers);
- c. Disposal of trash, pet waste, green waste, and household hazardous waste (e.g., paints, cleaning products);

- d. Any other residential source that the Copermittee determines may contribute a significant pollutant load to the storm drain system;
- e. Any residential areas tributary to a CWA section 303(d) impaired water body, where the residence generates pollutants for which the water body is impaired; and
- f. Any residential areas within or directly adjacent to or discharging directly to a coastal lagoon, the ocean, or other receiving waters within an environmentally sensitive area.

### **9.2.1 Residential Management Area Inventory**

The Permit requires the creation of an inventory of residential management areas (RMAs), as part of the existing development inventory. The City has created an inventory of 12 RMAs based on the City's most recent land use map. Figure 9-1 provides a map of the 12 designated RMAs. Inventoried residential neighborhoods are managed and tracked through the use of an electronic database and an annually updated Geographic Information System map showing the location and boundary of each inventoried residential neighborhood.

The City maintains a list of Common Interest Area (CIA) and Homeowners Association (HOA) contacts (typically property management companies). A map-based inventory of CIA/HOA areas is maintained by the City's Engineering Division. The RMA map shows areas within the each RMA that includes a CIA or HOA residential organization.

### **9.2.2 Inspection Process for Residential Management Areas**

The inspection process focuses on drive-by inspections for the initial evaluation followed by return inspections on an as-needed basis to confirm BMPs have been implemented and the pollutant sources abated. The City's inspection process may include any one or more of the following activities

- Water conservation program patrols of RMAs;
- Property-specific water use audits performed by City and contract staff;
- Observation of a discharge event recorded by City field staff, contractors, and other public agency staff; and
- Responses to public complaints.

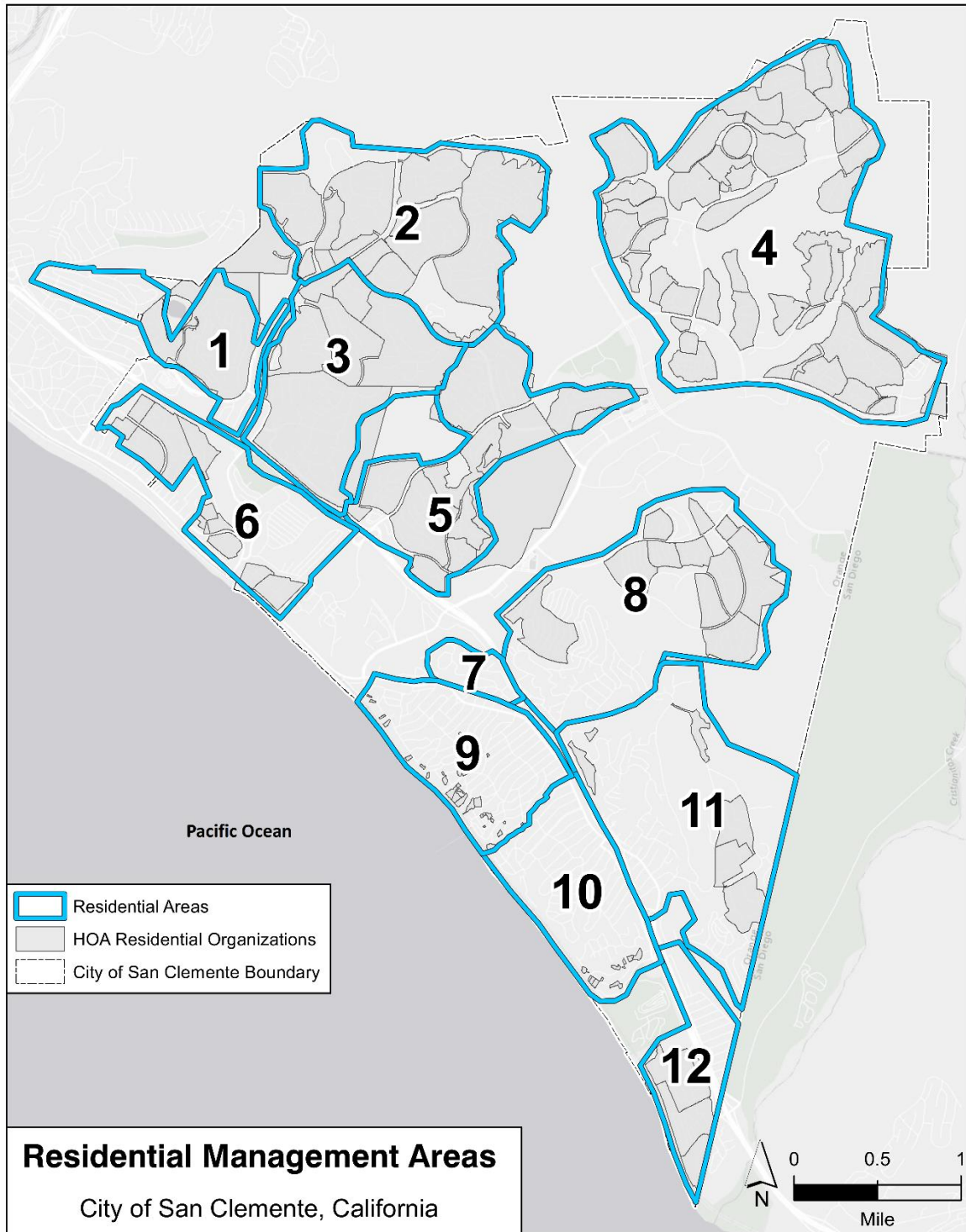
### **9.2.3 Inspection Frequency**

As required by the Permit, the City inspects the complete RMA inventory over the 5-year Permit cycle. Additional and follow up inspections are determined based on the findings of the City's inspection program.

### **9.2.4 BMP Implementation**

Pollution prevention consists of procedures and practices that eliminate or reduce the generation of pollutants at their sources. The residential component of the JRMP identifies suggested pollution-prevention methods for residential areas and activities located within the City. Table 9-3 lists several Residential BMP Fact Sheets that include specific pollution prevention practices. The fact sheets are available on the City's website and provided in Appendix C. The City's implementation strategy will focus on public education efforts to encourage pollution prevention.





**Figure 9-1: City of San Clemente Residential Management Areas**

**Table 9-3: Designated BMPs**

<b>Activity</b>	<b>BMP</b>	<b>Fact Sheet</b>
Automobile Repair and Maintenance	Automobile Repair and Maintenance	R-1
Washing vehicles in residential driveways or street	Automobile Washing	R-2
Parking vehicles on residential streets, in driveways, or in common area parking lots	Automobile Parking	R-3
Home Care and Landscape Maintenance	Home and Garden Care Activities	R-4
Disposal of Pet Waste	Disposal of Pet Waste	R-5
Disposal of Green Waste	Disposal of Green Waste	R-6
Disposal of Household Hazardous Wastes	Disposal of Household Hazardous Wastes	R-7
Water Conservation	Water Conservation	R-8
Sidewalk, Driveway and Patio Cleaning	Impervious Surface Cleaning	R-9
Swimming Pool Draining	Swimming Pool Draining	R-10

### **9.2.5 Enforcement**

City inspectors with enforcement authority will issue enforcement actions to residents determined to be violating the City's ordinances. The inspectors will document each observed violation. Depending on the severity of the violation, enforcement actions can range from a verbal warning to civil or criminal court actions with monetary fines. The City's approach toward working with residents is primarily educational, although further enforcement may result from unlawful activities.

If a significant and/or immediate threat to water quality is observed by a City inspector, action will be taken to require the resident to immediately cease the discharge.

## **9.3 COMMON INTEREST AREA AND HOMEOWNER ASSOCIATION PROGRAM**

### **9.3.1 Pollution Prevention and Program Administration**

Pollution prevention consists of procedures and practices that eliminate or reduce the generation of pollutants at their sources. The CIA/HOA Component identifies suggested pollution-prevention methods for residential areas and activities located within the City. **Table 9-4** and **Table 9-5** list several BMP Fact Sheets that include specific pollution prevention practices, depending on whether the CIA/HOA has streets and storm drains maintained by the City, or streets and storm drains maintained by the CIA/HOA. The fact sheets are available on the City's website. The City's implementation strategy will focus on public education efforts to encourage pollution prevention.

### 9.3.2 Best Management Practices

Tables 9-4 and 9-5 list the BMPs to address pollutants generated at CIA/HOA areas. The fact sheets include descriptions of specific BMPs for CIA/HOAs that may discharge pollutants and provide a focus on Pollution Prevention measures that should be implemented. The mandatory minimum BMPs identified on the fact sheets are appropriate and necessary to prevent or mitigate pollution generated from the specific activities. Each CIA/HOA area will be encouraged to implement those BMPs that are associated with activities that occur within their common areas. Note that Residential BMPs as listed in Section 9.3 of this document still apply to individual residential properties located within CIA/HOAs. However, the CIA/HOAs are only responsible for the activities associated with their common areas and not the activities associated with individual residential properties.

**Table 9-4: CIAs/HOAs with Publicly Owned/Maintained Streets and Storm Drains**

<b>Activity</b>	<b>Best Management Practices (BMPs)</b>	<b>Fact Sheet</b>
Vehicle Parking in CIA/HOA parking lots	Automobile parking	R-3
Parking Lot Maintenance and Cleaning	Parking Lot Maintenance	IC-13
Building Maintenance and Repair	Building Maintenance and Repair	IC-2
Disposal of hazardous wastes; such as paint, bleach, etc.	Waste Handling and Disposal	IC-19
Cleaning of CIA/HOA sidewalks, plaza, and entry monuments and fountains	Sidewalk, plaza, and entry monument and fountain maintenance	R-9, R-10
Landscape maintenance including irrigation and fertilization	Landscape maintenance	IC-6
Operation and maintenance of CIA/HOA Swimming Pools	Pool Cleaning	IC-16
Operation and maintenance of recreation areas such as parks and tennis courts	Disposal of pet waste and Green Waste Impervious Surface Cleaning	R-5, R-6 R-9
Minor Construction Activities	Minor Construction	IC-2
Vehicle maintenance and repair	Equipment maintenance and repair	IC-17
Storage of vehicles and equipment	Vehicle and equipment storage	IC-13
Cleaning of vehicles and equipment	Vehicle and equipment cleaning	IC-18
Storage, handling, and disposal of various materials such as cleaners	Material storage, handling and disposal	IC-11
Loading and unloading of materials	Material loading and unloading	IC-9

**Table 9-5: CIAs/HOAs with Privately-Owned/Maintained Streets and Storm Drains**

Activity	BMP	Fact Sheet
Includes all BMPs listed in <b>Table 9-7</b> plus the following BMPs:		
Road Maintenance and Sweeping	Roads Streets and Highways	FP-3
Parking vehicles on private streets	Automobile Parking	R-3
Inspection and cleaning of catch basins and storm drains	Drainage system operation and maintenance	DF-1
Operation and maintenance of water and sewer lines (not controlled by utility company)	Water and sewer utility operation and maintenance	FP-6

**9.4 RETROFITTING AND REHABILITATING EXISTING DEVELOPMENT**

The Permit requires Jurisdictions to describe a program to retrofit areas of existing development within its jurisdiction to address sources of pollutants and/or stressors that contribute to the highest priority water quality conditions in the Watershed Management Area (WMA). Retrofit projects, such as strategically placed structural best management practices (BMPs), may be used to reduce pollutants discharged due to stormwater runoff or hydro-modification from existing development areas. In addition, the RWQCB requires agencies to develop a program to rehabilitate streams, channels, and/or habitats.

In the San Juan Hydrologic WMA, the City will focus its retrofit and rehabilitation programs on Pathogen Health Risk and Unnatural Water Balance/Flow Regime, which are identified as the highest priority water quality condition (HPWQCs) in the WMA. The following subsections discuss the City’s strategy and approach for identifying, prioritizing, and implementing candidate retrofit and stream rehabilitation projects.

**9.4.1 Program Development Strategies**

Regional guidance for initiating a Copermittee-specific retrofit and rehabilitation program was initiated through the Watershed Management Area Analysis (WMAA) process and development of the South Orange County WQIP. Development and refinement of the City’s retrofit and rehabilitation program will be influenced by gaining a better understanding of the dynamic between San Clemente’s existing development and highest priority water quality conditions identified in the WQIP. Over time, the City will develop a retrofit and rehabilitation program that will identify feasible and cost-effective opportunities to improve water quality conditions created, in part, by existing development. The following strategies will be considered and/or implemented as the City develops its retrofit and rehabilitation program:

- Alternative compliance provisions for development projects, which allow offsite retrofit or rehabilitation projects in lieu of meeting the applicable storm water requirements solely through onsite best management practices (BMPs). This effort is being considered by the City and other Copermittees, who are collectively completing research to provide technical information that can serve as a foundation for future alternative compliance City of programs. The processes for approving, implementing, maintaining, and reporting on such projects will be identified when this effort is more mature.

- Obtaining grants for storm water improvements. The City has been successful in obtaining grant funding in the past and will continue to pursue grant opportunities, when feasible.
- Identifying and implementing projects, such as existing facility structural BMP retrofits and green infrastructure improvements to comply with applicable Total Maximum Daily Load (TMDL) requirements.
- Restore riparian habitats to protect water quality, particularly for highly erodible areas.

Overall, the City will employ a range of strategies to facilitate the implementation or construction of retrofit and rehabilitation projects in accordance with the WQIP.

#### 9.4.2 Candidate Projects

The following discussion provides a framework for identifying candidate retrofit and rehabilitation project areas.

#### 9.4.3 Project Criteria

As defined by the Permit, a *retrofit* is a “storm water management practice put into place after development has occurred in watersheds where the practices previously did not exist or are ineffective.” Retrofit projects often involve the introduction of structural BMPs to a previously underserved area, such as constructing new detention or bioretention facilities. Retrofits can also include downspout disconnection efforts (redirecting downspouts to pervious areas); the installation of rain barrels; or implementation of ‘green street’ practices.

Similarly related are *rehabilitation* projects, which implement methods of in-stream restoration, off-line storm water management practices installed in the system corridor or upland areas, or a combination of in-stream and out-of-stream techniques. Rehabilitation projects may include riparian zone restoration, constructed wetlands, channel modifications, and daylighting of drainage systems.

The following criteria will be considered by the City when identifying candidate retrofit and rehabilitation projects:

- **HPWQCs and WQIP numeric goals.** Priority will be assigned to retrofit and rehabilitation candidate projects that help meet WQIP numeric goals by directly targeting the HPWQCs noted above or by targeting conditions contributing to the HPWQCs.
- **Project feasibility.** The feasibility of a project includes consideration of characteristics such as cost, constructability, pollutant-removal potential, long-term operation, and project impediments. Moreover, projects that place a considerable burden on City resources relative to their environmental and/or compliance benefit, may be infeasible.
- **Land use.** Land use of the area tributary to a potential retrofit project is an important consideration when selecting retrofit and rehabilitation project candidates. Projects that receive runoff from land uses with a higher potential to contribute pollutants associated with HPWQCs are likely to be most helpful in meeting WQIP numeric goals.

- **Multiple project benefits or uses.** Candidate projects with the potential to contribute to the overall enhancement of the local community are preferred, and preference may be given to the following:
  - Improved flood control and protection
  - Enhanced walkability, pedestrian safety, and accessibility
  - Improved access to open spaces or recreational opportunities
  - Community beautification, such as streetscape aesthetics or incorporating murals other features with significant artistic value
  - Enhanced or expanded habitat for native plant and animal communities
- **Land availability.** Land availability and ownership are critical in evaluating candidate retrofit or rehabilitation projects. For example, candidate projects consisting of multiple privately-owned properties may prove more challenging than projects sited on single owner property. Similarly, City-owned property may provide retrofit and rehabilitation opportunities not feasible at privately-owned properties.
- **Maximize infiltration and retention.** Priority will be assigned to candidate projects that maximize stormwater infiltration and retention. Such projects provide multiple benefits through pollutant removal and runoff volume reduction. Site specific conditions (e.g., soil type, depth to groundwater, topography, existing structures) will influence the feasibility of implementing infiltration and retention practices.

#### **9.4.4 Potential Projects**

Given the preceding criteria, the City will identify candidate retrofit and rehabilitation projects as strategic and feasible opportunities arise. These opportunities may emerge through alternative compliance proposals, capital improvement projects, grant funding/awards, public and citizen interest, or private-development partnerships.

## **10.0 ILLEGAL DISCHARGE AND ILLICIT CONNECTION PROGRAM**

Illegal discharges/illicit connections (ID/ICs) can be a significant source of pollutants to the storm drain system and receiving waters and therefore can have an adverse effect on local water quality. In general, illegal discharges are considered to be any discharges not composed entirely of stormwater unless authorized by an NPDES Permit. The City's Stormwater Runoff Control Ordinance lists specific allowable and prohibited discharges according to the Permit. Illicit connections are any direct, unauthorized connections to the City's storm drain system (e.g. pipeline, conduit, inlet/outlet etc.) through which the discharge of any pollutant to the City's storm drain system occurs or may occur. These connections may be intentional or accidental as a result of mistaken identification of sanitary sewer lines. Examples of illicit connections include, but are not limited to:

- Sanitary sewer lines that tie into storm drains;
- Floor drains or sump pump discharges that are connected to storm drains; and
- Commercial laundries and car wash establishments that may route process wastewater to storm drains instead of sanitary sewers.

Examples of illegal discharges include, but are not limited to:

- Waste Oil / Auto Fluids;
- Home Improvement Waste (e.g. concrete, paint); and
- Sediment.

The MS4 Permit also prohibits irrigation runoff as it may contain pesticides, fertilizers, and yard and pet waste.

The purpose of this program is to locate and identify sources of ID/IC and to eliminate them, thereby reducing the amount of pollutants that enter the storm drain system, as well as reducing the amount of environmental degradation to the receiving waters and beaches and improving public health and safety. Abating ID/IC directly supports both the principal requirements of the Fifth Term Permit and effectively addresses two of the HPWQCs identified in the WQIP, specifically, unnatural water balance in dry weather and pathogen health risk. The following subsections discuss the City's program for identifying, investigating, eliminating and enforcing upon these types of discharges/connections in a timely manner.

### **10.1 ID/IC DETECTION**

The City has a number of programs that facilitate the detection of ID/ICs:

- Field and facility staff assist with the identification of ID/ICs by reporting any potential sources as part of their daily activities.
- Inspectors assist with the distribution of public education materials that provide phone numbers and encourage the reporting of spills.
- Construction inspectors and Environmental Staff proactively identify current or potential sources of illegal discharges from construction sites.

- City inspectors assist with the identification of actual or threatened illegal discharges from industrial, commercial and residential areas.
- The City has established and advertised the following phone number to receive water pollution complaints and incident information.
  - 24-hour Pollution Reporting Hotline: (949) 366-1553
- The City also advertises the countywide 24-hour bilingual water pollution complaint hotline (877) 89-SPILL and website complaint form ([www.ocwatersheds.com](http://www.ocwatersheds.com)) through the distribution of the countywide public education materials. The City coordinates with the County when complaints are received.

### **10.1.1 Dry Weather Monitoring**

Section 4 of the WQIP details how the City and Copermittees will implement a dry weather outfall monitoring in order to assess the effectiveness of individual JRMPs toward effectively identifying and prohibiting non-storm water discharges into the MS4. As with previous implemented monitoring programs sampling personnel contact City Environmental Staff immediately if visual or physical parameters at an outfall are indicative of ID/ICs. Such calls have assisted the City with locating prior illegal discharges (such as a restaurant drain discharging directly to the beach and a washing machine draining to a natural canyon) and illicit connections (such as a swimming pool discharge line plumbed to the storm drain).

### **10.1.2 Public Complaints and Tips**

Although observations by City staff are a significant source of information for detecting illegal discharges, participation by the community is also an important part of the City's ID/IC program, as citizens can help stop the occurrence of one-time discharges by reporting them to the City. As noted above, the City has established and advertised the Pollution Reporting Hotline phone number to receive complaints or tips of illegal discharges. The City's Utilities Division main phone number serves as the Pollution Reporting Hotline number (949-366-1553) and is operated 24 hours per day, seven days per week. City staff answer this number during normal City business hours, and an answering service handles calls outside of normal City business hours. The answering service then forwards information to on-call City staff. When a complaint or tip is received on the hotline, Utilities Department staff will first determine if the call involves an emergency situation (e.g. an active hazardous/unknown material spill or immediate and significant threat to human life or property) that requires an immediate response. If so, essential information, to the extent the caller can provide it, such as location, description of materials/wastes involved, responsible party etc. will be collected and the fire department or other emergency response as appropriate will be mobilized. If the call involves a non-emergency situation, Utilities Department staff will forward information from the caller to the Environmental Programs Section to investigate the complaint. In either case, the Utilities Department will respond immediately to contain and cleanup spills if warranted. Environmental Programs Section staff will then investigate and conduct follow up enforcement.

### **10.1.3 Inspections of Businesses and City Facilities**

The City conducts an inspection program to ensure compliance of all industrial, commercial, and City facilities as well as construction sites that have been determined to pose significant threat to water quality. The inspections ensure that appropriate BMPs are being implemented



to reduce or eliminate the discharges of pollutants, and help to identify any illicit connections or illegal discharges that may be occurring at these sites. The programs for identifying and inspecting these municipal, construction, and industrial/commercial sites are discussed in **Sections 5, 8, and 9**, respectively, of this JRMP.

## **10.2 INVESTIGATION AND INSPECTION**

Illegal discharges are investigated relative to location, timing of discharges, source of and reason for discharge, and the volume and potential for harm from the discharge. Any portion of the City's storm drain system that, based on dry-weather monitoring results, public reporting, or business inspection program as discussed in the previous section, indicates a reasonable potential for ID/ICs or other sources of non-stormwater will be investigated. Portions of the system where follow-up investigations are appropriate will be identified. Once the source is found, it will be eliminated.

If discharges are visually identifiable, City personnel will follow the storm drain system map to identify possible sources of the flow. If discharges are detected by dry-weather monitoring analysis results, City personnel will investigate further to identify the true source of the contamination if possible.

Suspected dischargers are targeted within the legal means provided under the City's water quality and other ordinances (refer to Section 4). Appropriate investigation notices or permission to enter property are sought prior to entering privately owned properties that have been targeted for inspection. After every investigation that identifies an illegal discharge and its source, follow-up procedures are implemented to verify that the discharge has been stopped. Documentation of whether or not the illegal discharge has been stopped is taken and entered into a tracking database. City staff may rely upon appropriate enforcement procedures to ensure that identified illegal discharges are stopped.

The emphasis in determining the source of the ID/IC is placed on direct observations to minimize cost and speed the process to the extent possible. In situations where visual observations for source identification fail, follow-up procedures may include the following methods:

- Dye testing;
- Smoke testing;
- Video inspection;
- Evaluating inspection method effectiveness; and
- Subsequent field screening and analytical monitoring.

Source investigations are conducted when an ID/IC is detected or suspected and the source is not readily identifiable. The purpose of the investigation is to locate the source so that measures to eliminate the ID/IC can be implemented. Source investigations will be initiated when appropriate information suggests evidence of an ID/IC.

All source investigations will be documented and filed appropriately. Documentation may include photographs, observations, notes of discussions, and other information relevant to the investigation. This information may be used on future investigations and possible future

resolution of ID/ICs for which sources were unidentified. The City retains and tracks files pertaining to the various illicit discharge cases when a responsible party has been identified.

### **10.3 ELIMINATION**

The City strives to immediately remove, eliminate or otherwise stop any detected illicit connections and illegal discharges in order to comply with the requirements of the NPDES Permit.

#### **10.3.1 Remove Illicit Connections**

The City requires responsible party(ies) to take actions necessary and appropriate to disconnect, block, stop or divert unauthorized drainage facilities and pipe connections which are determined to discharge pollutants to the municipal storm drain system. Appropriate actions may include:

- Plug sinks and drains, which are discharging illicit materials to the storm drain system;
- Disconnect all drainage pipes found to discharge illegal pollutants to the storm drainage system; and
- Divert illegal discharge to appropriate handling facility either sanitary sewer or on-site treatment methods. Contain and properly manage hazardous waste materials including proper storage and disposal methods.

#### **10.3.2 Discontinue Illegal Discharges**

The City will require responsible party(ies) to implement procedures to discontinue illegal discharges, which are found to carry pollutants to the storm drainage system. Procedures must consider the following actions for implementation:

- Eliminate source of discharge;
- Remove pollutant materials from the site;
- Keep pollutant materials from coming in contact with runoff; and
- Contain potential illegal discharges on-site for treatment or proper disposal.

Illicit connections and illegal discharges which are not removed, eliminated or otherwise continue to discharge to the City's storm drain system will be cause for implementing appropriate enforcement actions by the City.

### **10.4 ENFORCEMENT AND FOLLOW-UP**

The City is the local enforcement agency for investigating and controlling ID/ICs. If investigation and monitoring identify a specific facility or property as a source of illegal discharge or illicit connection to the storm drain, the City has the authority to take all necessary actions to eliminate ID/ICs in a timely manner and verify that compliance is achieved. Enforcement activities within the City are undertaken according to the mechanisms provided in the City's water quality code (refer to Section 4 for more details) and accompanying Enforcement Response Plan (Appendix G) some of which are discussed below.

#### **10.4.1 Warnings and Voluntary Compliance**

Many ID/ICs can be eliminated through voluntary compliance in response to verbal warnings, as most citizens and business operators are ready and willing to change their behaviors when they learn that their actions are detrimental to the environment. Verbal warnings will be used whenever possible, particularly for first-time minor violations. In certain limited circumstances, the City will also issue an Educational Letter advising a property owner, business, or resident of their legal obligations prior to, or in lieu of, pursuing administrative, civil, or criminal enforcement.

In cases where violators do not realize that their actions are damaging to the environment, proper education and compliance incentives can eliminate many discharges. Educational information (printed and/or verbal) is provided to citizens and business operators when they are "cited" for an ID/IC and during routine business inspections conducted by the City (refer to **Section 9** for details on the City's business inspection program). The City's ongoing public education program (refer to **Section 6**) also helps provide information to help prevent ID/ICs. For businesses, the City also provides awards to publicly acknowledge the efforts of selected businesses that implement effective BMPs to reduce or eliminate discharges and protect local water quality.

#### **10.4.2 Other Enforcement Tools**

When voluntary compliance is not effective, the City may pursue more aggressive enforcement. Specific enforcement approaches and actions are based on several factors including the severity of the violation (e.g. environmental health threat), site-specific circumstances and past compliance history. Enforcement mechanisms available to the City are summarized below. (refer to **Appendix G** for more details).

##### *Notice of Noncompliance*

This is a basic written request for the violator to resolve the condition causing or threatening to cause an illicit connection or illegal discharge. Notices of Noncompliance may be issued when the violation is not significant, the discharger is cooperative, and/or the violation does not affect nor provide the potential to immediately harm human health or the environment.

##### *Administrative Compliance Orders*

An Administrative Compliance Order is a progressively more severe enforcement in those instances where a previously issued Verbal Warning or Notice of Noncompliance has failed to achieve compliance.

##### *Cease and Desist Orders*

These direct the violator to cease illegal or unauthorized discharges immediately. Cease and Desist Orders may be issued in cases where a certain discharge may cause interference or threaten human health or safety or the environment. These orders may be issued immediately upon the discovery of an illegal discharge, without prior issuance of a Notice of Noncompliance or other order. These may also be issued when prior Notices of Noncompliance and Administrative Compliance Orders have not been favorably resolved.

### *Administrative Nuisance Abatement*

In instances where escalated enforcement actions fail to achieve compliance and there is a continuing threat to water quality, the City may itself enter the property, abate the condition(s) causing the violation, and restore the area. Before pursuing Administrative Nuisance Abatement, the City will notify the property owner and/or occupant and seek their consent. Where consent is not given or cannot be obtained, the City generally must obtain an inspection / abatement warrant from a court in accordance with State law before entering private property.

### *Invoice for Costs*

The City's Water Quality Ordinance authorizes an Authorized Inspector to deliver an Invoice for Costs to any responsible party for the actual costs incurred by the City in issuing and enforcing any Notice of Noncompliance, Administrative Compliance Order, Cease and Desist Order, or Administrative Abatement order.

### *Stop Work Orders*

Similar to a Cease and Desist Order and typically used for active construction projects, the City may stop work by written notice whenever any work is being done contrary to applicable City permit requirements or codes.

### *Permit Revocation or Denial*

The City may revoke permits (e.g. building or grading) that a responsible party is working under or deny future permits.

### *Enforcement of Contracts*

If a contractor is performing work for the City, then the City may use the provisions within the contract for enforcement of noncompliance.

### *Administrative Citations*

The City may use administrative monetary penalties to enforce its Ordinances. The current schedule of monetary penalties is \$100 for the first citation, \$200 for the second citation, and \$500 for each subsequent citation.

### *Criminal Enforcement*

Criminal prosecution is generally the last step taken to stop a condition of noncompliance; however, in some limited cases, criminal enforcement may be appropriate as a first step in enforcement if the facts indicate that the violation is severe, willful and egregious. Where criminal enforcement is indicated, authorized City personnel may issue a criminal citation to the offending party pursuant to Penal Code §853.5, §853.6, and §853.9. Criminal violations of the City's Ordinances may be charged as either misdemeanors or infractions.

### *Civil Judicial Enforcement*

In addition to the administrative and criminal enforcement options discussed above, the City may also pursue civil judicial enforcement of violations where appropriate. The City may file a civil judicial action seeking injunctive relief to conditions that constitutes a threat to the public health, safety and welfare and may also bring an action for civil

damages against a responsible party.

#### *Referral to Outside Agency*

If needed, the City may refer a violation to another agency for enforcement support (e.g. the Orange County District Attorney or the SDRWQCB).

### **10.5 PREVENTION AND SEWAGE SPILL RESPONSE**

The City will take measures to prevent ID/ICs by quickly and effectively responding to sewage and other spills, controlling infiltration into the storm drain system from the sanitary sewer, educating the public to assist in implementing this JRMP, and providing for safe disposal of household hazardous wastes.

#### **10.5.1 Spill Prevention**

The City implements the following measures to prevent spills and seepage from the sanitary sewer system from entering the storm drain system:

##### *Preventative Maintenance and Inspection Activities*

The City of San Clemente provides sanitary sewer collection and treatment services for most areas within the City, except for the Talega area which is served by Santa Margarita Water District (SMWD) and a small area near Capistrano Beach which is served by the South Coast Water District (SCWD). The City conducts routine maintenance of its sanitary collection and treatment facilities, and participates in a commercial/industrial pre-treatment inspection program through the South Orange County Wastewater Authority (SOCWA).

##### *Private Sewer Laterals and Septic Systems*

Current City regulations prohibit septic systems and require that private sewer laterals be designed and operated in accordance with industry standards. City regulations further require the proper maintenance of private laterals in order to minimize possible spills, breakages, and failures. The City enforces these requirements if a spill from private property is or cannot be effectively remedied by the owner or other responsible party.

##### *RWQCB Order No. 96-04*

This order requires wastewater agencies to develop a Sanitary Sewer Overflow Prevention Plan (SSOPP) to prevent or minimize the potential for sanitary sewer overflows. The SSOPP must be amended as changes in the sanitary sewer system occur. The City of San Clemente, SMWD, and SCWD have each prepared a SSOPP for their respective sanitary sewer systems.

In addition to the measures above, appropriate City staff are trained on the importance of preventing sanitary sewer overflows, and citizens and business operators are provided education on the need to properly maintain private sewer laterals.

#### **10.5.2 Spill Response**

Sewage spills may be reported by citizens or City staff, and will be investigated to determine the source of the flow. If field observations and/or analytical results indicate the possibility

of a sewage spill, the City Utilities Department will execute remedial actions to the extent they are relevant to the discharge. These include:

- Interception and rerouting of sewage flows at the sewage line failure;
- Vacuum truck recovery of sanitary sewer overflows and wash down water;
- Use of portable aerators where complete recovery of sanitary sewer overflows is not possible and where severe oxygen depletion in existing surface waters is expected; and
- Cleanup of debris of sewage origin at the overflow site.

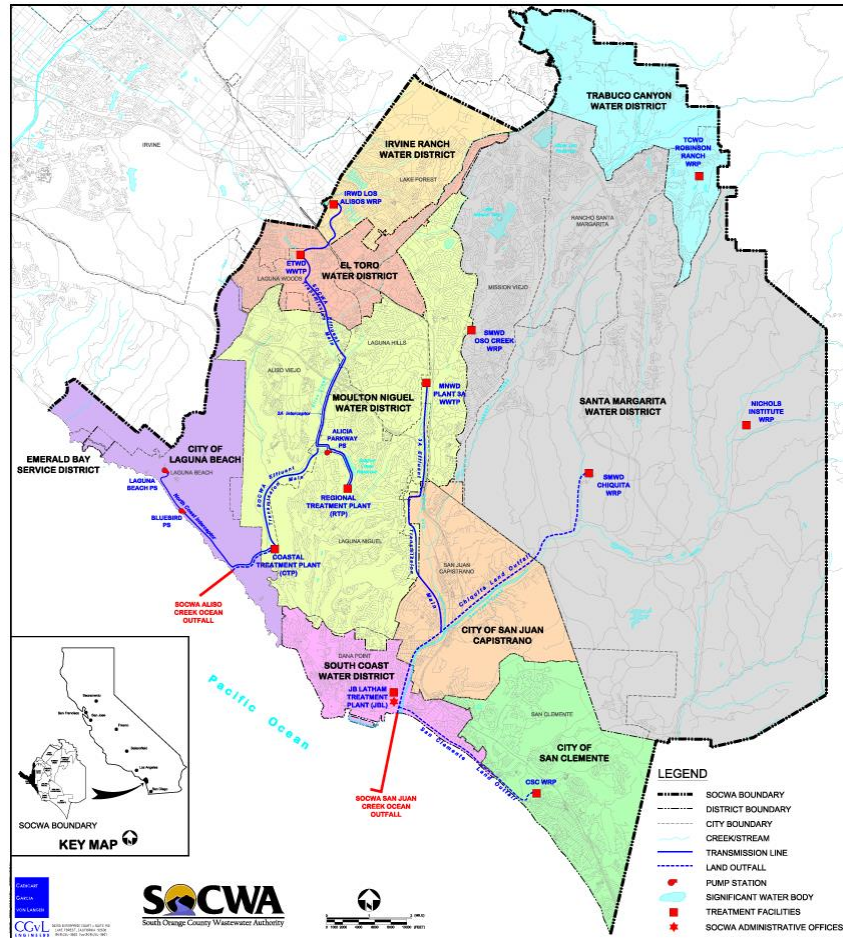
To provide additional support if needed, the City of San Clemente has contracted with the Orange County Flood Control District (OCFCD) via a Water Quality Ordinance Implementation Agreement. This agreement allows the City to call upon OCFCD inspectors and their On-call Environmental Clean-up contractors if needed to provide additional scientific, technical, enforcement and remediation/clean-up services.

For sanitary sewers located within the City but operated by others (e.g. SMWD or SCWD), the City will contact these agencies for their immediate response. Appropriate response agencies are listed in Table 10-1 and their jurisdictional areas are shown in Figure 10-1. The sewage spill response procedure is summarized below:

- 1) Problem is reported to Utilities Pollution Reporting Hotline (949) 366-1553 (available 24 hours a day, 7 days a week)
  
- 2) Utilities Department
  - Dispatches a crew to the scene
  - Notifies Environmental Programs Section at (949) 366-1553
  - For small spills, conducts containment and cleanup
  - Notifies Maintenance Division if a Street Sweeper is required
  - Calls Contractor and/or Fire Department for Technical or HAZMAT Response or abandoned drum removal
  
- 3) Environmental Programs Section
  - Gets notification from Utilities Division
  - Calls OCFCD if needed for additional scientific, technical, enforcement and remediation/clean-up services
  - Opens an investigation/case file
  - Conducts enforcement

**Table 10-1: Responsible Agencies for Sewage Spills in the City of San Clemente**

<b>Area</b>	<b>Responsible Agency</b>
Talega	Santa Margarita Water District
Capistrano Beach	South Coast Water District
Remainder of City	City of San Clemente



**Figure 10-1: Map of Sewage Agency Jurisdictions within the City of San Clemente and South Orange County.**

As appropriate, photographs will be taken during an investigation in order to verify all illegal discharges and sewage spills. Sample results, notices of violation, correspondence, and other associated documents will be collected and filed with the complaint. The City uses this documentation to support any enforcement action that may be necessary.

**10.6 REPORTING**

As required by the MS4 Permit, the City of San Clemente provides oral notification to the SDRWQCB of all ID/ICs within its jurisdiction that are determined to pose a threat to human or environmental health within 24 hours of the discovery of non-compliance. Oral notifications are followed up by written reports to the SDRWQCB within five days of the incidence of non-compliance. All ID/ICs occurrences are also reported annually in the City of San Clemente JRMP annual report.

The City also follows additional reporting requirements specific to sewage spills, as summarized below and in **Table 10-2**.

*County of Orange Department of Environmental Health (DEH)*

California Health and Safety Code Section 5411.5 requires sewage spills to be immediately reported to the County DEH 24 hours a day.

*State Office of Emergency Services (OES)*

California Water Code Section 13271 and the California Code of Regulations Section 2250 require that the State Office of Emergency Services (OES) be alerted of sewage spills of 1000 gallons or more as soon as possible.

*Regional Water Quality Control Board*

If a sewage spill is 1000 gallons or greater or it results in a discharge to surface waters (including creeks, streams, the ocean, and storm drains), the RWQCB needs to be contacted within 24 hours by fax, telephone, or voice mail. A Sanitary Sewer Overflow (SSO) Report Form must be faxed to the RWQCB within 5 days of the spill. A quarterly report of all sewage spills, including those not meeting the criteria stated above, must also be submitted electronically to the SDRWQCB.

**Table 10-2: Summary of Sewage Spill Reporting Requirements**

<b>Spill Volume</b>	<b>Criteria</b>	<b>Report to</b>	<b>Reporting Period</b>
Any	Spills to waters of the State	RWQCB DEH	24 hours Immediate
Any	Permit non-compliance threatening human or environmental health	RWQCB	24 hours verbal and 5 days written
Any	Unmitigated spills to areas <u>without</u> potential public contact or mitigated spills (i.e. captured or clean up)	DEH	24 hours
Any	Unmitigated spills to areas <u>with</u> potential public contact	DEH	Immediate
>1000 gallons	Anywhere	OES RWQCB DEH	Immediate 24 hours Immediate

**10.7 ID/IC PROGRAM ASSESSMENT**

The effectiveness of each of the ID/IC program elements, including those focused on the detection and elimination of illicit connections and illegal discharges, is measured, assessed, and reported as part of each JRMP annual report. Specifically, the City reports on the following types of information to evaluate the effectiveness of the ID/IC program:

- Number of complaints/incidents investigated, type of materials involved and how complaint was resolved;
- Total number of enforcement actions and type of enforcement conducted; and
- Number of inspections conducted



## **GLOSSARY**

**1993 DAMP.** A document required under the First Term Permits issued by the Santa Ana and San Diego Regional Boards. This document is the principal policy and guidance document for the countywide NPDES Stormwater Program.

**2000 DAMP.** An updated version of the 1993 DAMP. Submitted in draft form as the proposed plan for the 2000 Report of Waste Discharge submittal.

**2003 DAMP.** The final, updated version of the 1993 DAMP which was submitted in draft form in 2000 as the proposed plan for the 2000 Report of Waste Discharge (2000 DAMP). This document incorporates the Third Term Permit requirements and is the principal policy and guidance document for the countywide NPDES Stormwater Program.

**Annual Progress Reports.** The MS4 Permit requires the submittal of a JRMP annual report to the SDRWQCB and EPA on January 31 of each year.

**Best Management Practice (BMP).** A technique, measure, or structural control that is used for a given set of conditions to manage the quantity and improve the quality of stormwater runoff in the most cost-effective manner.

**Clean Water Act and Amendments.** The Federal Pollution Control Act (Public Law 92-500), as amended (33 U.S.C. 1251 et seq.). Federal regulation mandating a National Pollutant Discharge Elimination System permit for discharges into the Waters of the United States. The goals of the act are to restore and maintain the chemical, physical and biological integrity of the nation's waters.

**Effectiveness Assessment.** The process that is used to evaluate if the programs are resulting in desired outcomes.

**First Term Permits.** The Regional Boards issued Municipal Stormwater Permits No. CA 8000180 and No. CA 0108740 to the Copermitees in 1991 for the period from 1991 – 1996.

**Fourth Term Permits.** The Regional Boards re-issued the Municipal MS4 Permits in 2009, Santa Ana Region Order No. R8-2009-0030 and San Diego Region Order No. R9-2009-0002, which covers the time period from 2009-2014.

**General Construction Permit.** The NPDES general permit for stormwater discharges associated with construction activity. SWRCB Order No. 2009-0009-DWQ, NPDES General Permit No. CAS000002 or its subsequent replacement.

**General Industrial Permit.** The NPDES general permit for stormwater discharges associated with industrial activity. SWRCB Order No. 2014-0057-DWQ, NPDES General Permit No. CAS000001 or its subsequent replacement.

**General Permittee Committee.** The committee made up of a representative from each of the Copermittees that provides the overall guidance for the NPDES Stormwater Program.

**Hydromodification.** Hydromodification is the alteration of natural flow characteristics.

**Illegal Discharge.** Any discharge to a municipal separate storm sewer that is not composed entirely of stormwater and that is not covered by an NPDES permit or identified in the MS4 Permit as an allowed discharge.

**Illicit Connection.** Any man-made conveyance or drainage system, pipeline, conduit, inlet or outlet, through which the discharge of any pollutant to the stormwater drainage system occurs or may occur.

**Implementation Agreement.** The agreement underpinning County and city cooperation, which establishes the responsibilities of each Permittee and a funding mechanism for the shared costs of the Program.

**Local Implementation Plan (LIP)/Jurisdictional Runoff Management Plan (JRMP).** The Permittee specific document that details how the stormwater programs within the DAMP are implemented within their local jurisdictions (synonymously referred to as a LIP in the Santa Ana Region and a JRMP within the San Diego Region).

**Low Impact Development (LID).** LID is an approach to land development (or re-development) that works with nature to manage storm water as close to its source as possible by using structural and non-structural best management practices to reduce environmental impacts.

**Maximum Extent Practicable.** MEP is the acronym for Maximum Extent Practicable. MEP is the technology-based standard established by Congress in CWA section 402(p)(3)(B)(iii) that municipal dischargers of stormwater (MS4s) must meet. Technology-based standards establish the level of pollutant reductions that dischargers must achieve, typically by treatment or by a combination of treatment and best management practices (BMPs). MEP generally emphasizes pollution prevention and source control BMPs primarily (as the first line of defense) in combination with treatment methods serving as a backup (additional line of defense). MEP considers economics and is generally, but not necessarily, less stringent than BAT. A definition for MEP is not provided either in the statute or in the regulations. Instead the definition of MEP is dynamic and will be defined by the following process over time: municipalities propose their definition of MEP by way of their Urban Runoff Management Plan. Their total collective and individual activities conducted pursuant to the Urban Runoff Management Plan becomes their proposal for MEP as it applies both to their overall effort, as well as to specific activities (e.g., MEP for street sweeping, or MEP for municipal separate storm sewer system maintenance). In the absence of a proposal acceptable to the SDRWQCB, the

SDRWQCB defines MEP in a memo dated February 11, 1993, entitled "Definition of Maximum Extent Practicable," Elizabeth Jennings, Senior Staff Counsel, State Water Board addressed the achievement of the MEP standard as follows:

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

- a. Effectiveness: Will the BMPs address a pollutant (or pollutant source) of concern?
- b. Regulatory Compliance: Is the BMP in compliance with stormwater regulations as well as other environmental regulations?
- c. Public Acceptance: Does the BMP have public support?
- d. Cost: Will the cost of implementing the BMP have a reasonable relationship to the pollution control benefits to be achieved?
- e. Technical Feasibility: Is the BMP technically feasible considering soils, geography, water resources, etc?

The final determination regarding whether a municipality has reduced pollutants to the maximum extent practicable can only be made by the Regional or State Water Boards, and not by the municipal discharger. If a municipality reviews a lengthy menu of BMPs and chooses to select only a few of the least expensive, it is likely that MEP has not been met. On the other hand, if a municipal discharger employs all applicable BMPs except those where it can show that they are not technically feasible in the locality, or whose cost would exceed any benefit derived, it would have met the standard. Where a choice may be made between two BMPs that should provide generally comparable effectiveness, the discharger may choose the least expensive alternative and exclude the more expensive BMP. However, it would not be acceptable either to reject all BMPs that would address a pollutant source, or to pick a BMP base solely on cost, which would be clearly less effective. In selecting BMPs the municipality must make a serious attempt to comply and practical solutions may not be lightly rejected. In any case, the burden would be on the municipal discharger to show compliance with its permit. After selecting a menu of BMPs, it is the responsibility of the discharger to ensure that all BMPs are implemented.”

**National Pollutant Discharge Elimination System (NPDES) Municipal Separate Storm Sewer (MS4) Permit.** A provision of the CWA, section 402, that identifies municipal stormwater as a point source subject to regulation under the NPDES Permits.

**NPDES Stormwater Program.** The program designed by the Orange County Copermittees for compliance with the MS4 permits.

**Nutrients.** Nutrients are inorganic substances, such as nitrogen and phosphorus. They commonly exist in the form of mineral salts that are either dissolved or suspended in water. Primary sources of nutrients in Urban Runoff are fertilizers and eroded soils. Excessive discharge of nutrients to water bodies and streams can cause excessive aquatic algae and plant growth. Such excessive production, referred to as cultural eutrophication, may lead to excessive decay of organic matter in the water body, loss of oxygen in the water, release of toxins in sediment, and the eventual death of aquatic organisms.

**Outcomes.** Outcomes are the results of implementing a stormwater control measure, program element or overall program. Outcomes are categorized in terms of six Outcome Levels, which can have implementation or water quality endpoints.

**Outcome Levels.** Outcome Levels help to categorize and describe the desired results or goals of programs and control measures.

**Pathogens.** Pathogens (bacteria and viruses) are ubiquitous microorganisms that thrive under certain environmental conditions. Their proliferation is typically caused by the transport of animal or human fecal wastes from the watershed. Water, containing excessive bacteria and viruses can alter the aquatic habitat and create a harmful environment for humans and aquatic life. Also, the decomposition of excess organic waste causes increased growth of undesirable organisms in the water.

**Copermittees.** The cities of Aliso Viejo, Anaheim, Brea, Buena Park, Costa Mesa, Cypress, Dana Point, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, La Habra, La Palma, Lake Forest, Los Alamitos, Mission Viejo, Newport Beach, Orange, Placentia, Rancho Santa Margarita, San Clemente, San Juan Capistrano, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster, and Yorba Linda; the County of Orange; and the Orange County Flood Control District and any subsequently incorporated cities that become subject to the NPDES permit. Each Permittee is individually responsible for the implementation of the program elements within its jurisdiction.

**Point Source.** Any discernable, confined, and discrete conveyance, including any conduit pipe, ditch, channel, sewer, tunnel, vessel, or other floating craft from which pollutants are or may be discharged.

**Principal Permittee.** The County of Orange is the Permittee designated with the responsibility to manage the NPDES Municipal Stormwater Program on behalf of the Copermittees.

**Regional Water Quality Control Boards.** The Santa Ana and San Diego Regional Water Quality Control Boards are agencies that implement and enforce Clean Water Act Section 402(p) NPDES permit requirements, and are issuers and administrators of these permits on behalf of EPA within Orange County.

**Report of Waste Discharge (ROWD).** Constitutes the application to the RWQCB for the Third Term NPDES permit. The ROWD presents the compilation of data from the current and previous permit terms and describes the proposed plan for future activities.

**Santa Ana Regional Board.** The Regional Board that issues the NPDES Municipal Stormwater Permit for Orange County from the northern Los Angeles County border southward to approximately El Toro Road. The Copermittees in the Santa Ana Regional Water Quality Control Board jurisdiction include the County of Orange, the Orange County Flood Control District and the twenty six (26) incorporated cities of Anaheim, Brea, Buena Park, Costa Mesa, Cypress, Fountain Valley, Fullerton, Garden Grove, Huntington Beach, Irvine, La Habra, La Palma, Laguna Hills, Laguna Woods, Lake Forest, Los Alamitos, Newport Beach, Orange, Placentia, Santa Ana, Seal Beach, Stanton, Tustin, Villa Park, Westminster, and Yorba Linda.

**San Diego Regional Board.** The Regional Board that issues the NPDES Municipal Stormwater Permit for Orange County from approximately El Toro Road down southward to the San Diego County border. The Copermittees in the San Diego Regional Water Quality Control Board jurisdiction include the County of Orange, the Orange County Flood Control District and the eleven (11) incorporated cities of Aliso Viejo, Dana Point, Laguna Beach, Laguna Hills, Laguna Niguel, Laguna Woods, Lake Forest, Mission Viejo, Rancho Santa Margarita, San Clemente, and San Juan Capistrano.

**Second Term Permits.** The Regional Boards re-issued the Municipal MS4 Permits in 1996 Santa Ana Region CAS0108740 and San Diego Region CAS618030, which covered the time period from 1996-2002.

**State Water Resources Control Board.** State agency that sets statewide policy for the nine Regional Water Quality Control Boards.

**Total Maximum Daily Load (TMDL).** A written, quantitative analysis and plan for attaining and maintaining water quality standards in all seasons for a specific waterbody and pollutant.

**Third Term Permits.** The Regional Boards re-issued the Municipal MS4 Permits in 2002 Santa Ana Region Order No. R8-2002-0010 and San Diego Region Order No. R9-2002-0002, which covers the time period from 2002-2007.

**Turbidity.** A measure of the clarity of a liquid. The higher the turbidity, the lower the clarity. Turbidity can be caused by increased sediment in runoff. Increases in

turbidity can suppress aquatic vegetation growth, adversely affect aquatic life.

**Water Quality Planning Process.** Systematic and detailed evaluation of the impacts of urban water quality on beneficial uses to determine or validate that actual impairments exist that warrant corrective action.

## **APPENDIX A**

### **San Clemente Municipal Inventory**

# Municipal Inventory - City of San Clemente

Name	Address / Location	Watershed	Inspection Priority
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Wastewater/Reclamation Facilities - Utilities			
Water Reclamation Plant	380 Avenida Pico	M02-Segunda Deshecha	High
Main Sewage Pump Station	1801 Calle Estacion	M02-Segunda Deshecha	Low
Linda Lane Sewage Pump Station	100 Linda Lane	CC-Coastal Canyon	Low
La Rambla Sewage Pump Station	628 Boca Del Canon	CC-Coastal Canyon	Low
Cypress Shores Sewage Pump Station	3924 Calle Ariana	CC-Coastal Canyon	Low
San Gabriel Sewage Pump Station	100 Block San Gabriel	CC-Coastal Canyon	Low
Los Molinos Sewage Pump Station	390 Ave Pico	M02-Segunda Deshecha	Low
Frontera Sewage Pump Station	2901 Calle Frontera	M01-Prima Deshecha	Low
Columbo Sewage Pump Station	721 Ave Columbo	M01-Prima Deshecha	Low
La Pata Sewage Pump Station	245-1/2 Ave La Pata	M02-Segunda Deshecha	Low
Calafia Reclaim Pump Station	West end of Ave Calafia	CC-Coastal Canyon	Low
Colina Rodante Lift Station	1122 Colina Rodante	M01-Prima Deshecha	Low

Corporation Yards - Utilities, Golf and Street Maintenance			
Corp. Maintenance Yard - Street Dept.	390 Avenida Pico	M02-Segunda Deshecha	High
Corp. Maintenance Yard - Parks Dept.	390 Avenida Pico	M02-Segunda Deshecha	High
Corp. Maintenance Yard - Utilities	380 Avenida Pico	M02-Segunda Deshecha	High
Storage Yard - Ed Stewart	247 Avenida La Pata	CC-Coastal Canyon	High
Storage Yard - Animal Shelter	221 Avenida Fabricante	M03-San Mateo	High
South Maintenance Yard - Recreation	404 Vista Bahia	M03-San Mateo	High
South Maintenance Yard - TruGreen	404 Vista Bahia	M03-San Mateo	High
South Maintenance Yard - Rods Tree	247 Avenida La Pata	M03-San Mateo	High
Corp. Maintenance Yard - Golf	402 Vista Bahia	M03-San Mateo	High

Parks - Beaches, Parks and Rec			
Bonito Canyon Park	1304 Calle Valle	M02-Segunda Deshecha	High
Calafia Park	240 Avenida Calafia	CC-Coastal Canyon	High
Dog Park	301 Ave La Pata	CC-Coastal Canyon	High
Park Semper Fi	106 Alameda Lane	CC-Coastal Canyon	High
Forster Ranch Park	3207 Vera Cruz	M01-Prima Deshecha	High
Leslie Park	1800 Calle Los Alamos	CC-Coastal Canyon	High
Liberty Park	390 Calle Saluda	M02-Segunda Deshecha	High
Linda Lane Park	400 Linda Lane	CC-Coastal Canyon	High
Marblehead Park	2400 Via Turqueza	M01-Prima Deshecha	High
Max Berg Park	1100 Calle Puente	CC-Coastal Canyon	High
Mira Costa Park	34001 Camino Mira Costa	CC-Coastal Canyon	High
Parque Del Mar Park	625 Avenida Del Mar	CC-Coastal Canyon	High
Ralphs Skate Park	241 Ave La Pata	CC-Coastal Canyon	Low
Rancho San Clemente Park	150 Calle Aquila	M02-Segunda Deshecha	High
Richard Steed Park	247 Avenida La Pata	CC-Coastal Canyon	High
San Gorgonio Park	2916 Via San Gorgonio	M01-Prima Deshecha	High
San Luis Rey Park	109 Avenida San Luis Rey	CC-Coastal Canyon	High
T-Street Park	345 West Paseo De Cristobal	CC-Coastal Canyon	High
Talega Park	179 Corte Cristianitos	CC-Coastal Canyon	High
Tierra Grande Park	399 Camino Tierra Grande	M02-Segunda Deshecha	High
Verde Park	301 Calle Escuela	M02-Segunda Deshecha	High
Vista Bahia Park	402 Calle Bahia	CC-Coastal Canyon	High
Pico Park	315 East Ave Pico	M02-Segunda Deshecha	High
Jimmy Johnson Memorial Sports Park	450 West Ave Vista Hermosa	CC-Coastal Canyon	High
Canyon View Park	18 Via Artemesia	CC-Coastal Canyon	High
Vista Del Sol Park	111 Avenida Costa Azul	CC-Coastal Canyon	High
Vista Hermosa Sports Park	987 E. Ave Vista Hermosa	M02-Segunda Deshecha	High
Municipal Golf Course	150 Avenida Magdalena	CC-Coastal Canyon	High



# Municipal Inventory - City of San Clemente

Name	Address / Location	Watershed	Inspection Priority
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Municipal Buildings - Street Maintenance			
Casa Romantica	415 Avenida Granada	CC-Coastal Canyon	Low
City Hall	100 Avenida Presidio	CC-Coastal Canyon	Low
Community Center	100 N Calle Seville	CC-Coastal Canyon	Low
Community Development Office	910 Calle Negocio	M02-Segunda Deshecha	Low
Marine Safety	620 Ave Del Mar	CC-Coastal Canyon	Low
Ole Hanson Beach Club	105 W Avenida Pico	M02-Segunda Deshecha	Low
Senior Center	117 Avenida Victoria	CC-Coastal Canyon	Low
Fire Station #50 (OC Fire Authority)	670 Camino de los Mares	M01-Prima Deshecha	Low
Fire Station #59 (OC Fire Authority)	48 Ave la Pata	M02-Segunda Deshecha	Low
Fire Station #59 (OC Fire Authority)	1030 Calle Negocio	M02-Segunda Deshecha	Low
Fire Station #60 (OC Fire Authority)	121 Avenida Victoria	CC-Coastal Canyon	Low
Golf Clubhouse	150 Avenida Magdalena	CC-Coastal Canyon	Low
Police Station (OC Sheriff)	100 Avenida Presidio	CC-Coastal Canyon	Low

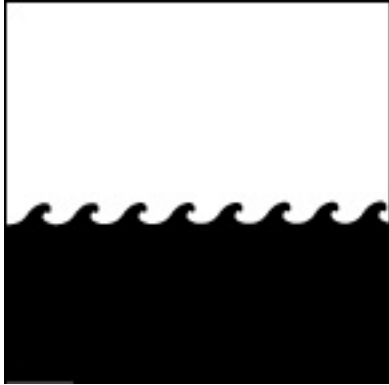
Water Facilities - Utilities			
Reservoir #1 Bahia	404 Calle Bahia	CC-Coastal Canyon	Low
Reservoir #3 El Levante	208 El Levante	CC-Coastal Canyon	Low
Reservoir #4 Salvador	419 Ave Salvador	CC-Coastal Canyon	Low
Reservoir #5 Salvador	721 Ave Salvador	CC-Coastal Canyon	Low
Reservoir #5A Salvador	721 Ave Salvador	CC-Coastal Canyon	Low
Reservoir #6 Andalucia	3895 Calle Andalucia	M01-Prima Deshecha	Low
Reservoir #7 Reata	618 Calle Reata	M01-Prima Deshecha	Low
Reservoir #8 Acapulco	770 Avenida Acapulco	CC-Coastal Canyon	Low
Reservoir #9 Costero Risco	4159 Costero Risco	M01-Prima Deshecha	Low
Reservoir #10 Sea Pointe	9 Via Floritas	M01-Prima Deshecha	Low
Reservoir #11 Cordillera	South End Calle Cordillera	M02-Segunda Deshecha	Low
Reservoir #12 Santa Maria	62-1/2 Via Santa Maria	M02-Segunda Deshecha	Low
Reservoir #13 Del Norte	3017 Eminencia Del Norte	M01-Prima Deshecha	Low
Reservoir #14 Costero Risco	4161 Costero Risco	M01-Prima Deshecha	Low
Reservoir Schlegel	609 Ave San Pablo	CC-Coastal Canyon	Low
Acapulco Pump Station	770 Ave Acapulco	CC-Coastal Canyon	Low
Agua Pump Station	722 Calle Los Olivos	M01-Prima Deshecha	Low
Bahia Pump Station	404 Calle Bahia	CC-Coastal Canyon	Low
Blanco Pump Station	2946 Via Blanco	M01-Prima Deshecha	Low
Calle Real Pump Station	612 Calle Real	M01-Prima Deshecha	Low
Cordillera Pump Station	200 Calle Cordillera	M01-Prima Deshecha	Low
Del Norte Pump Station	3017 Eminencia Del Norte	M01-Prima Deshecha	Low
El Levante Pump Station	208 El Levante	CC-Coastal Canyon	Low
Hermosa Pump Station	2216 Ave Vista Hermosa	M01-Prima Deshecha	Low
Palizada Pump Station	102 Ave Caballeros	CC-Coastal Canyon	Low
Pico Pump Station	1000 Ave Pico	M02-Segunda Deshecha	Low
Presidio Pump Station	170 Ave Presidio	CC-Coastal Canyon	Low
Reata Pump Station	618 Calle Reata	M01-Prima Deshecha	Low
Schlegel Pump Station	609 Ave San Pablo	CC-Coastal Canyon	Low
Salvador Pump Station	419 Ave Salvador	CC-Coastal Canyon	Low
Santa Maria Pump Station	62-1/2 Via Santa Maria	M02-Segunda Deshecha	Low
Water Filter Plant	350 Ave Santa Margarita	CC-Coastal Canyon	Low
Well #6	197 Ave Santa Margarita	CC-Coastal Canyon	Low
Well #8	404-1/2 Calle Bahia	CC-Coastal Canyon	Low

# Municipal Inventory - City of San Clemente

Name	Address / Location	Watershed	Inspection Priority
<b>Parking Facilities - Street Maintenance</b>			
Calafia Parking Lot	240 Ave Calafia	CC-Coastal Canyon	High
Library Lot	242 Ave Del Mar	CC-Coastal Canyon	High
North Beach Lot	1800 Ave Estacion	M02-Segunda Deshecha	High
Beach Club Lot	105 Ave Pico	M02-Segunda Deshecha	High
City Hall Lot	100 Ave Presidio	CC-Coastal Canyon	High
Com Dev Lot	910 Calle Negocio	M02-Segunda Deshecha	High
T-Street Lot	400 Paseo De Cristobal	CC-Coastal Canyon	High
Upper Pier Lot	500 Ave Del Mar	CC-Coastal Canyon	High
Lower Pier Lot	600 Ave Del Mar	CC-Coastal Canyon	High
Upper Cabrillo Lot	104 Ave Cabrillo	CC-Coastal Canyon	High
Lower Cabrillo Lot	132 Ave Cabrillo	CC-Coastal Canyon	High
Upper Granada Lot	102 Ave Granada	CC-Coastal Canyon	High
Lower Granada Lot	122 Ave Granada	CC-Coastal Canyon	High
<b>Field Activities</b>			
<b>Road and Street Operation and Maintenance - Street Maintenance</b>			
Street Cleaning	All City (Public) Streets	All	High
Street Repair	All City (Public) Streets	All	High
Graffiti Cleaning	All City (Public) Streets	All	High
<b>Fountain, Plaza, Sidewalk Maintenance and Cleaning - Engineering</b>			
Sidewalk Cleaning	All City (Public) Facilities	All	High
Sidewalk Repair	All City (Public) Facilities	All	High
Graffiti Cleaning	All City (Public) Facilities	All	High
<b>Landscape Maintenance - Golf</b>			
Fertilizer and Pesticide Management	All City (Public) Facilities	All	High
Mowing	All City (Public) Facilities	All	High
Trimming	All City (Public) Facilities	All	High
<b>Drainage System Operation and Maintenance - Utilities</b>			
Pipes, Catch Basins, Stenciling Etc.	All City Drainage Facilities	All	High
Urban Streams	All City Drainage Facilities	All	High
Concrete and Man-Made Channels	All City Drainage Facilities	All	High
Inlet/Outlet Structures	All City Drainage Facilities	All	High
Misc. Facilities	All City Drainage Facilities	All	High
<b>Solid Waste Handling - Danna McIntosh</b>			
Litter Control	Citywide	All	High
Recycling	Citywide	All	High
<b>Water and Sewer Utility Operation and Maintenance - Utilities</b>			
Water Line Maintenance	Citywide	All	High
Sanitary Sewer Maintenance	Citywide	All	High
<b>Drainage Facilities - Utilities (Sewer)</b>			
City Storm Drainage System	Citywide ( Storm Drain Map)	All	High



**APPENDIX B**  
**Municipal BMP Fact Sheets**



## LAKE MANAGEMENT

The model procedures described below focus on minimizing the discharge of pesticides and fertilizers, landscape waste, trash, debris, sediments and other pollutants while maintaining ponds and lakes. Lake management practices may involve the following activities:

1. **Fertilizer and Pesticide Management**
2. **Mowing, Trimming/Weeding, and Planting**
3. **Managing Landscape Waste**
4. **Controlling Litter**
5. **Erosion Control**
6. **Controlling Illegal Dumping**
7. **Bacteria Control**

### POLLUTION PREVENTION:

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for lake management include:

- Implementation of an integrated pest management (IPM) program. IPM is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools. Refer to Appendix D, Fertilizer and Pesticide Management Guidance for further details.
- Once per year, educate municipal staff on pollution prevention measures.

### MODEL PROCEDURES:

#### 1. Fertilizer and Pesticide Management

**Usage**

- ✓ Utilize a comprehensive management system that incorporates integrated pest management techniques.

# FP-1

- ✓ Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- ✓ Educate and train employees on use of pesticides and pesticide application techniques to prevent pollution.
- ✓ Pesticide application must be under the supervision of a qualified and properly licensed or certified pesticide applicator.
- ✓ When applicable use the least toxic pesticides that will do the job. Avoid use of copper-based pesticides if possible.
- ✓ Do not mix or prepare pesticides for application near storm drains.
- ✓ Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the pest.
- ✓ Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- ✓ Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- ✓ Periodically test soils for determining proper fertilizer use.
- ✓ Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- ✓ Inspect pesticide/fertilizer equipment and transportation vehicles daily.
- ✓ Refer to Appendix D for further guidance on Fertilizer and Pesticide management

## **Scheduling**

- ✓ Do not use pesticides if rain is expected within 24 hours.
- ✓ Apply pesticides only when wind speeds are low (less than 5 mph).

## **Disposal**

- ✓ Purchase only the amount of pesticide that you can reasonably use in a given time period (month or year depending on the product).
- ✓ Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- ✓ Dispose of empty pesticide containers according to the instructions on the container label.

## 2. Mowing, Trimming/Weeding, and Planting

### **Mowing, Trimming/Weeding**

- ✓ Whenever possible, use mechanical methods of vegetation removal rather than applying herbicides. Use hand weeding where practical.
- ✓ When conducting mechanical or manual weed control, avoid loosening the soil, which could erode into the lake.
- ✓ Use coarse textured mulches or geotextiles to suppress weed growth and reduce the use of herbicides.
- ✓ Do not blow or rake leaves, etc. into a lake or place yard waste in lake.
- ✓ Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary, and compost or dispose of at a landfill (see waste management section of this procedure sheet).
- ✓ Place temporarily stockpiled material away from lakes, and berm or cover stockpiles to prevent material releases to storm drains.

### **Planting**

- ✓ Where feasible, retain and/or plant selected native vegetation whose features are determined to be beneficial. Native vegetation usually requires less maintenance (e.g., irrigation, fertilizer) than planting new vegetation.
- ✓ When planting or replanting consider using low water use groundcovers.
- ✓ Create a grassy berm to reduce run-on and run-off when possible

## 3. Managing Landscape Waste

*Also see Waste Handling  
and Disposal procedure  
sheet*

- ✓ Compost leaves, sticks, or other collected vegetation or dispose of at a permitted landfill. Do not dispose of collected vegetation into lakes.
- ✓ Place temporarily stockpiled material away from lakes. Berm or cover stockpiles to prevent material releases to a lake.
- ✓ Reduce the use of high nitrogen fertilizers that produce excess growth requiring more frequent mowing or trimming, and may contribute to excessive algae growth.
- ✓ Inspection should be conducted to detect illegal dumping of clippings/cuttings in or near a lake. Materials found should be picked up and properly disposed of.
- ✓ Landscape wastes in and around lakes should be avoided by either using bagging equipment or by manually picking up the material.

## **Training/Education/ Outreach**

- ✓ Train municipal to recognize and report illegal dumping into lakes.
- ✓ Encourage public reporting of illegal dumping by advertising the 24-hour water pollution problem reporting hotline (949) 366-1553.

## 4. Controlling Litter

### **Enforce anti-litter laws.**

Also see Solid Waste  
Handling procedure  
sheet

- ✓ Provide litter receptacles near lakes.
- ✓ Cover litter receptacles and clean out frequently to prevent leaking/spillage or overflow.

## 5. Controlling Erosion

- ✓ Maintain vegetative cover on banks to prevent soil erosion. Apply mulch or leave clippings to serve as additional cover for soil stabilization and to reduce the velocity of storm water runoff.
- ✓ Areas should be designed (sloped) to prevent runoff and erosion and to promote better irrigation practices.
- ✓ Provide energy dissipaters (e.g. riprap) along banks to minimize potential for erosion.
- ✓ Confine excavated materials to pervious surfaces away from lakes. Material must be covered if rain is expected.

## 6. Controlling Illegal Dumping

**Illegally dumped wastes can cause storm water and lake water quality problems. Non-hazardous solid wastes may include garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes and other discarded solid or semi-solid waste provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentration which exceed applicable water quality objectives or could cause degradation of waters of the state.**

### **Field Investigation**

- ✓ Report prohibited discharges such as dumping observed during the course of normal daily activities so they can be investigated, contained and cleaned up.
- ✓ Conduct field investigations to detect and eliminate improper disposal of pollutants into the storm drain (i.e. identify problem areas where discharges or illegal connections may occur and follow up stream to determine the source(s)).



- ✓ Report all observed illicit connections and discharges to the 24-hour water pollution problem reporting hotline (949) 366-1553.
- ✓ Encourage public reporting of improper waste disposal by distributing public education materials and advertising the 24-hour water pollution problem reporting hotline.

## 7. Bacteria Control

- ✓ Eliminate or reduce the feeding of waterfowl (i.e. ducks and geese).
- ✓ When feeding waterfowl, use food designated for waterfowl (no bread or crackers).

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### LIMITATIONS:

Alternative pest/weed controls may not be available, suitable, or effective in every case. Clean-up activities may create a slight disturbance for local aquatic species. If the lake is recognized as a wetland, many activities, including maintenance, may be subject to regulation and permitting.

### REFERENCES:

*California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. July 1993.*

County of Orange. 2000. Public Facilities and Resources Department, Management Guidelines for the Use of Fertilizers and Pesticides. September.

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. 1995. King County Surface Water Management. July. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Los Angeles County Stormwater Quality Model Programs. Public Agency Activities  
[http://ladpw.org/wmd/npdes/model\\_links.cfm](http://ladpw.org/wmd/npdes/model_links.cfm)

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program. 1997 Urban Runoff Management Plan. September 1997, updated October 2000.

California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

Harvard University. 2002. Solid Waste Container Best Management Practices – Fact Sheet On-Line Resources – Environmental Health and Safety.

Bay Area Stormwater Management Agencies Association. 1996. Pollution From Surface Cleaning.

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Plan. 2001. Municipal Activities Model Program Guidance. November.

Santa Clara Valley Urban Runoff Pollution Prevention Program. Maintenance Best Management Practices for the Construction Industry. Brochures: Landscaping, Gardening, and Pool; Roadwork and Paving; and Fresh Concrete and Mortar Application. June 2001.

County of Orange Environmental Resource Department.



## **LANDSCAPE MAINTENANCE**

**The model procedures described below focus on minimizing the discharge of pesticides and fertilizers, landscape waste, trash, debris, and other pollutants to the storm drain system and receiving waters. Landscape maintenance practices may involve one or more of the following activities:**

- 1. Mowing, Trimming/Weeding, and Planting**
- 2. Irrigation**
- 3. Fertilizer and Pesticide Management**
- 4. Managing Landscape Waste**
- 5. Erosion Control**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for landscape maintenance include:

- Implement an integrated pest management (IPM) program. IPM is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools. Refer to the Fertilizer and Pesticide Management Guidance for further details.
- Choose low water using flowers, trees, shrubs, and groundcover.
- Appropriate maintenance (i.e. properly timed fertilizing, weeding, pest control, and pruning) will preserve the landscapes water efficiency.
- Once per year, educate municipal staff on pollution prevention measures.

### **MODEL PROCEDURES:**

#### **1. Mowing, Trimming/Weeding, and Planting**

**Mowing,** ✓ Whenever possible, use mechanical methods of vegetation removal rather

## Trimming/Weeding

than applying herbicides. Use hand weeding where practical.

- ✓ When conducting mechanical or manual weed control, avoid loosening the soil, which could erode into streams or storm drains.
- ✓ Use coarse textured mulches or geotextiles to suppress weed growth and reduce the use of herbicides.
- ✓ Do not blow or rake leaves, etc. into the street or place yard waste in gutters or on dirt shoulders. Sweep up any leaves, litter or residue in gutters or on street.
- ✓ Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary, and compost or dispose of at a landfill (see waste management section of this procedure sheet).
- ✓ Place temporarily stockpiled material away from watercourses, and berm or cover stockpiles to prevent material releases to storm drains.

## Planting

- ✓ Where feasible, retain and/or plant selected native vegetation whose features are determined to be beneficial. Native vegetation usually requires less maintenance (e.g., irrigation, fertilizer) than planting ornamental vegetation.
- ✓ When planting or replanting consider using low water use groundcovers.

## 2. Irrigation

- ✓ Utilize water delivery rates that do not exceed the infiltration rate of the soil.
- ✓ Use timers appropriately or a drip system to prevent runoff and then only irrigate as much as is needed.
- ✓ Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as soon as they are observed.
- ✓ Where practical, use automatic timers to minimize runoff.
- ✓ Use popup sprinkler heads in areas with a lot of activity or where there is a chance the pipes may be broken. Consider the use of mechanisms that reduce water flow to sprinkler heads if broken.
- ✓ If re-claimed water is used for irrigation, ensure that there is no runoff from the landscaped area(s).
- ✓ If bailing of muddy water is required (e.g. when repairing a water line leak), do not put it in the storm drain; pour over landscaped areas.

## 3. Fertilizer and Pesticide Management

### Usage

- ✓ Utilize a comprehensive management system that incorporates integrated pest management techniques.
- ✓ Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- ✓ Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution.
- ✓ Pesticide application must be under the supervision of a California qualified pesticide applicator.
- ✓ When applicable use the least toxic pesticides that will do the job. Avoid use of copper-based pesticides if possible.
- ✓ Do not mix or prepare pesticides or fertilizers for application near storm drains.
- ✓ Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the pest.
- ✓ Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- ✓ Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- ✓ Periodically test soils for determining proper fertilizer use.
- ✓ Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- ✓ Inspect pesticide/fertilizer equipment and transportation vehicles daily.
- ✓ Refer to Appendix D for further guidance on Fertilizer and Pesticide management.

### Scheduling

- ✓ Do not use pesticides if rain is expected within 24 hours.
- ✓ Apply pesticides only when wind speeds are low (less than 5 mph).

### Disposal

- ✓ Purchase only the amount of pesticide that you can reasonably use in a given time period (month or year depending on the product).
- ✓ Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.

- ✓ Dispose of empty pesticide containers according to the instructions on the container label.

## 4. Managing Landscape Waste

*Also see Waste Handling and Disposal procedure sheet*

- ✓ Compost leaves, sticks, or other collected vegetation or dispose of at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- ✓ Place temporarily stockpiled material away from watercourses and storm drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- ✓ Reduce the use of high nitrogen fertilizers that produce excess growth requiring more frequent mowing or trimming.
- ✓ Inspection of drainage facilities should be conducted to detect illegal dumping of clippings/cuttings in or near these facilities. Materials found should be picked up and properly disposed of.
- ✓ Landscape wastes in and around storm drain inlets should be avoided by either using bagging equipment or by manually picking up the material.

## 5. Erosion Control

*Waste Handling and Disposal procedure*

- ✓ Maintain vegetative cover on medians and embankments to prevent soil erosion. Apply mulch or leave clippings to serve as additional cover for soil stabilization and to reduce the velocity of storm water runoff.
- ✓ Minimize the use of disking as a means of vegetation management because the practice may result in erodable barren soil.
- ✓ Confine excavated materials to pervious surfaces away from storm drain inlets, sidewalks, pavement, and ditches. Material must be covered if rain is expected.

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### LIMITATIONS:

Alternative pest/weed controls may not be available, suitable, or effective in every case.

### REFERENCES:

*California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. July 1993.*

County of Orange. 2000. Public Facilities and Resources Department, Management Guidelines for the Use of Fertilizers and Pesticides. September.

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. 1995. King County Surface Water Management. July. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Los Angeles County Stormwater Quality Model Programs. Public Agency Activities  
[http://ladpw.org/wmd/npdes/model\\_links.cfm](http://ladpw.org/wmd/npdes/model_links.cfm)

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast RWQCB July, 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Prog. 1997 Urban Runoff Management Plan. Sept. 1997, updated October 2000.



## **ROADS, STREETS, AND HIGHWAYS OPERATION AND MAINTENANCE**

**Streets, roads, and highways are significant sources of pollutants in storm water discharges, and operation and maintenance (O&M) practices, if not conducted properly, can contribute to the problem. O&M practices may involve one or more of the following activities:**

- 1. Sweeping & Cleaning**
- 2. Street Repair & Maintenance**
- 3. Bridge and Structure Maintenance**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measure for roads, streets, and highways operation and maintenance include:

- Use the least toxic materials available (e.g. water based paints, gels or sprays for graffiti removal)
- Recycle paint and other materials whenever possible.
- Once per year, educate municipal staff on pollution prevention measures.

### **MODEL PROCEDURES:**

#### **1. Sweeping & Cleaning**

##### **Sweeping Frequency and Timing**

- ✓ Maintain a consistent sweeping schedule. Provide minimum monthly sweeping of streets.
- ✓ Perform street cleaning during dry weather if possible.
- ✓ Avoid wet cleaning or flushing of streets, and utilize dry methods where possible.



- ✓ If flushing of a street is absolutely necessary, sweep and remove debris before flushing. Do not let wash water enter storm drain inlets. Collect wash water and direct to a dirt or vegetated area, pump into a vacuum truck and dispose of properly.

→ *Note: Permission must be obtained for any discharge of wash water to the sanitary sewer from the local sewerage agency.*

## Equipment Operation and Selection

- ✓ Maintain cleaning equipment in good working condition and purchase replacement equipment as needed. Old sweepers should be replaced as needed with new technologically advanced sweepers (preferably regenerative air sweepers) that maximize pollutant removal.
- ✓ Operate sweepers at manufacturer requested optimal speed levels to increase effectiveness.
- ✓ Clean sweepers at a wash rack that drains to the sanitary sewer. The wash rack area should be covered and bermed and wash water should drain to a clarifier prior to entering the sanitary sewer.
- ✓ Regularly inspect vehicles and equipment for leaks, and repair immediately.

→ *Note: Permission must be obtained for any discharge of wash water to the sanitary sewer from the local sewerage agency.*

## Management of Material Removed by Sweeping

- ✓ Dispose of street sweeping debris and dirt at a landfill.
- ✓ Do not store swept material along the side of the street or near a storm drain inlet.
- ✓ If dewatering of saturated materials is necessary it should be conducted in a designated area away from storm drain inlets and the water contained for proper disposal.
- ✓ If authorized by the local sanitation agency, water may be discharged to the sanitary sewer only after passing through a clarifier. As an alternative, dewatering can be conducted in a containment area in which saturated materials are placed on a tarp and allowed to dry. Dry debris is then disposed of properly.

## **Maximize Access for Sweepers**

- ✓ Keep debris storage to a minimum during the wet season or make sure debris piles are contained (e.g. by berming the area) or covered (e.g. with tarps or permanent covers).
- ✓ Keep accurate operation logs to track program.
- ✓ Properly maintain and operate equipment; which will increase efficiency.
- ✓ Sweeping should be conducted as close to the curb line as possible.

## **2. Repair and Maintenance**

### **Pavement Marking**

- ✓ Develop paint handling procedures for proper use, storage, and disposal of paints.
- ✓ Transfer and load paint and hot thermoplastic away from storm drain inlets.
- ✓ Street or hand sweep thermoplastic grindings. Yellow thermoplastic grindings may require special handling as they may contain lead.
- ✓ Replace paints containing lead and tributyltin with less toxic alternatives.
- ✓ Use water based paints. Clean application equipment in a sink that is connected to the sanitary sewer.
- ✓ Properly store leftover paints if they are to be kept for the next job, or dispose of properly.
- ✓ See *Spill Control procedure sheet* for guidance on the proper cleanup of paint spills.

### **Concrete Installation and Repair**

- ✓ Avoid mixing excess amounts of fresh concrete or cement mortar on-site. Only mix what is needed for the job.
- ✓ Wash concrete trucks off site or in designated areas on site, such that there is no discharge of concrete wash water into storm drain inlets, open ditches, streets, or other stormwater conveyance structures.
- ✓ Store concrete materials under cover, away from drainage areas.
- ✓ Return leftover materials to the transit mixer. Dispose of small amounts of hardened excess concrete, grout, and mortar in the trash.
- ✓ Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile, or dispose in the trash.
- ✓ When washing poured concrete areas to remove fine particles and expose the aggregate, contain the wash water for proper disposal; do not discharge

water to the storm drain system.

- ✓ Do not allow excess concrete to be dumped on-site, except in designated areas.
- ✓ Apply concrete, asphalt, and seal coat during dry weather to allow the material to adequately dry prior to a rain event.
- ✓ When making saw cuts in pavement, use as little water as possible and perform during dry weather. Cover each nearby or appropriate storm drain inlet completely with filter fabric or plastic during the sawing operation and contain the slurry by placing straw bales, sandbags, or gravel dams around the inlets. After the liquid drains or evaporates, shovel or vacuum the slurry residue from the pavement or gutter and remove from site. Alternatively, a small on-site vacuum may be used to pick up the slurry as this will prohibit slurry from reaching storm drain inlets.

## **Patching, Resurfacing, and Surface Sealing**

- ✓ Pre-heat, transfer or load hot bituminous material away from storm drain inlets.
- ✓ Apply concrete, asphalt, and seal coat during dry weather to allow the material to adequately dry prior to a rain event.
- ✓ Where applicable, cover and seal each nearby or appropriate storm drain inlet (with waterproof material, plastic or mesh) and maintenance holes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from covered man holes and storm drain inlets when the job is complete.
- ✓ Use only as much water as necessary for dust control, to avoid runoff.
- ✓ Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.
- ✓ Prior to a rain event or at the completion of a project, sweep the project area by hand or with a street sweeper.

## **Equipment Cleaning, Maintenance, and Storage**

*Also see Equipment Repair & Maintenance procedure sheet.*

- ✓ Clean equipment including sprayers, sprayer paint supply lines, patch and paving equipment, and mudjacking equipment at the end of each day. If equipment can be cleaned and materials reapplied at the job site, do so in compliance with the laws and regulations. Clean in a sink or other area (e.g. vehicle wash area) that is connected to the sanitary sewer.
- ✓ If refueling or repairing vehicles and equipment must be done on-site, conduct the activity away from storm drain inlets and watercourses.
- ✓ Place drip pans or absorbent materials under heavy equipment when not in

use.

- ✓ Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.

➔ *In addition to the procedures above, review and apply general procedures outlined for Minor Construction activities when conducting street, road, and highway repair and maintenance activities.*

## 3. Bridge and Structure Maintenance

### Painting and Paint Removal

- ✓ Transport paint and materials to and from job sites in containers with secure lids and tied down to the transport vehicle.
- ✓ Do not transfer or load paint near storm drain inlets or watercourses.
- ✓ Test and inspect spray equipment prior to starting to paint. Tighten all hoses and connections and do not overfill paint container.
- ✓ If sand blasting is used to remove paint, cover nearby storm drain inlets prior to starting work.
- ✓ If the bridge crosses a watercourse, perform work on a maintenance traveler or platform, or use suspended netting or tarps to capture paint, rust, paint removing agents, or other materials, to prevent discharge of materials to surface waters. If sanding, use a sander with a vacuum filter bag.
- ✓ Recycle paint when possible (e.g. paint may be used for graffiti removal activities). Dispose of paint at an appropriate household hazardous waste facility.
- ✓ See Spill Control procedure sheet for guidance on the proper cleanup of paint spills.

### Graffiti Removal

- ✓ Avoid graffiti abatement activities during rain events.
- ✓ Protect nearby storm drain inlets prior to removing graffiti from walls, signs, sidewalks, or other structures needing graffiti abatement. Clean up afterwards by sweeping or vacuuming thoroughly, and/or by using absorbent and properly disposing of the absorbent.
- ✓ Note that care should be taken when disposing of waste since it may need to be disposed of as hazardous waste.
- ✓ When graffiti is removed by painting over, implement the procedures under

Painting and Paint Removal above.

- ✓ Direct runoff from sand blasting and high pressure washing (with no cleaning agents) into a landscaped or dirt area.
- ✓ If a graffiti abatement method generates wash water containing a cleaning compound (such as high pressure washing with a cleaning compound), plug nearby storm drains and collect wash water and dispose of properly.

## **Guardrail and Fence Repair**

- ✓ When cleaning guardrails or fences follow the appropriate surface cleaning methods (depending on the type of surface) outlined in the *Sidewalk, Plaza, and Fountain Maintenance and Cleaning* procedure sheet.
- ✓ If painting is conducted, follow the *Painting and Paint Removal* procedures above.
- ✓ If graffiti removal is conducted, follow the *Graffiti Removal* procedures above.
- ✓ If construction takes place, see the procedure sheet for *Minor Construction*.
- ✓ Recycle materials whenever possible.

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## **LIMITATIONS:**

Limitations related to street sweeping may include high equipment costs, the potential inability to restrict parking in urban areas, the need for sweeper operator training, the inability of current sweeper technology to remove oil and grease, and the lack of scientific evidence regarding the expected levels of pollutant removal.

## **REFERENCES:**

*Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.*

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program. 1997 Urban Runoff Management Plan. September 1997, updated October 2000.



## **SIDEWALK, PLAZA, AND FOUNTAIN MAINTENANCE AND CLEANING**

**Pollutants on sidewalks and other pedestrian traffic areas and plazas are typically due to littering and vehicle use. Fountain water containing chlorine and copper-based algaecides is toxic to aquatic life. Proper inspection, cleaning, and repair of pedestrian areas and city surfaces and structures can reduce pollutant runoff from these areas. Maintaining these areas may involve one or more of the following activities:**

- 1. Surface Cleaning**
- 2. Graffiti Cleaning**
- 3. Sidewalk Repair**
- 4. Controlling Litter**
- 5. Fountain Maintenance**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for sidewalk, plaza, and fountain maintenance and cleaning include:

- Use dry cleaning methods whenever practical for surface cleaning activities.
- Use the least toxic materials available (e.g. water based paints, gels or sprays for graffiti removal).
- Once per year, educate municipal staff on pollution prevention measures.

### **MODEL PROCEDURES:**

#### **1. Surface Cleaning**

**Discharges of wash water to the storm water drainage system from cleaning or hosing of impervious surfaces is prohibited.**

## Sidewalks, Plazas

- ✓ Use dry methods (e.g. sweeping, backpack blowers, vacuuming) whenever practical to clean sidewalks and plazas rather than hosing, pressure washing, or steam cleaning. DO NOT sweep or blow material into curb; use devices that contain the materials.
- ✓ If water must be used, block storm drain inlets and contain runoff. Discharge wash water to landscaping or contain and dispose of properly.

## Parking Areas, Driveways, Drive-thru

- ✓ Parking facilities should be swept/vacuumed on a regular basis. Establish frequency of public parking lot sweeping based on usage and field observations of waste accumulation.
- ✓ If water must be used, block storm drain inlets and contain runoff. Discharge wash water to landscaping or contain and dispose of properly.
- ✓ Sweep all parking lots at least once before the onset of the wet season.
- ✓ Use absorbents to pick up oil; then dry sweep.
- ✓ Appropriately dispose of spilled materials and absorbents.

## Building Surfaces, Decks, etc., without loose paint

- ✓ Use high-pressure water, no soap.
- ✓ If water must be used, block storm drain inlets and contain runoff. Discharge wash water to landscaping or contain and dispose of properly.

## Unpainted Building Surfaces, Wood Decks, etc.

- ✓ If water must be used, block storm drain inlets and contain runoff. Discharge wash water to landscaping or contain and dispose of properly.
- ✓ Use a biodegradable cleaning agent or acid wash to remove deposits, wood restorer, or other chemicals. Screen wash water using an appropriate filtering device (e.g. filter fabric), if needed, to catch debris.
- ✓ Make sure pH is between 6.5 and 8.5 THEN discharge to landscaping (if cold water without a cleaning agent) otherwise dispose of properly.

## 2. Graffiti Cleaning

### Graffiti Removal

*See Roads, Streets, and Highways Operation and Maintenance procedure sheet.*

- ✓ Avoid graffiti abatement activities during rain events.
- ✓ When graffiti is removed by painting over, implement the procedures under Painting and Paint Removal in the *Roads, Streets, and Highway Operation and Maintenance* procedure sheet.
- ✓ Protect nearby storm drain inlets prior to removing graffiti from walls, signs, sidewalks, or other structures needing graffiti abatement. Clean up afterwards by sweeping or vacuuming thoroughly, and/or by using absorbent

and properly disposing of the absorbent.

- ✓ Note that care should be taken when disposing of waste since it may need to be disposed of as hazardous waste.

## 3. Sidewalk Repair

### Surface Removal and Repair

*Also see the street sweeping section of the Roads, Streets, and Highways Operation and Maintenance procedure sheet.*

- ✓ Schedule surface removal activities for dry weather if possible.
- ✓ Avoid creating excess dust when breaking asphalt or concrete.
- ✓ Take measures to protect nearby storm drain inlets prior to breaking up asphalt or concrete (e.g. place hay bales or sand bags around inlets). Clean afterwards by sweeping up material.
- ✓ Designate an area for clean up and proper disposal of excess materials.
- ✓ Remove and recycle as much of the broken pavement as possible.
- ✓ When making saw cuts in pavement, use as little water as possible. Cover each storm drain inlet with filter fabric during the sawing operation and contain the slurry by placing straw bales, sandbags, or gravel dams around the inlets. After the liquid drains shovel or vacuum the slurry, remove from site and dispose of properly.
- ✓ Always dry sweep first to clean up tracked dirt. Use a street sweeper or vacuum truck. Do not dump vacuumed liquid in storm drains. Once dry sweeping is complete, the area may be hosed down if needed. Discharge wash water to landscaping, pump to the sanitary sewer if permitted to do so or contain and dispose of properly.

### Concrete Installation and Repair

*See Roads, Streets, and Highways Operation and Maintenance procedure sheet.*

- ✓ Avoid mixing excess amounts of fresh concrete or cement mortar on-site. Only mix what is needed for the job.
- ✓ Wash concrete trucks off-site or in designated areas on-site, such that there is no discharge of concrete wash water into storm drain inlets, open ditches, streets, or other storm water conveyance structures.
- ✓ Store dry and wet concrete materials under cover, protected from rainfall and runoff and away from drainage areas. After job is complete remove temporary stockpiles (asphalt materials, sand, etc.) and other materials as soon as possible.
- ✓ Return leftover materials to the transit mixer. Dispose of small amounts of excess concrete, grout, and mortar in the trash.
- ✓ When washing concrete to remove fine particles and expose the aggregate, contain the wash water for proper disposal.



- ✓ Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stock pile, or dispose in the trash.
- ✓ Protect applications of fresh concrete from rainfall and runoff until the material has hardened.

## 4. Litter Control

- ✓ Enforce anti-litter laws.
- ✓ Provide litter receptacles in busy, high pedestrian traffic areas of the community, at recreational facilities, and at community events.
- ✓ Cover litter receptacles and clean out frequently to prevent leaking/spillage or overflow.

## 5. Fountain Maintenance

- ✓ Do not use copper-based algaecides. Control algae with chlorine or other alternatives, such as sodium bromide.
- ✓ When draining fountains, never discharge water to a street or storm drain; discharge to the sanitary sewer
- ✓ Allow chlorine to dissipate for a few days and then recycle/reuse water by draining it gradually onto a landscaped area. Water must be tested prior to discharge to ensure that chlorine is not present (concentration must be less than 0.1 ppm).

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### LIMITATIONS:

Surface cleaning activities that require discharges to the local sanitation agency will require coordination with the agency.

### REFERENCES:

Bay Area Stormwater Management Agencies Association. 1996. Pollution From Surface Cleaning.

*Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.*

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices.

June 1998.

San Diego Stormwater Co-permittees Jurisdictional Urban Runoff Management Plan. 2001. Municipal Activities Model Program Guidance.

Santa Clara Valley Urban Runoff Pollution Prevention Program. 1997 Urban Runoff Management Plan. September 1997, updated October 2000.

Santa Clara Valley Urban Runoff Pollution Prevention Program. Maintenance Best Management Practices for the Construction Industry. Brochures: Landscaping, Gardening, and Pool; Roadwork and Paving; and Fresh Concrete and Mortar Application. June 2001.



## SOLID WASTE HANDLING

**It is important to control litter to eliminate trash and other materials in storm water runoff. Waste reduction is a major component of waste management and should be encouraged through training and public outreach. Management of waste once it is collected may involve reuse, recycling, or proper disposal. Specific solid waste handling activities may include one or more of the following:**

- 1. Solid Waste Collection**
- 2. Waste Reduction and Recycling**
- 3. Hazardous Waste Collection**
- 4. Litter Control**

**Reduce** by purchasing only the amount needed.  
**Reuse** products when possible.  
**Recycle** leftover products that are recyclable, and dispose of other wastes safely.

### POLLUTION PREVENTION:

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for solid waste handling include:

- Reuse products when possible.
- Recycle leftover products that are recyclable.
- Once per year, educate municipal staff on pollution prevention measures.

### MODEL PROCEDURES:

#### 1. Solid Waste Collection

- ✓ Implement procedures, where applicable, to collect, transport, and dispose of solid waste at appropriate disposal facilities in accordance with applicable federal, state, and local laws and regulations.
- ✓ Include properly designed trash storage areas.

- ✓ Regularly inspect solid waste containers for structural damage. Repair or replace damaged containers as necessary.
- ✓ Secure solid waste containers; containers must be closed tightly when not in use.
- ✓ Do not fill waste containers with washout water or any other liquid.
- ✓ Remove all debris from containers prior to cleaning with water. Only clean out containers in a designated area that drains to a landscaped area or a washrack that is connected to a sanitary sewer.
- ✓ Minimize spillage/leaking from solid waste containers. For larger solid waste containers (especially compactors) that utilize a hydraulic fluid pump system, regularly inspect and replace faulty pumps or hoses to minimize the potential of releases and spills.
- ✓ Ensure that only appropriate solid wastes are disposed of. Certain wastes such as hazardous wastes, appliances, fluorescent bulbs, pesticides, etc. may not be disposed of in solid waste containers.

## 2. Waste Reduction and Recycling

**Although many types of waste can be recycled, recycling options for each waste type may be limited. All gasoline, antifreeze, waste oil, and lead-acid batteries can be recycled. Latex and oil-based paint can be reused, as well as recycled. Materials that cannot be reused or recycled should be disposed of properly.**

→ *The California Integrated Waste Management Board has a Recycling Hotline, (800) 553-2962, that provides information and recycling locations for used oil.*

- ✓ Provide containers for the collection and storage of recyclable materials.
- ✓ Do not mix liquid wastes, this can cause chemical reactions or make recycling impossible and complicate disposal.
- ✓ Recycle used motor oil. Municipalities are required to have a used oil recycling element within their integrated waste management plan.

## 3. Hazardous Waste Collection

Household hazardous wastes (HHW) are defined as waste materials which are typically found in homes or similar sources, which exhibit characteristics such as: corrosivity, ignitability, reactivity, and/or toxicity, or are listed as hazardous materials by EPA.

**List of most common HHW products:**

Drain opener  
 Oven cleaners  
 Wood and metal cleaners and polishes  
 Paint Thinners  
 Automotive oil and fuel additives  
 Adhesives  
 Grease and rust solvents Batteries  
 Herbicides  
 Paint strippers and removers Pesticides  
 Fungicides/wood preservatives  
 Starter fluids  
 Carburetor and fuel injection cleaners

- ✓ Follow proper storage and disposal measures for hazardous waste materials as identified on packaging or Material Safety Data Sheets.
- ✓ Emergencies related to hazardous waste should be reported to 911

## 4. Litter Control

- ✓ Enforce anti-litter laws.
- ✓ Provide litter receptacles in busy, high pedestrian traffic areas of the community, at recreational facilities, and at community events.
- ✓ Clean out and cover litter receptacles frequently to prevent overflow.
- ✓ Increase litter control for events generating substantial quantities of litter.

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### LIMITATIONS:

Requires continuous public education.

### REFERENCES:

Bay Area Stormwater Management Agencies Association. 1996. Pollution From Surface Cleaning.

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

Environmental Protection Agency (EPA). Pollution Prevention and Good Housekeeping for Municipal Operations Storm Water. Pet Waste Collection. Office of Wastewater Management. Online:

[http://www.epa.gov/npdes/menuofbmps/poll\\_3.htm](http://www.epa.gov/npdes/menuofbmps/poll_3.htm)

Harvard University. 2002. Solid Waste Container Best Management Practices – Fact Sheet On-Line Resources – Environmental Health and Safety.



**FP-6**

## **WATER AND SEWER UTILITY OPERATION AND MAINTENANCE**

**Although sewage systems the operation and maintenance of public utilities are not considered themselves are not a chronic sources of stormwater pollution, some activities and accidents can result in the discharge of raw sewage contains pollutants that can pose a threat to both human health and the quality of receiving waters if they enter the storm drain system through incidents such as spills, leaks or overflows. Activities associated with the operation and maintenance of water and sewer utilities to prevent and handle such incidents include the following:**

- 1. Water Line Maintenance**
- 2. Sanitary Sewer Maintenance**
- 3. Spill/Leak/Overflow Control, Response, and Containment**

**Cities that do not provide maintenance of water and sewer utilities should coordinate with the contracting agency responsible for these activities and ensure that these model procedures are followed.**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for water and sewer utility operation and maintenance include:

- Inspect potential non-storm water discharge flow paths and clear/cleanup any debris or pollutants found (i.e. remove trash, leaves, sediment, and wipe up liquids, including oil spills).
- Once per year, educate municipal staff on pollution prevention measures.

## MODEL PROCEDURES:

### 1. Water Line Maintenance

Procedures can be employed to reduce pollutants from discharges associated with water utility operation and maintenance activities. Planned discharges may include fire hydrant testing, flushing water supply mains after new construction, flushing lines due to complaints of taste and odor, dewatering mains for maintenance work. Unplanned discharges from treated, recycled water, raw water, and groundwater systems operation and maintenance activities can occur from water main breaks, sheared fire hydrants, equipment malfunction, and operator error.

#### Planned Discharges

- ✓ For planned discharges use one of the following options:
  - Reuse water for dust suppression, irrigation, or construction compaction
  - Discharge to the sanitary sewer system with approval
  - Discharge to the storm drain system or to a creek using applicable pollution control measures listed below (this option is ONLY applicable to uncontaminated pumped ground water, water line flushing, discharges from potable water sources other than water main breaks) and may require a permit from the Regional Water Quality Control Board.
- ✓ If water is discharged to a storm drain inlet (catch basin), control measures must be put in place to control potential pollutants (i.e. sediment, chlorine, etc.). Examples of some storm drain inlet protection options include:
  - Silt fence – appropriate where the inlet drains a relatively flat area.
  - Gravel and wire mesh sediment filter – Appropriate where concentrated flows are expected.
  - Wooden weir and fabric – use at curb inlets where a compact installation is desired.
- ✓ Prior to discharge, inspect discharge flow path and clear/cleanup any debris or pollutants found (i.e. remove trash, leaves, sediment, and wipe up liquids, including oil spills).
- ✓ Select appropriate pollution control measure(s) considering the receiving system (i.e. curb inlet, drop inlet, culvert, creek, etc.) and ensure that the control device(s) fit properly.
- ✓ General design considerations for inlet protection devices include the following:
  - The device should be constructed such that cleaning and disposal



of trapped sediment is made easy, while minimizing interference with discharge activities.

- Devices should be constructed so that any standing water resulting from the discharge will not cause excessive inconvenience or flooding/damage to adjacent land or structures.
- ✓ The effectiveness of control devices must be monitored during the discharge period and any necessary repairs or modifications made as needed.

## Unplanned Discharges

- ✓ Stop the discharge as quickly as possible by turning off water source.
- ✓ Inspect flow path of the discharged water:
  - Control erosion along the flow path.
  - Identify areas that may produce significant sediment or gullies, use sandbags to redirect the flow.
  - Identify erodible areas which may need to be repaired or protected during subsequent repairs or corrective actions
- ✓ If repairs or corrective action will cause additional discharges of water, select the appropriate procedures for erosion control, chlorine residual, turbidity, and chemical additives. Prevent potential pollutants from entering the flow path and ensure that no additional discharged water enters storm drain inlets.

## 2. Sanitary Sewer Maintenance

**Applicable to municipalities who own and operated a sewage collection system. Facilities that are covered under this program include sanitary sewer pipes and pump stations owned and operated by the Permittee. The owner of the sanitary sewer facilities is the entity responsible for carrying out this prevention and response program.**

### Sewer System Cleaning

- ✓ Sewer lines should be cleaned on a regular basis to remove grease, grit, and other debris that may lead to sewer backups.
- ✓ Establish routine maintenance program. Cleaning should be conducted at an established minimum frequency and more frequently for problem areas such as restaurants that are identified
- ✓ Cleaning activities may require removal of tree roots and other identified obstructions.

### Preventative and Corrective Maintenance

- ✓ During routine maintenance and inspection note the condition of sanitary sewer structures and identify areas that need repair or maintenance. Items to note may include the following:

- cracked/deteriorating pipes
  - leaking joints/seals at manhole
  - frequent line plugs
  - line generally flows at or near capacity
  - suspected infiltration or exfiltration
- ✓ Document suggestions and requests for repair and report the information to the appropriate manager or supervisor.
  - ✓ Prioritize repairs based on the nature and severity of the problem. Immediate clearing of blockage or repair is required where an overflow is currently occurring or for urgent problems that may cause an imminent overflow (e.g. pump station failures, sewer line ruptures, sewer line blockages). These repairs may be temporary until scheduled or capital improvements can be completed.
  - ✓ Review previous sewer maintenance records to help identify “hot spots” or areas with frequent maintenance problems and locations of potential system failure.

### 3. Spill/Leak/Overflow Control, Response, and Containment

#### Control

*Also see Drainage System procedures sheet*

- ✓ Refer to countywide *Illicit Discharge Detection and Elimination Program*. Components of this program include:
  - Investigation/inspection and follow-up
  - Elimination of illicit discharges and connections
  - Enforcement of ordinances
  - Respond to sewage spills
  - Facilitate public reporting of illicit discharges and connections. A citizen’s hotline for reporting observed overflow conditions should be established to supplement the field screening efforts being conducted by the Principal Permittee.

#### Response and Containment

- ✓ Establish lead department/agency responsible for spill response and containment. Provide coordination within departments.
- ✓ When a spill, leak, and/or overflow occurs, keep sewage from entering the storm drain system to the maximum extent practicable by covering or blocking storm drain inlets or by containing and diverting the sewage away from open channels and other storm drain facilities (using sandbags, inflatable dams, etc.).
- ✓ If a spill reaches the storm drain notify the City 24-hour hotline at (949) 366-1553.

- ✓ Remove the sewage using vacuum equipment or use other measures to divert it back to the sanitary sewer system.
- ✓ Record required information at the spill site.
- ✓ Perform field tests as necessary to determine the source of the spill.
- ✓ Develop additional notification procedures regarding spill reporting as needed.

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## LIMITATIONS:

Private property access rights needed to perform testing along storm drain right-of-ways. Requirements of municipal ordinance authority for suspected source verification testing necessary for guaranteed rights of entry.

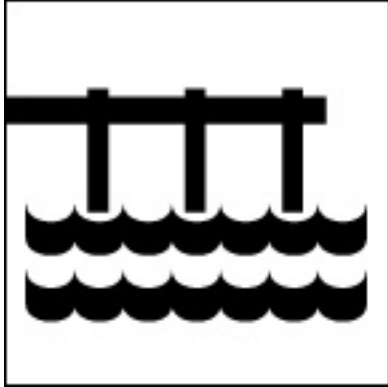
## REFERENCES:

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

Los Angeles County Stormwater Quality. Public Agency Activities Model Program. On-line:  
[http://ladpw.org/wmd/npdes/public\\_TC.cfm](http://ladpw.org/wmd/npdes/public_TC.cfm)

Santa Clara Valley Urban Runoff Pollution Prevention Program. 1997 Urban Runoff Management Plan. September 1997, updated October 2000.

Santa Clara Valley Urban Runoff Pollution Prevention Program. Water Utility Pollution Prevention Plan.



## BAY/HARBOR ACTIVITIES

**Bay/Harbor activities typically occur at boat and ship repair yards and marinas. The discharge of pollutants to receiving waters during these activities can be prevented or reduced by minimizing maintenance, keeping wastes out of the water, cleaning up spills and wastes immediately, and educating employees. Activities may include one or more of the following:**

- 1. On Board and General Maintenance**
- 2. Disposal of Wastewater and Ballast Water**
- 3. Cleaning, Chipping, and Painting**

### POLLUTION PREVENTION:

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for bay/harbor activities include:

- Move maintenance and repair activities on-shore if possible.
- Perform paint and solvent mixing, fuel mixing, and similar handling of liquids on-shore, to avoid spillage directly in surface water bodies.
- Once per year, educate municipal staff on pollution prevention measures.

### MODEL PROCEDURES:

#### 1. On Board and General Maintenance

- ✓ Post signs to indicate proper use and disposal of residual paints, rags, used oil, and other engine fluids.
- ✓ Used antifreeze should be stored in a separate, labeled drum and recycled.
- ✓ Fuel tank vents should have valves to prevent fuel overflows or spills.

- ✓ Boats with inboard engines should have oil absorption pads in bilge areas and they should be changed when no longer useful or at least once a year.
- ✓ Carefully fueling boat engines, recycling used oil, and discarding worn motor parts into proper receptacles can prevent needless petroleum spills.
- ✓ Draining water out of all waterlines and tanks during winter freezes eliminates the possibility of bursting pipes.
- ✓ Keep boat motors well-tuned to prevent fuel and lubricant leaks and improves fuel efficiency.
- ✓ Immediately clean up spills on docks or boats. Have spill containment and cleanup materials readily available and educate employees on spill prevention and cleanup and responsibilities

## 2. Disposal of Wastewater and Ballast Water

- ✓ Properly dispose of domestic wastewater and ballast water. DO NOT ALLOW discharge of treated or untreated sewage from vessels to harbors.
- ✓ Fecal matter and other solid waste should be contained in a U.S. Coast Guard-approved marine sanitation device (MSD).
- ✓ Portable toilets should be emptied into approved shoreside waste handling facilities and MSDs should be discharged into approved pump out stations.

## 3. Cleaning, Chipping, and Painting

- ✓ Use secondary containment on paint cans.
- ✓ Limit over-water hull surface maintenance to sanding and minor painting. Use sanders that have dust-containment bags.
- ✓ Major hull resurfacing should occur on land.
- ✓ Use ground cloths when painting boats on land.
- ✓ Paint mixing should not occur on the dock.
- ✓ Replace paints containing lead or tributyltin with less toxic alternatives.
- ✓ Shelter any blasting and spray painting activities by hanging wind blocking tarps to prevent dust and overspray from escaping.
- ✓ A tarp should be placed above the water surface underneath the work area on boats or docks to collect drips, spills, paint chips, and loose solids when

work is performed over water.

- ✓ Vacuuming up loose paint chips and paint dust can help to prevent paint and other chemical substances from entering waters.
- ✓ Properly dispose of surface chips, used blasting sand, residual paints, and other materials. Use temporary storage containment that is not exposed to rain.
- ✓ Use phosphate-free and biodegradable detergents for hull washing. No soaps or detergents of any kind should be used to wash the topsides of boats where the wash water will enter a lake or the ocean.
- ✓ Select nontoxic cleaning products that do not harm humans or aquatic life.

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## LIMITATIONS:

Even biodegradable cleaning agents have been found to be toxic to fish. Air authority policies on fugitive dust and outside painting may apply.

## REFERENCES:

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.



## BUILDING MAINTENANCE AND REPAIR

**Stormwater runoff from building repair, remodeling, and other maintenance activities can be contaminated with toxic hydrocarbons in solvents, other toxic organic compounds, suspended solids, heavy metals, abnormal pH, and oils and greases. Specific activities may involve one or more of the following:**

- 1. Building Maintenance**
- 2. Material Storage**
- 3. Building Cleaning**
- 4. Graffiti Cleaning**
- 5. Painting**

### POLLUTION PREVENTION:

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for building maintenance and repair include:

- Use dry cleaning methods whenever feasible.
- Use a waterless and non-toxic chemical cleaning method for graffiti removal.
- Once per year, educate municipal staff on pollution prevention measures.

### MODEL PROCEDURES:

#### 1. Building Maintenance

##### **General Guidelines**

*See Minor Construction procedure sheet*

- ✓ Review maintenance activities to verify that they minimize the amount of pollutants discharged. Keep accurate maintenance logs to evaluate materials removed and improvements made.
- ✓ If when repairing roofs, small particles have accumulated in the gutter,

either sweep out the gutter or wash the gutter and trap the particles at the outlet of the downspout. A sock or geofabric placed over the outlet may effectively trap the materials. If the downspout is tight lined, place a temporary plug at the first convenient point in the storm drain and pump out the water with a vactor truck and clean the storm drain inlet where you placed the plug if necessary.

- ✓ If water is used for cleaning out gutters, seal storm drain inlets to prevent water from entering. Either direct the water to a landscaped area or dispose of properly.
- ✓ When the work involves exposing large areas of soil, employ the appropriate soil erosion and control techniques.
- ✓ Clean storm drain inlets in the immediate vicinity of the construction activity after it is completed if necessary.

## Good Housekeeping

- ✓ Keep the work site clean and orderly. Remove debris in a timely fashion. Sweep the area.
- ✓ Cover materials of particular concern that must be left out, particularly during the rainy season.
- ✓ Do not dump waste liquids down the storm drain.
- ✓ Properly dispose of wash water, sweepings, and sediments; do not allow these materials to enter the storm drain.

## Spill Response

*Also see Spill Prevention and Control procedure sheet*

- ✓ Clean up spills immediately.
- ✓ If a spill occurs on dirt, excavate and remove the contaminated (stained) soil.

## 2. Material Storage

*Also see Material Storage/ Handling Disposal procedure sheet*

- ✓ Properly store and cover materials that are normally used in repair and remodeling such as paints and solvents, to protect them from rain.
- ✓ Properly store and dispose waste generated from the activity.

## 3 Building Cleaning

### General Guidelines

- ✓ When cleaning building exteriors and walls composed of glass, steel, or painted surfaces with no lead or mercury:
  - Do not allow wash water to enter the storm drain.
  - When washing without soap, discharges can be directed to landscaped or dirt areas.



- When washing with soap, direct discharges to the sanitary sewer if permitted to do so or vacuum/pump water to a tank and dispose of properly
- ✓ When washing building exteriors painted with lead-based or mercury additive paint:
  - Do not allow discharges to enter storm drain
  - Vacuum/pump discharges to a tank
  - Dispose of as a hazardous waste as needed
- ✓ When acid washing mineral deposits:
  - Do not allow discharges to enter storm drain.
  - Rinse treated area with alkaline soap and direct washwater to a landscaped or dirt area
  - Alternatively, washwater may be collected and neutralized to a pH between 6 and 8, and disposed of properly.

## 4. Graffiti Cleaning

### Graffiti Removal

*Also see Roads, Streets, and Highways Operation and Maintenance procedure sheet.*

- ✓ Avoid graffiti abatement activities during rain events.
- ✓ When graffiti is removed by painting over, implement the procedures under Painting and Paint Removal in the *Roads, Streets, and Highway Operation and Maintenance* procedure sheet.
- ✓ Protect nearby storm drain inlets prior to removing graffiti from walls, signs, sidewalks, or other structures needing graffiti abatement. Clean up afterwards by sweeping or vacuuming thoroughly, and/or by using absorbent and properly disposing of the absorbent.
- ✓ Note that care should be taken when disposing of waste since it may need to be disposed of as hazardous waste.

## 5. Painting

### General Guidelines

- ✓ Develop paint handling procedures for proper use, storage, and disposal of paints.
- ✓ Painting operations should be properly enclosed or covered to avoid drift.
- ✓ If transporting paint and materials to and from job sites, use containers with secure lids and tie down to the transport vehicle.
- ✓ Test and inspect spray equipment prior to starting to paint. Tighten all hoses and connections and do not overfill paint container.

- ✓ Mix paint indoors before using so that any spill will not be exposed to rain. Do so even during dry weather because cleanup of a spill will never be 100% effective.
- ✓ Transfer and load paint and hot thermoplastic away from storm drain inlets.
- ✓ Replace paints containing lead or tributyltin with less toxic alternatives.
- ✓ Where there is significant risk of a spill reaching storm drains, plug nearby storm drain inlets prior to starting painting and remove plugs when job is complete.
- ✓ If sand blasting is used to remove paint, cover nearby storm drain inlets prior to starting work and collect wash water and dispose of properly.
- ✓ If painting requires scraping or sand blasting of the existing surface, use a ground cloth to collect the chips. Dispose of the residue properly.
- ✓ If using water based paints, clean the application equipment in a sink that is connected to the sanitary sewer.
- ✓ Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal. Waste solvents or oil based paints must be disposed of as hazardous waste.
- ✓ Paints containing lead or tributyl tin are considered a hazardous waste and must be disposed of at an appropriate hazardous waste facility.
- ✓ Properly store leftover paints if they are to be kept for the next job.

## Paint Disposal

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## LIMITATIONS:

Safer alternative products may not be available, suitable, or effective in every case.

## REFERENCES:

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program. 1997 Urban Runoff Management Plan. September 1997, updated October 2000.



## **EQUIPMENT MAINTENANCE AND REPAIR**

**Vehicle or equipment maintenance has the potential to be a significant source of stormwater pollution. Engine repair and service (parts cleaning, spilled fuel, oil, etc.), replacement of fluids, and outdoor equipment storage and parking (dripping engines) can all contaminate stormwater. Conducting the following activities in a controlled manner will reduce the potential for stormwater contamination:**

- 1. General Maintenance and Repair**
- 2. Vehicle and Machine Repair**
- 3. Waste Handling/Disposal**

**Related vehicle maintenance activities are covered under the following program headings in this manual: "Vehicle and Equipment Cleaning", "Vehicle and Equipment Storage", and "Vehicle Fueling".**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for equipment maintenance and repair include:

- Review maintenance activities to verify that they minimize the amount of pollutants discharged to receiving waters. Keep accurate maintenance logs to evaluate materials removed and improvements made.
- Switch to non-toxic chemicals for maintenance when possible.
- Choose cleaning agents that can be recycled.
- Minimize use of solvents. Clean parts without using solvents whenever possible. Recycle used motor oil, diesel oil, and other vehicle fluids and parts whenever possible.
- Once per year, educate municipal staff on pollution prevention measures.

## MODEL PROCEDURES:

### 1. General Maintenance and Repair

→ *Note: Permission must be obtained for any discharge of wash water to the sanitary sewer from the local sewerage agency.*

#### General Guidelines

- ✓ Review maintenance activities to verify that they minimize the amount of pollutants discharged to receiving waters. Keep accurate maintenance logs to evaluate materials removed and improvements made.
- ✓ Regularly inspect vehicles and equipment for leaks.
- ✓ Move activity indoors or cover repair area with a permanent roof if feasible.
- ✓ Minimize contact of stormwater with outside operations through berming and drainage routing.
- ✓ Place curbs around the immediate boundaries of the process equipment.
- ✓ Clean yard storm drain inlets regularly and stencil them.

→ *Note: Permission must be obtained for any discharge of wash water to the sanitary sewer from the local sewerage agency.*

#### Good Housekeeping

- ✓ Avoid hosing down work areas. If work areas are washed and if discharge to the sanitary sewer is allowed, treat water with an appropriate treatment device (e.g. clarifier) before discharging. If discharge to the sanitary sewer is not permitted, pump water to a tank and dispose of properly.

- ✓ Collect leaking or dripping fluids in drip pans or containers. Fluids are easier to recycle or dispose of properly if kept separate.
- ✓ Keep a drip pan under the vehicle while you unclip hoses, unscrew filters, or remove other parts. Place a drip pan under any vehicle that might leak while you work on it to keep splatters or drips off the shop floor.
- ✓ Educate employees on proper handling and disposal of engine fluids.
- ✓ Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- ✓ Do not pour liquid waste to floor drains, sinks, outdoor storm drain inlets, or other storm drains or sewer connections.
- ✓ Post signs at sinks and stencil outdoor storm drain inlets.

## 2. Vehicle Repair

### General Guidelines

*Also see Waste Handling procedure sheet*

- ✓ Perform vehicle fluid removal or changing inside or under cover where feasible to prevent the run-on of stormwater and the runoff of spills.
- ✓ Regularly inspect vehicles and equipment for leaks, and repair as needed.
- ✓ Use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- ✓ Immediately drain all fluids from wrecked vehicles. Ensure that the drain pan or drip pan is large enough to contain drained fluids (e.g. larger pans are needed to contain antifreeze, which may gush from some vehicles).
- ✓ Promptly transfer used fluids to the proper waste or recycling drums. Don't leave full drip pans or other open containers lying around.
- ✓ Recycle used motor oil, diesel oil, and other vehicle fluids and parts whenever possible.
- ✓ Oil filters disposed of in trash cans or dumpsters can leak oil. Place the oil filter in a funnel over a waste oil recycling drum to drain excess oil before disposal. Oil filters can also be recycled. Ask your oil supplier or recycler about recycling oil filters.
- ✓ Store cracked batteries in a non-leaking secondary container and dispose of properly at recycling or household hazardous waste facilities.

### Vehicle Leak and Spill Control

- 
- ✓ Use absorbent materials on small spills. Remove the absorbent materials promptly and dispose of properly.
  - ✓ Place a stockpile of spill cleanup materials where it will be readily

accessible.

- ✓ Sweep floor using dry absorbent material.

## 3. Machine Repair

*Also see the Spill Prevention and Control procedure sheet*

- ✓ Keep equipment clean; don't allow excessive build-up of oil or grease.
- ✓ Minimize use of solvents.
- ✓ Use secondary containment, such as a drain pan or drop cloth, to catch spills or leaks when removing or changing fluids.
- ✓ Perform major equipment repairs at the corporation yard, when practical.
- ✓ Following good housekeeping measures in *Vehicle Repair* section.

## 4. Waste Handling/Disposal

### Waste Reduction

- ✓ Prevent spills and drips of solvents and cleansers to the shop floor.
- ✓ Do liquid cleaning at a centralized station so the solvents and residues stay in one area. Recycle liquid cleaners when feasible.
- ✓ Locate drip pans, drain boards, and drying racks to direct drips back into a solvent sink or fluid holding tank for reuse.

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### LIMITATIONS:

Space and time limitations may preclude all work being conducted indoors. It may not be possible to contain and clean up spills from vehicles/equipment brought on-site after working hours. Dry floor cleaning methods may not be sufficient for some spills – see spill prevention and control procedures sheet. Identification of engine leaks may require some use of solvents.

### REFERENCES:

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. 1995. King County Surface Water Management. July. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality

Control Board. July. 1998.



## **FUELING**

**Spills and leaks that may occur during equipment and vehicle fueling can contribute hydrocarbons, oils and greases, and heavy metals to stormwater runoff. Implementation of the following procedures can help prevent fuel spills and leaks and thereby reduce their impacts to stormwater.**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for fueling include:

- Fuel vehicles and equipment at off-site commercial fueling stations when feasible.
- Once per year, educate municipal staff on pollution prevention measures.

### **MODEL PROCEDURES:**

#### **General Guidelines**

- ✓ If refueling must be done on site, use a location away from storm drains and creeks.
- ✓ If re-developing the fueling area, design the area to prevent the run-on of stormwater and the runoff of spills:
  - Pave fueling area with Portland cement concrete (or equivalent smooth impervious surface), with a 2% to 4% slope to prevent ponding.
  - Separate the dispensing area from the rest of the site by a grade break that prevents run-on of storm water to the extent practicable. The fuel dispensing area is defined as extending 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly area may be operated plus 1 foot, whichever is less. The paving around the fuel dispensing area may exceed the minimum dimensions of the “fuel dispensing area” stated above.



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- Cover the fuel dispensing area. The cover's minimum dimensions must be equal to or greater than the area within the grade break or the fuel dispensing area.
- Design the cover so that it does not drain onto the fuel dispensing area.
- ✓ Install vapor recovery nozzles to help control drips as well as air pollution.
- ✓ Discourage "topping off" of fuel tanks.
- ✓ Use secondary containment such as curbs, berms, etc. when transferring fuel from the tank truck to the fuel tank.
- ✓ If the facility has large numbers of mobile equipment working throughout the site and they are fueled with a mobile fuel truck, establish a designated area for fueling. With the exception of racked equipment such as bulldozers and perhaps small forklifts, most vehicles should be able to travel to a designated area with little lost time. Place temporary "caps" over nearby storm drain inlets so that if a spill occurs it is prevented from entering the storm drain.
- ✓ Ensure compliance with all Federal and State requirements regarding underground storage tanks, or install above ground tanks.
- ✓ Use dry methods to clean the fueling area whenever possible. If you periodically clean by pressure washing, place a temporary plug in the downstream drain and pump out the accumulated water. Properly dispose of the water.
- ✓ Train employees on proper fueling and cleanup procedures
- ✓ Ensure the following safeguards are in place:
  - Overflow protection devices on tank systems to warn the operator to automatically shutdown transfer pumps when the tank reaches full capacity
  - Protective guards around tanks and piping to prevent vehicle or forklift damage
  - Clearly tagging or labeling all valves to reduce human error
  - Placement of spill kits at fueling areas and/or on vehicles.
- ✓ Stencil storm drain inlets within the facility boundary, by paint/stencil (or equivalent), to indicate whether they flow to an oil/water separator, directly to the sewer, or to a storm drain. Labels are not necessary for plumbing fixtures directly connected to the sanitary sewer.
- ✓ Use absorbent materials on small spills and general cleaning rather than hosing down the area. Remove the absorbent materials promptly.

## Spill Response

*See Spill Prevention and Control*

*procedures sheet*

- ✓ Place a stockpile of spill cleanup materials where it will be readily accessible.
- ✓ Aboveground tank leak and spill control (not applicable to propane):
  - Check for external corrosion and structural failure
  - Check for spills and overfills due to operator error
  - Check for failure of piping system
  - Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or vice versa
  - Visually inspect new tank or container installation for loose fittings, poor welding, and improper or poorly fitted gaskets
  - Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.

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## **LIMITATIONS:**

## **REFERENCES:**

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. 1995. King County Surface Water Management. July. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.



## **LANDSCAPE MAINTENANCE**

**The model procedures described below focus on minimizing the discharge of pesticides and fertilizers, landscape waste, trash, debris, and other pollutants to the storm drain system and receiving waters. Landscape maintenance practices may involve one or more of the following activities:**

- 1. Mowing, Trimming/Weeding, and Planting**
- 2. Irrigation**
- 3. Fertilizer and Pesticide Management**
- 4. Managing Landscape Waste**
- 5. Erosion Control**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for landscape maintenance include:

- Implement an integrated pest management (IPM) program. IPM is a sustainable approach to managing pests by combining biological, cultural, physical, and chemical tools. Refer to Appendix D, Fertilizer and Pesticide Guidance for further details.
- Choose low water using flowers, trees, shrubs, and groundcover.
- Consider the selection of broadleaf evergreen trees to reduce leaf litter.
- Appropriate maintenance (i.e. properly timed fertilizing, weeding, pest control, and pruning) to preserve the landscapes water efficiency.
- Once per year, educate municipal staff on pollution prevention measures.

## MODEL PROCEDURES:

### 1. Mowing, Trimming/Weeding, and Planting

#### **Mowing, Trimming/Weeding**

- ✓ If feasible and practical, use mechanical methods of vegetation removal rather than applying herbicides. Use hand weeding where practical.
- ✓ When conducting mechanical or manual weed control, avoid loosening the soil, which could erode into streams or storm drains.
- ✓ If feasible and practical, use coarse textured mulches or geotextiles to suppress weed growth and reduce the use of herbicides.
- ✓ Do not blow or rake leaves, etc. into the street or place yard waste in gutters or on dirt shoulders. Sweep up any leaves, litter or residue in gutters or on street.
- ✓ Collect lawn and garden clippings, pruning waste, tree trimmings, and weeds. Chip if necessary, and compost or dispose of at a landfill (see waste management section of this procedure sheet).
- ✓ Place temporarily stockpiled material away from watercourses, and berm or cover stockpiles to prevent material releases to storm drains.

#### **Planting**

- ✓ Where feasible, retain and/or plant selected native vegetation whose features are determined to be beneficial. Native vegetation usually requires less maintenance (e.g., irrigation, fertilizer) than planting ornamental vegetation.
- ✓ When planting or replanting consider using low water use groundcovers.

### 2. Irrigation

- ✓ Utilize water delivery rates that do not exceed the infiltration rate of the soil.
- ✓ Use timers appropriately or a drip system to prevent runoff and then only irrigate as much as is needed.
- ✓ Inspect irrigation system periodically to ensure that the right amount of water is being applied and that excessive runoff is not occurring. Minimize excess watering, and repair leaks in the irrigation system as needed.
- ✓ Where practical, use automatic timers to minimize runoff.
- ✓ Use popup sprinkler heads in areas with a lot of activity or where there is a chance the pipes may be broken. Consider the use of mechanisms that

reduce water flow to sprinkler heads if broken.

- ✓ If re-claimed water is used for irrigation, ensure that there is no runoff from the landscaped area(s).
- ✓ If bailing of muddy water is required (e.g. when repairing a water line leak), do not put it in the storm drain; pour over landscaped areas.

## 3. Fertilizer and Pesticide Management

### Usage

- ✓ Utilize a comprehensive management system that incorporates integrated pest management techniques.
- ✓ Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers and pesticides and training of applicators and pest control advisors.
- ✓ Educate and train employees on use of pesticides and in pesticide application techniques to prevent pollution.
- ✓ Pesticide application must be under the supervision of a California qualified pesticide applicator.
- ✓ When applicable use the least toxic pesticides that will do the job. Avoid use of copper-based pesticides if possible.
- ✓ Do not mix or prepare pesticides for application near storm drains.
- ✓ Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the pest.
- ✓ Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- ✓ Calibrate fertilizer and pesticide application equipment to avoid excessive application.
- ✓ Periodically test soils for determining proper fertilizer use.
- ✓ Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- ✓ Inspect pesticide/fertilizer equipment and transportation vehicles frequently
- ✓ Refer to Appendix D, Fertilizer and Pesticide Guidance for further details.

### Scheduling

- ✓ Do not use pesticides if rain is expected within 24 hours.
- ✓ Apply pesticides only when wind speeds are low (less than 5 mph).

## Storage

- ✓ To minimize quantities of pesticides and fertilizers stored, only purchase what is needed for use in the near future.
- ✓ Implement storage requirements for pesticide products with guidance from the local fire department and County Agricultural Commissioner. Provide secondary containment for pesticides.

## Disposal

- ✓ Purchase only the amount of pesticide that you can reasonably use in a given time period (month or year depending on the product).
- ✓ Triple rinse containers, and use rinse water as product. Dispose of unused pesticide as hazardous waste.
- ✓ Dispose of empty pesticide containers according to the instructions on the container label.

## 4. Managing Landscape Waste

*Also see Waste Handling and Disposal procedure sheet*

- ✓ Compost leaves, sticks, or other collected vegetation or dispose of at a permitted landfill. Do not dispose of collected vegetation into waterways or storm drainage systems.
- ✓ Place temporarily stockpiled material away from watercourses and storm drain inlets, and berm or cover stockpiles to prevent material releases to the storm drain system.
- ✓ Reduce the use of high nitrogen fertilizers that produce excess growth requiring more frequent mowing or trimming.
- ✓ Inspection of drainage facilities should be conducted to detect illegal dumping of clippings/cuttings in or near these facilities. Materials found should be picked up and properly disposed of.
- ✓ Landscape wastes in and around storm drain inlets should be avoided by either using bagging equipment or manually picking the material up.

## 5. Erosion Control

- ✓ Maintain vegetative cover on medians and embankments to prevent soil erosion. Apply mulch or leave clippings to serve as additional cover for soil stabilization and to reduce the velocity of storm water runoff.
- ✓ As medians are developed or re-developed, consider designing them so that they prevent runoff and erosion and promote better irrigation practices.
- ✓ Minimize the use of disking as a means of vegetation management because the practice may result in erodable barren soil.

- ✓ Confine excavated materials to pervious surfaces away from storm drain inlets, sidewalks, pavement, and ditches. Material must be covered if rain is expected.

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## LIMITATIONS:

Alternative pest/weed controls may not be available, suitable, or effective in every case.

## REFERENCES:

*California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. July 1993.*

County of Orange. 2000. Public Facilities and Resources Department, Management Guidelines for the Use of Fertilizers and Pesticides. September.

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. 1995. King County Surface Water Management. July. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Los Angeles County Stormwater Quality Model Programs. Public Agency Activities  
[http://ladpw.org/wmd/npdes/model\\_links.cfm](http://ladpw.org/wmd/npdes/model_links.cfm)

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program. 1997 Urban Runoff Management Plan. September 1997, updated October 2000.



**FF-6**

## **MATERIAL LOADING AND UNLOADING**

**The loading/unloading of materials usually takes place outside; therefore, materials spilled, leaked, or lost during loading/unloading have the potential to collect in the soil or on other surfaces and be carried away by runoff or when the area is cleaned. Additionally, rainfall may wash pollutants from machinery used to unload or move materials. Material loading and unloading involves the following activities:**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for material loading and unloading include:

- Check loading and unloading equipment regularly for leaks.
- Cover loading docks.
- Once per year, educate municipal staff on pollution prevention measures.

### **MODEL PROCEDURES:**

#### **General Guidelines**

- ✓ Regularly clean work areas to remove materials such as debris, sandblasting material, etc.
- ✓ Design loading/unloading area to prevent stormwater runoff that would include grading or berming the area, and positioning roof downspouts so they direct stormwater away from loading/unloading areas.
- ✓ Use overhangs or door skirts that enclose the trailer.
- ✓ Park tank trucks or delivery vehicles so that spills or leaks can be contained.
- ✓ Avoid loading and exposing materials during rain events unless the loading dock is covered and protected from rain. A seal or door skirt between the trailer and the building may also prevent exposure to rain.



- ✓ Shipboard cooling and process water discharges should be directed to minimize contact with spent abrasives, paint, and other debris.

## Tank truck transfers

- ✓ The area where the transfer takes place should be paved. If the liquid is reactive with the asphalt, Portland cement should be used to pave the area.
- ✓ Transfer area should be designed to prevent runoff of stormwater from adjacent areas. Sloping the pad and using a berm around the uphill side of the transfer area should reduce runoff.
- ✓ Transfer area should be designed to prevent runoff of spilled liquids from the area. Sloping the area to a drain should prevent runoff. The drain should be connected to a dead-end sump. A positive control valve should be installed on the drain.

## Spill Control

*Also see Spill Prevention and Control procedures sheet*

- ✓ Contain leaks during transfer.
- ✓ Use drip pans under hoses.
- ✓ Have an emergency spill cleanup plan readily available.
- ✓ Place spill kits and materials next to or near each loading/unloading area.
- ✓ Use drip pans or comparable devices when transferring oils, solvents, and paints.

## Training

- ✓ Make sure forklift operators are properly trained.
- ✓ Train employees regarding spill containment and cleanup.
- ✓ Employees trained in spill containment and cleanup should be present during the loading/unloading.
- ✓ Use a written operations plan that describes procedures for loading and/or unloading.

## Inspection

*Also see Spill Prevention and Control procedures sheet*

- ✓ Check loading and unloading equipment regularly for leaks, including valves, pumps, flanges and connections.
- ✓ Inspect regularly for leaking valves, pipes, hoses, or soil chutes carrying either water or wastewater.
- ✓ Look for dust or fumes during loading or unloading operations.

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## **LIMITATIONS:**

Space and time limitations may preclude all transfers from being performed indoors or under cover. It may not be possible to conduct transfers only during dry weather.

## **REFERENCES:**

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.



**FF-7**

## **MATERIAL STORAGE, HANDLING, AND DISPOSAL**

**Accidental releases of materials from aboveground liquid storage tanks, drums, and dumpsters present the potential for contaminating stormwater with many different pollutants. Maintaining these areas may involve one or more of the following activities:**

- 1. Material Storage**
- 2. Chemical Material Handling and Disposal**
- 3. Hazardous Material Handling and Disposal**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for material storage, handling, and disposal include:

- Store material indoors, or covered if outdoors.
- Prevent storm water run-on.
- Once per year, educate municipal staff on pollution prevention measures.

### **MODEL PROCEDURES:**

#### **1. General Material Storage, Handling, and Disposal**

##### **Storage**

- ✓ Store materials indoors if possible. If stored outdoors, cover the storage area with a roof or with temporary cover during rain events. [*Note: the local fire authority/department must be consulted for limitations on clearance of roof covers over containers used to store flammable materials*].
- ✓ Keep storage areas clean and dry. Conduct regular inspections so that leaks and spills are detected as soon as possible.

- ✓ Minimize stormwater run-on and runoff by covering, enclosing or providing secondary containment for the area.
- ✓ Keep outdoor storage areas in good condition (e.g. repair roofs, floors, etc. to limit releases to runoff).
- ✓ Drums stored in an area where unauthorized persons may gain access must be secured to prevent accidental spillage, pilferage, or any unauthorized use. Only personnel with proper training may handle hazardous waste. See *Waste Handling and Disposal Procedures*
- ✓ Wood products treated with chromated copper arsenate, ammonical copper zinc arsenate, creosote, or pentachlorophenol should be covered with tarps during rain events or stored indoors.
- ✓ Parking lots or other surfaces near bulk materials storage areas should be swept periodically to remove debris blown or washed from storage area.
- ✓ Train employees in proper storage measures.

## Secondary Containment

- ✓ Tanks should be bermed or surrounded by a secondary containment system such as dikes, liners, vaults, or double walled tanks.
- ✓ Keep liquids in a designated area on a paved impervious surface within a secondary containment.
- ✓ The area inside the berm should slope to a drain with a dead-end sump that is periodically pumped out.

## Inspection

- ✓ Inspect storage areas regularly for leaks or spills.
- ✓ Conduct routine inspections and check for external corrosion of material containers. Also check for structural failure, spills and overfills due to operator error, failure of piping system.
- ✓ Check for leaks or spills during pumping of liquids or gases from trucks to a storage facility or vice versa.
- ✓ Visually inspect new tank or container installations for loose fittings, poor welding, and improper or poorly fitted gaskets.
- ✓ Inspect tank foundations, connections, coatings, and tank walls and piping system. Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.

## 2. General Chemical Material Handling and Disposal

### General Guidelines

- ✓ Do not store chemicals, drums, or bagged materials directly on the ground. Place these items in secondary containers. Designate a secure chemical

material storage area that is paved with Portland cement concrete, free of cracks and gaps, and impervious in order to contain leaks and spills.

- ✓ Containers should be placed in a designated area and covered.
- ✓ Design and maintain chemical storage areas that reduce exposure to storm water:
  - Store materials inside or under cover on paved surfaces
  - Use secondary containment (see section above)
- ✓ Use covered dumpsters for waste product containers. Dumpsters shall be kept in good condition without corrosion or leaky seams. Garbage dumpsters shall be replaced if they are deteriorating to the point where leakage is occurring.
- ✓ Liquid materials should be stored in UL approved double walled tanks or surrounded by a curb or dike to provide the volume to contain 10 percent of the volume of all the containers or 110 percent of the volume of the largest container, whichever is greater.
- ✓ Try to keep chemicals in their original containers, and keep them well labeled.
- ✓ Keep secured lids on waste barrels and containers.

## Spill Control

*See Spill Prevention and Control procedures sheet*

- ✓ Clean up spills immediately.
- ✓ Safeguards against accidental releases:
  - Overflow protection devices to warn operator or automatic shut down transfer pumps
  - Protection guards (bollards) around tanks and piping to prevent vehicle or forklift damage
- ✓ Clear tagging or labeling, and restricting access to valves to reduce human error.
- ✓ Employees trained in emergency spill cleanup procedures should be present when dangerous waste, liquid chemicals, or other wastes are delivered or transferred off-site.

## 3. General Hazardous Material Handling

### General Guidelines

*Also see Spill Control Section above and the Spill Prevention and Control procedures sheet*

- ✓ All hazardous waste must be labeled according to hazardous waste regulations. Consult your Fire Department or your local hazardous waste agency for details.
- ✓ Store as few hazardous materials on-site as possible. Do not store any

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hazardous waste directly on the ground. Place these items in secondary containers. Designate a secure hazardous waste storage area that is paved with Portland cement concrete, free of cracks and gaps, and impervious in order to contain leaks and spills.

- ✓ Handle hazardous materials as infrequently as possible. Only properly trained personnel should handle hazardous waste.
- ✓ Storage of oil and hazardous materials must meet specific Federal and State standards including:
  - Spill Prevention Control and Countermeasure Plan
  - Secondary containment
  - Integrity and leak detection monitoring
- ✓ Never mix waste oil with fuel, antifreeze, or chlorinated solvents. Consult your hazardous waste hauler for details.
- ✓ Develop emergency preparedness plans.
- ✓ Employees should be familiar with the Hazardous Materials Disclosure Plan, if applicable.
- ✓ Employees trained in emergency spill cleanup procedures should be present when dangerous waste, liquid chemicals, or other wastes are delivered or transferred off-site.

## Batteries

- ✓ Store new batteries securely to avoid breakage and acid spills during earthquakes. Shelving should be secured to the wall.
- ✓ Store used batteries indoors and in plastic trays to contain potential leaks.
- ✓ Recycle old batteries.

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## LIMITATIONS:

Storage sheds often must meet building and fire code requirements.

## REFERENCES:

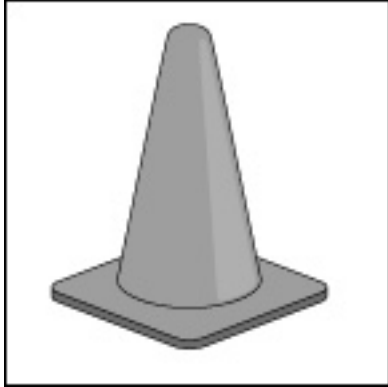
*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. 1995. King County Surface Water Management. July. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities.

# FF-7

Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.



**FF-8**

## **MINOR CONSTRUCTION**

**Minor construction activities can result in the use of materials or generation of waste that may contain toxic hydrocarbons or other organic compounds, suspended solids, heavy metals, abnormal pH, and oils and greases. Minor construction activities may involve one or more of the following:**

- 1. General Construction Activities**
- 2. Interim Material Storage**
- 3. Concrete Work**
- 4. Building Work**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for minor construction include:

- Schedule activities during dry weather whenever possible.
- Use dry cleaning methods whenever possible.
- Once per year, educate municipal staff on pollution prevention measures.

### **MODEL PROCEDURES:**

#### **1. General Construction Activities**

- ✓ Prevent debris from entering the storm drain.
- ✓ Do not wash materials into a storm drain or bury spilled dry material.
- ✓ Do not clean or rinse equipment into a street, gutter, or storm drain.
- ✓ Use a storm drain cover, filter fabric, or similarly effective runoff control



*See Waste Handling and Disposal procedure sheet*

mechanism if dust, grit, wash water, or other pollutants may escape the work area and enter a storm drain inlet. This is particularly necessary on rainy days. The containment device(s) must be in place at the beginning of the work day, and accumulated dirty runoff and solids must be collected and disposed of before removing the containment device(s) at the end of the work day.

- ✓ Clean the storm drain inlets in the immediate vicinity of the construction activity after it is completed.
- ✓ If a spill occurs on dirt, excavate and remove the contaminated (stained) soil.
- ✓ Clean up spills and leaks immediately using dry methods, whenever possible.
- ✓ Designate an area for clean up and proper disposal of excess materials.
- ✓ Sweep up dry materials and residue from cleaning operations. Avoid using water to clean up.
- ✓ Use soil erosion control techniques if bare ground is temporarily exposed.
- ✓ Promptly clean up trash, debris, and litter from job sites and dispose properly.
- ✓ Inspect vehicles and equipment used at the construction site regularly for leaks.
- ✓ Train employees and subcontractors in proper waste management.

## 2. Interim Material Storage

- ✓ Properly store and cover materials that are normally used during minor construction such as paints, solvents, equipment, fuel, asphalt/concrete materials, sand, etc.
- ✓ Properly store and dispose of wastes generated from the activity.
- ✓ Store dry and wet materials under cover, protected from rainfall and runoff and away from storm drain inlets. After job is complete, remove temporary stockpiles (asphalt materials, sand, etc.) and other materials as soon as possible.
- ✓ Apply and store all products in accordance with manufacturer's instructions and proper safety measures.
- ✓ Store products in labeled containers and with covers or lids.

- ✓ Keep paved areas adjacent to stockpiles and earthwork sites free from loose sediment and tracked materials.
- ✓ Place stockpiled materials away from storm drain inlets, drainage paths, and natural waterways and provide cover to protect from runoff/runoff if feasible.
- ✓ Control stockpiled materials if windy or rainy weather is predicted (e.g. tarps, berming, sandbags, etc.).
- ✓ Prevent storm water from eroding loose soil and stockpiles.
- ✓ Inspect stockpiles regularly and after significant rain events.

## 3. Concrete Work

- ✓ Take measures to protect nearby storm drain inlets prior to breaking up asphalt or concrete (e.g. place hay bales or sand bags around inlets). Clean afterwards by dry sweeping up as much waste material as possible.
- ✓ When making saw cuts in pavement, use as little water as possible. Cover each storm drain inlet completely with filter fabric during the sawing operation and contain the slurry by placing straw bales, sandbags, or gravel dams around the inlets. Vacuum saw cuttings and water from the pavement or gutter and remove from site.
- ✓ Avoid mixing excess amounts of fresh concrete or cement mortar on site.
- ✓ Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting stormwater runoff.
- ✓ Protect applications of fresh concrete from rainfall and runoff until the material has dried.
- ✓ Do not allow excess concrete to be dumped on-site, except in designated areas and promptly remove when concrete has dried.
- ✓ Tarps should be placed under concrete pumper trucks and the rear of trucks while concrete is being delivered or transferred from one area to another.
- ✓ Wash concrete trucks and concrete pumper trucks and trailers off site or in designated areas on site, such that there is no discharge of concrete wash water into storm drains, open ditches, streets, catch basins, or other stormwater conveyance structures.
- ✓ For on-site washout:
  - Locate washout area at least 50 feet from storm drains, open

ditches, or water bodies. Do not allow runoff from this area by constructing a temporary pit or bermed area large enough for liquid and solid waste.

- Wash out wastes into the temporary pit where the concrete can set, be broken up, and then disposed of properly.
  - Whenever possible, recycle washout by pumping back into mixers for reuse.
  - Never dispose of washout into the street, storm drains, drainage ditches, or creeks.
- ✓ When washing concrete to remove fine particles and expose the aggregate, contain the wash water for proper disposal. Do not allow water to enter storm drain inlets.
  - ✓ Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stock pile, or dispose in the trash
  - ✓ Return left-over materials to the transit mixer. Dispose excess concrete, grout, and mortar in the trash.

## 4. Building Work

### General Guidelines

- ✓ Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
- ✓ Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
- ✓ Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
- ✓ Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
- ✓ If a spill occurs on dirt, excavate and remove the contaminated (stained) soil.

### Building Demolition

- ✓ Spray water throughout the site to help control wind-blowing of fine materials such as soil, concrete dust, paint chips, and metal chips. The amount of water must be controlled so that runoff from the site does not occur; yet dust control is accomplished.
- ✓ Oils must never be used for dust control.
- ✓ Place filter fabric or a similarly effective device at nearby storm drain inlets

to prevent particles and solids from entering the storm drainage system. Filters should be placed at the beginning of the workday and the accumulated materials collected and disposed properly before removing them at the end of the workday

- ✓ Dry sweep surrounding street gutters, sidewalks, driveways, and other paved surfaces at the end of each workday to collect and properly dispose of loose debris and garbage, do not hose down the area to a storm drain.
- ✓ Use permanent soil erosion control techniques if a building cleared from an area is not to be replaced.

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## LIMITATIONS:

This procedure sheet is for minor construction only; the State's General Construction Activity Storm Water permit has more requirements for larger projects. Be certain that actions to help stormwater quality are consistent with Cal- and Fed-OSHA and air quality regulations.

## REFERENCES:

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. 1995. King County Surface Water Management. July. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

The Stormwater Managers Resource Center (<http://www.stormwatercenter.net/>)

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.



**FF-9**

## **PARKING LOT MAINTENANCE**

**Litter accumulation in parking lots can contribute suspended solids to stormwater runoff; runoff from parking lots may also contain hydrocarbons, oil and grease, and heavy metals to stormwater. Maintaining these areas may involve one or more of the following activities:**

- 1. Sweeping and Cleaning**
- 2. Repair**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for parking lot maintenance include:

- Keep accurate maintenance logs to evaluate materials removed and improvements made.
- When repairing parking lots, consider making retrofits that will reduce storm runoff quantities (i.e. permeable surface, directing surface flows to landscaped areas, etc.)
- Once per year, educate municipal staff on pollution prevention measures.
- Educate others about storm water pollution prevention.

### **MODEL PROCEDURES:**

#### **1. Sweeping and Cleaning**

- ✓ Sweep/vacuum all parking lots at least once before the onset of the wet season.
- ✓ When cleaning with water use the procedures below:
  - Block the storm drain or contain runoff.
  - Wash water should be collected and disposed of properly. If

wash water does not contain soap or other cleaning agents the water may be discharged to a pervious surface (dirt or landscaped area).

- ✓ Dispose of parking lot sweeping debris and dirt at a landfill.
- ✓ When cleaning heavy oily deposits:
  - Clean oily spots with absorbent materials
  - Do not allow discharges to the storm drain
  - Collect wash water and dispose of properly.
- ✓ Appropriately dispose of spilled materials and absorbents.
- ✓ If cleaning agents are used, select biodegradable products.

## Litter Control

- ✓ Enforce anti-litter laws.
- ✓ Provide an adequate number of litter receptacles.
- ✓ Clean out frequently and/or cover litter receptacles to prevent spillage.
- ✓ Sweep/vacuum all parking lots at least once before the onset of the wet season.

## 3. Surface Repair

- ✓ Pre-heat, transfer or load hot bituminous material away from storm drain inlets.
- ✓ Apply concrete, asphalt, and seal coat during dry weather to prevent contamination from contacting stormwater runoff.
- ✓ Cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and until all water from emulsified oil sealants has drained or evaporated. Clean any debris from these covered maintenance holes and drains for proper disposal.
- ✓ Use only as much water as necessary for dust control, to avoid runoff.
- ✓ Catch drips from paving equipment that is not in use with pans or absorbent material placed under the machines. Dispose of collected material and absorbents properly.

## 4. Control Spills

- ✓ If a spill occurs on dirt, excavate and remove the contaminated (stained) dirt.

*See Spill Prevention and Control*

*procedure sheet*

- ✓ Store spill response materials at a central location and keep maintenance vehicles adequately supplied.
- ✓ Appropriately dispose of spilled materials and absorbents.

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## **LIMITATIONS:**

Limitations related to sweeping activities at large parking facilities may include current sweeper technology to remove oil and grease.

## **REFERENCES:**

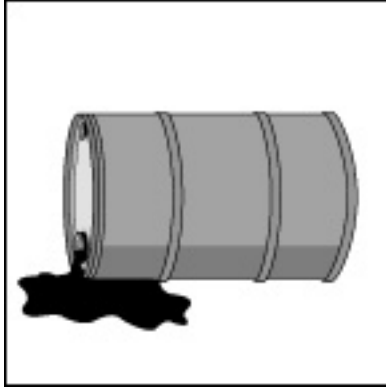
*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

The Stormwater Managers Resource Center (<http://www.stormwatercenter.net/>)

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.

Oregon Association of Clean Water Agencies. Oregon Municipal Stormwater Toolbox for Maintenance Practices. June 1998.

Santa Clara Valley Urban Runoff Pollution Prevention Program. 1997 Urban Runoff Management Plan. September 1997, updated October 2000.



## **SPILL PREVENTION AND CONTROL**

**Preparation for accidental or illegal spills, with proper training and reporting systems implemented, can minimize the discharge of pollutants to the environment. Specific spill prevention and response activities may involve one or more of the following activities:**

- 1. Preparation/Prevention**
- 2. Spill Response**
- 3. Reporting**
- 4. Training**

**An emergency spill response plan, the Orange County Hazardous Materials Area Plan, has been developed. Each City should adopt this plan or an equivalent plan to respond to hazardous materials emergencies.**

### **MODEL PROCEDURES:**

#### **1. Preparation/Prevention**

- ✓ Adopt the Orange County Hazardous Materials Area Plan or equivalent plan which includes a set of planned responses to hazardous materials emergencies, addressing chain-of-command, public agency participation and allocation of authority.
- ✓ Place a stockpile of spill cleanup materials where it will be readily accessible.
- ✓ Develop procedures to prevent/mitigate spills to storm drain systems. Develop and standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.
- ✓ Identify key spill response personnel.



## 2. Spill Response

- ✓ Clean up leaks and spills immediately.
- ✓ On paved surfaces, clean up spills with as little water as possible. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then the used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste.
- ✓ Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- ✓ Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- ✓ For larger spills, a private spill cleanup company or Hazmat team may be necessary.

## 3. Reporting

- ✓ Report spills or problems to a city Authorized Inspector

## 4. Training

- ✓ Educate employees about spill prevention and cleanup.

---

### **LIMITATIONS:**

For hazardous spills, a private spill cleanup company or Hazmat team may be necessary. Proper training is crucial to reducing the frequency, severity, and impacts of leaks and spills.

### **REFERENCES:**

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

The Stormwater Mangers Resource Center (<http://www.stormwatercenter.net/>)

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.



## VEHICLE AND EQUIPMENT CLEANING

**Vehicle and equipment cleaning activities can contribute toxic hydrocarbons and other organic compounds, oils and greases, nutrients, heavy metals, and suspended solids to stormwater runoff. Use of the procedures outlined below can prevent or reduce the discharge of pollutants to stormwater during vehicle and equipment cleaning.**

- 1. Inspection and Cleaning of Stormwater Conveyance Structures**
- 2. Controlling Illicit Connections and Discharges**
- 3. Controlling Illegal Dumping**

### POLLUTION PREVENTION:

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for vehicle and equipment cleaning include:

- Use outside service agencies to clean vehicles and equipment.
- Once per year, educate municipal staff on pollution prevention measures.

### MODEL PROCEDURES:

If your facility washes or steam cleans a large number of vehicles or pieces of equipment, consider contracting out this work to a commercial business. These businesses are better equipped to handle and dispose of the wash waters properly. Contracting out this work can also be economical by eliminating the need for a separate washing/cleaning operation at your facility.

If washing/cleaning must occur on-site follow these procedures:

- ✓ Use designated, covered, wash areas to prevent contact with stormwater and bermed to contain wash water.
- ✓ Designated wash areas must be well marked with signs indicating where and how washing must be done.

- ✓ Water may be discharged to the sanitary sewer after flowing through a clarifier. If the above conditions are not met, other pre-treatment may be required.
- ✓ Do not permit steam cleaning or engine degreasing at the wash out area.
- ✓ Washing operations should be conducted in a designated wash area having the following characteristics:
  - Paved with Portland cement concrete
  - Covered or bermed to prevent contact with storm water
  - Sloped for wash water collection
  - Connected to the sanitary sewer – upon approval.
  - Clearly designated

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## LIMITATIONS

Steam cleaning can generate significant pollutant concentrations requiring permitting, monitoring, pretreatment, and inspections. The measures outlined in this procedure sheet are insufficient to address all the environmental impacts and compliance issues related to steam cleaning.

## REFERENCES:

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

The Stormwater Mangers Resource Center (<http://www.stormwatercenter.net/>)

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.



## VEHICLE AND EQUIPMENT STORAGE

Stormwater runoff from vehicle and equipment storage areas can be contaminated with toxic hydrocarbons and other organic compounds, oils and greases, heavy metals, nutrients, and suspended solids. Activities associated with vehicle and equipment storage may involve one or more of the following:

1. Storing Vehicles and Equipment
2. Wrecked Vehicle Storage
3. Cleaning Storage Areas

Related vehicle maintenance activities are covered under the following program headings in this manual: "Vehicle and Equipment Cleaning", "Equipment Maintenance and Repair", and "Vehicle Fueling".

### POLLUTION PREVENTION:

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for vehicle and equipment storage include:

- Use outside service agencies to clean vehicle storage areas and collect water for off-site disposal.
- Once per year, educate municipal staff on pollution prevention measures.

### MODEL PROCEDURES:

#### 1. Storing Vehicles and Equipment

##### General Guidelines

- ✓ Place drip pans or absorbent materials under vehicles and heavy equipment when not in use.
- ✓ Inspect the storage yard for filling drip pans and other problems (leaking equipment) regularly.

- ✓ Train employees on procedures for storage and inspection items.

## **Batteries**

- ✓ Store batteries that have been dropped or are cracked in a secondary container even if it appears that the acid has already drained.

## 2. Wrecked Vehicle Storage

- ✓ As the vehicles arrive, place drip pans under them immediately, even if the fluids have leaked out before the car arrives.
- ✓ Drain all fluids from wrecked vehicles and “part” cars. Also drain engines, transmission, and other used parts.
- ✓ Promptly transfer used fluids to the proper container; do not leave full drip pans or other open containers lying around.
- ✓ Do not store vehicles near storm drain inlets.
- ✓ Comply with all applicable State and Federal regulations regarding storage, handling, and transport of petroleum products.

## 3. Cleaning Vehicle Storage Areas

- ✓ Dry sweep parking lots, storage areas, and driveways at least once per month to collect dirt, waste, and debris, do not hose down the area to a storm drain.
- ✓ Considering using an outside service to clean vehicle storage areas and collect water for off-site disposal.

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## **LIMITATIONS:**

It may not be possible to contain and clean up spills from vehicles/equipment brought on-site after working hours.

## **REFERENCES:**

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. 1995. King County Surface Water Management. July. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Los Angeles County Stormwater Quality Model Programs. Public Agency Activities  
[http://ladpw.org/wmd/npdes/model\\_links.cfm](http://ladpw.org/wmd/npdes/model_links.cfm)

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities.  
Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.



## **WASTE HANDLING AND DISPOSAL**

**Improper storage of solid wastes can allow toxic compounds, oils and greases, heavy metals, nutrients, suspended solids, and other pollutants to enter stormwater runoff. The discharge of pollutants to stormwater from waste handling and disposal can be prevented and reduced by tracking waste generation, storage, and disposal; reducing waste generation and disposal through source reduction and recycling; and preventing run-on and runoff. Proper waste handling and disposal activities include the following:**

- 1. Litter Control**
- 2. Waste Collection**
- 3. Spill/Leak Control**
- 4. Run-on/Runoff Prevention**

### **POLLUTION PREVENTION:**

Pollution prevention measures have been considered and incorporated in the model procedures. Implementation of these measures may be more effective and reduce or eliminate the need to implement other more complicated or costly procedures. Possible pollution prevention measures for waste handling and disposal include:

- Reuse products when possible.
- Recycle leftover products that are recyclable.
- Once per year, educate municipal staff on pollution prevention measures.

### **MODEL PROCEDURES:**

#### **1. Litter Control**

##### **General Guidelines**

- ✓ Enforce anti-litter laws.
- ✓ Provide a sufficient number of litter receptacles at each fixed facility.

- ✓ Clean out and cover litter receptacles frequently to prevent spillage.

## 2. Waste Collection

### General Guidelines

- ✓ Keep waste collection areas clean.
- ✓ Regularly inspect solid waste containers for structural damage. Repair or replace damaged containers as necessary.
- ✓ Secure solid waste containers; containers should be closed tightly when not in use.
- ✓ Do not fill waste containers with washout water or any other liquid.
- ✓ Ensure that only appropriate solid wastes are added to the solid waste container. Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc. may not be disposed of in solid waste containers (see chemical/ hazardous waste collection section below).
- ✓ Do not mix liquid wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.

→ *Note: Permission must be obtained for any discharge of wash water to the sanitary sewer from the local sewerage agency.*

### Good Housekeeping

- ✓ Use the entire product before disposing of the container.
- ✓ The waste management area should be kept clean by sweeping and cleaning up spills immediately.
- ✓ When cleaning around dumpster areas use dry methods when possible (e.g. sweeping, use of absorbents). If water must be used after sweeping/using absorbents, collect water and discharge to landscaped area or discharge through grease interceptor to the sewer if permitted to do so.

### Chemical/Hazardous Waste Management

- ✓ All hazardous waste must be labeled according to hazardous waste regulations. Consult your Fire Department or your local hazardous waste agency for details.
- ✓ Educate/train employees and subcontractors in proper hazardous waste handling management practices.
- ✓ Handle hazardous materials as infrequently as possible. Only properly



trained personnel should handle hazardous waste.

- ✓ Select designated hazardous waste collection areas on-site and make sure that hazardous waste is collected, removed, and disposed of only at these authorized disposal areas.
- ✓ Hazardous wastes may only be stored for 90 days or less, unless the facility obtains a permit.
- ✓ Hazardous materials and wastes should be stored in covered containers and protected from vandalism.
- ✓ Place hazardous waste containers in secondary containment.
- ✓ Stencil storm drains on the facility's property

### 3. Spill/Leak Control:

*Also see Spill Prevention and Control procedure sheet*

- ✓ Clean up spills immediately.
- ✓ Spill cleanup materials should be placed where they are easily accessible.
- ✓ Minimize spillage/leaking from solid waste containers. For larger solid waste containers (especially compactors) that utilize a hydraulic fluid pump system, regularly inspect and replace faulty pumps or hoses to minimize the potential of releases and spills.
- ✓ Check waste management areas for leaking containers or spills.
- ✓ Leaking equipment including valves, lines, seals, or pumps should be repaired promptly.
- ✓ Transfer waste from damaged containers into safe containers.
- ✓ Vehicles transporting waste should have spill prevention equipment that can prevent spills during transport. The spill prevention equipment includes:
  - Vehicles equipped with baffles for liquid waste
  - Trucks with sealed gates and spill guards for solid waste
- ✓ Special care should be taken when loading or unloading wastes. See *Loading and Unloading procedure sheet*.

### 4. Run-on/Runoff Prevention

- ✓ Prevent stormwater run-on from entering waste management areas by enclosing the area or building a berm around the area.
- ✓ Prevent the waste materials from directly contacting rain.
- ✓ Cover waste areas with a permanent roof if feasible. If not feasible, cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene or hypalon.
- ✓ If possible, move the activity indoors; ensuring first that all safety concerns such as fire hazard and ventilation are addressed.
- ✓ Dumpsters should be covered to prevent rain from washing waste out of holes or cracks in the bottom of the dumpster.

---

## LIMITATIONS:

Hazardous waste cannot be re-used or recycled; it must be disposed of by a licensed hazardous waste hauler.

## REFERENCES:

*Bay Area Stormwater Management Agencies Association. 1996. Pollution From Surface Cleaning.*

*California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.*

Harvard University. 2002. Solid Waste Container Best Management Practices – Fact Sheet On-Line Resources – Environmental Health and Safety.

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July. 1998.



**DF-1**

## **DRAINAGE FACILITY OPERATION AND MAINTENANCE**

**As a consequence of its function, the stormwater conveyance system collects and transports urban runoff and storm water that may contain certain pollutants. Consequently these pollutants may accumulate in the system and must be removed periodically. In addition, the systems must also be maintained to function properly hydraulically to avoid flooding. Maintaining the system may involve the following activities:**

**Inspection and Cleaning of Stormwater Conveyance Structures**

**Controlling Illicit Connections and Discharges**

**Controlling Illegal Dumping**

### **MODEL PROCEDURES:**

#### **1. Inspection and Cleaning of Drainage Facilities**

##### **General Guidelines**

- ✓ Annually inspect and clean drainage facilities as needed and maintain appropriate records.
- ✓ Remove trash and debris as needed from open channels and properly dispose of these materials (at an approved landfill or recycling facility). It should be noted that major debris removal may require other regulatory permits prior to completing the work.
- ✓ Conduct annual visual inspections during the dry season to determine if there are problem inlets where sediment/trash or other pollutants accumulate.
- ✓ Eliminate any discharges that may occur while maintaining and cleaning any municipal drainage facilities.
- ✓ Train crews in proper maintenance activities, including record keeping and disposal.

## Storm Drain Flushing

- ✓ Provide energy dissipaters (e.g. riprap) below culvert outfalls to minimize potential for erosion.
- ✓ Flushing of storm drains or storm drain inlets should only be done when critically necessary and no other solution is practical.
- ✓ If flushed, to the extent practical the material should be collected (vacuumed), treated with an appropriate filtering device to remove sand and debris and disposed of properly.

*must be obtained for any discharge of wash water to the sanitary sewer from the local sewerage agency.*

## Waste Management

- ✓ Store wastes collected from cleaning activities of the drainage facilities in appropriate containers or temporary storage sites in a manner that prevents discharge to the storm drain.
- ✓ Dewater the wastes if necessary with outflow into the sanitary sewer if permitted. Water should be treated with an appropriate filtering device to remove the sand and debris prior to discharge to the sanitary sewer. If discharge to the sanitary sewer is not permitted, water should be pumped or vacuumed to a tank and properly disposed of. Do not dewater near a storm drain or stream.

## 2. Controlling Illicit Connections and Discharges

**Improper physical connections to the storm drain system can occur in a number of ways, such as overflow cross-connects from sanitary sewers and floor drains from businesses like auto shops and restaurants. Illicit discharges and illegal connections can generally be detected and investigated through a combination of programs and approaches that target a variety of pollutants and sources.**

- ✓ Report prohibited discharges such as dumping, paint spills, abandoned oil containers, etc. observed during the course of normal daily activities so they can be investigated, contained, and cleaned up.
- ✓ Conduct field investigations to detect and eliminate existing illicit connections and improper disposal of pollutants into the storm drain (i.e. identify problem areas where discharges or illegal connections may occur and follow up stream to determine the source(s)).
- ✓ Report all observed illicit connections and discharges to the City 24-hour water pollution problem reporting hotline (949) 366-1553.

# DF-1

- ✓ Encourage public reporting of improper waste disposal by distributing public education materials and advertising the 24-hour water pollution problem reporting hotline.



## Storm Drain Stenciling

- ✓ Implement a storm drain stenciling program.

*Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets.*

## 3. Controlling Illegal Dumping

**Illegally dumped wastes can cause storm water and receiving water quality problems as well as clog the storm drain system itself. Non-hazardous solid wastes may include garbage, trash, refuse, paper, rubbish, ashes, industrial wastes, demolition and construction wastes, abandoned vehicles and parts thereof, discarded home and industrial appliances, manure, vegetable or animal solid and semi-solid wastes and other discarded solid or semi-solid waste provided that such wastes do not contain wastes which must be managed as hazardous wastes, or wastes which contain soluble pollutants in concentration which exceed applicable water quality objectives or could cause degradation of waters of the state.**

### Field Investigation

- ✓ Report prohibited discharges such as dumpings observed during the course of normal daily activities so they can be investigated, contained and cleaned up.
- ✓ Conduct field investigations to detect and eliminate improper disposal of pollutants into the storm drain (i.e. identify problem areas where discharges or illegal connections may occur and follow up stream to determine the source(s)).
- ✓ Report all observed illicit connections and discharges to the City 24-hour water pollution problem reporting hotline (949) 366-1553.
- ✓ Encourage public reporting of improper waste disposal by distributing public education materials and advertising the 24-hour water pollution problem reporting hotline.

## **Training/Education/ Outreach**

- ✓ Annually train municipal employees to recognize and report illegal dumping.
- ✓ Encourage public reporting of illegal dumping by advertising the City 24-hour water pollution problem reporting hotline (949) 366-1553.

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## **LIMITATIONS:**

Clean-up activities may create a slight disturbance for local aquatic species. Access to items and material on private property may be limited. Trade-offs may exist between channel hydraulics and water quality/riparian habitat. If storm channels or basins are recognized as wetlands, many activities, including maintenance, may be subject to regulation and permitting.

## **REFERENCES:**

California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

Harvard University. 2002. Solid Waste Container Best Management Practices – Fact Sheet On-Line Resources – Environmental Health and Safety.

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Santa Clara Valley Urban Runoff Pollution Prevention Program. 1997 Urban Runoff Management Plan. September 1997, updated October 2000.





**APPENDIX C**  
**RESIDENTIAL BMP FACT SHEETS**



# R-1 AUTOMOBILE REPAIR AND MAINTENANCE

Automobile repair and maintenance activities have the potential to contribute directly to storm drain systems primarily through spills or the dumping of waste fluids being conveyed to the storm drain. Automotive fluids, such as oils, greases, and solvents, are hydrocarbon based, and may contain metals, chlorinated hydrocarbons, and other toxic compounds. Removal of caked dirt and grime from an automobile increases the sediment load to the storm drain system. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before conducting automobile repair and maintenance activities. Remember - The ocean starts at your front door.

The activities outlined in this fact sheet target the following pollutants:	
Sediment	X
Nutrients	
Bacteria	
Foaming Agents	
Metals	X
Hydrocarbons	X
Hazardous Materials	X
Pesticides and Herbicides	
Other	

## Required Activities

- Recycle used oil and antifreeze by taking them to service stations and other recycling centers. Never pour oil in storm drains or other areas.
- Do not perform repair and maintenance activities during rain events.
- Immediately clean up and contain any spills. Dispose of all waste and adsorbent materials properly.
- Store hazardous materials and wastes (including, but not limited to, fluids, solvents, parts containing fluids, batteries) indoors, under cover, or in watertight containers.
- Perform automobile maintenance and repairs over impervious surfaces such as concrete, so spills and waste material should be readily cleaned up. Use drip pans, plastic sheeting, etc. to contain spills and waste material.
- Dispose of cleaning solvents at the designated hazardous waste center.



## Recommended Activities

- Conduct auto repair activities at a commercial repair facility
- Perform automobile repair and maintenance activities under a covered area.
- Do not buy fluids containing target pollutants (e.g. degreasers containing PERC).
- Monitor parked or stored vehicles and equipment for leaks and place pans under leaks to collect fluids for proper disposal or recycling.



## R-2 AUTOMOBILE WASHING

Automobile washing activities have the potential to contribute pollutants because road dust washed from vehicles may contain metals and hydrocarbons. Any leaking fluids washed from the automobile may be carried to the storm drain by the wash water. Detergents used for automobile washing may also contain phosphorus and foaming agents, which contribute to the eutrophication of receiving waterbodies. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before conducting automobile washing activities. Remember - The ocean starts at your front door.

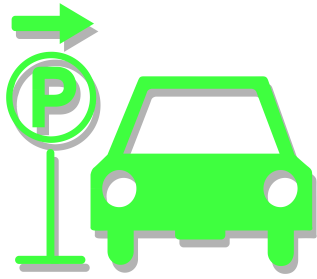
The activities outlined in this fact sheet target the following pollutants:	
Sediment	x
Nutrients	x
Bacteria	
Foaming Agents	x
Metals	x
Hydrocarbons	x
Hazardous Materials	x
Pesticides and Herbicides	
Other	

### Required Activities

- Shake floor mats into trashcan or vacuum to clean. Do not shake over ground.
- If using cleaners (such as acid based wheel cleaners) use a rag to wipe them on and off, do not rinse them off with water.
- If possible, divert runoff from automobile washing to a grassy surface large enough to contain and allow complete infiltration
- Dispose of excess wash water into the sanitary sewer (i.e. via sink, or toilet) or onto a landscaped area that will allow for complete infiltration.
- Conduct engine degreasing at a commercial facility that is set up to handle that type of waste.

### Recommended Activities

- When possible, use commercial wash facilities
- Wash vehicles over pervious surfaces such as lawns and gravel areas
- Choose soaps, cleaners, or detergents labeled “non-toxic”, “phosphate free”, or “biodegradable”. Vegetable and citrus-based products are typically safest for the environment.
- Turn off water when not actively washing down automobile.
- If available, use established neighborhood wash areas, where runoff is properly controlled and managed.



## R-3 AUTOMOBILE PARKING

Parked automobiles may contribute pollutants to the storm drain because poorly maintained vehicles may leak fluids containing hydrocarbons, metals, and other pollutants. In addition, heavily soiled automobiles may drop clods of dirt onto the parking surface, contributing to the sediment load when runoff is present. During rain events, or wash-down activities, the pollutants may be carried into the storm drain system. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before parking your car. Remember - The ocean starts at your front door.

<b>The activities outlined in this fact sheet target the following pollutants:</b>	
Sediment	x
Nutrients	
Bacteria	
Foaming Agents	
Metals	x
Hydrocarbons	x
Hazardous Materials	x
Pesticides and Herbicides	
Other	

### Required Activities

- If required, vehicles have to be removed from the street during designated street sweeping/cleaning times.
- If the automobile is leaking, place a pan or similar collection device under the automobile, until such time as the leak may be repaired.
- Use dry cleaning methods to remove any materials deposited by vehicles (e.g. adsorbents for fluid leaks, sweeping for soil clod deposits).

### Recommended Activities

- Park automobiles over permeable surfaces (e.g. gravel, or porous cement).
- Limit vehicle parking to covered areas.
- Perform routine maintenance to minimize fluid leaks, and maximize fuel efficiency.



## R-4 HOME AND GARDEN CARE ACTIVITIES

### Home Care

Many hazardous materials may be used in and around residences during routine maintenance activities (such as: oils, paints, cleaners, bleaches, pesticides, glues, solvents, and other products). Improper or excessive use of these products can increase the potential for pollutants to be transported to the storm drain by runoff. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before conducting home care activities. Remember - The ocean starts at your front door.

### Required Activities

- Clean out painting equipment in an area where the waste can be contained and properly disposed of (latex – sewer, oil based – household hazardous waste center).
- Rinse off cement mixers and cement laden tools in a contained washout area. Dispose of dried concrete waste in household trash.
- If safe, contain, clean up, and properly dispose all household hazardous waste spills. If an unsafe condition exists, call 911 to activate the proper response team.
- Household hazardous materials must be stored indoors or under cover, and in closed and labeled containers. Dispose of them at a household hazardous waste center.
- Household wash waters (e.g. washer machine effluent, mop water, etc.) must be disposed of in the sanitary sewer.
- Pool and spa water may be discharged to the storm drain if residual chlorine is less than 0.1 mg/L, the pH is between 6.5 and 8.5, and the water is free from any unusual coloration. (Call 714-834-6107 to obtain information on a pool drain permit). Pool filter media must be contained and disposed of properly.

### Recommended Activities

- Only purchase the types and amounts of materials needed.
- Share unused portions of products with neighbors or community programs (latex paint)

The activities outlined in this fact sheet target the following pollutants:	
Sediment	x
Nutrients	
Bacteria	x
Foaming Agents	x
Metals	x
Hydrocarbons	x
Hazardous Materials	x
Pesticides and Herbicides	
Other	x

## GARDEN CARE

Garden activities may contribute pollutants via soil erosion, green waste, fertilizer and pesticide use. Plant and garden care activities such as landscape maintenance, fertilization, and pesticide application have the potential to discharge significant quantities of pollutants to the storm drain system. Nonvegetated surfaces may allow for significant erosion leading to high sediment loads. Other pollutants such as pesticides may adsorb onto the soil particles and be transported off site. Excess fertilizer and pesticide pollutants from over application may be carried to the storm drain by dissolving in irrigation runoff or rainwater. Green wastes may also contain organic matter and may have adsorbed fertilizers and pesticides.

Excessive irrigation is often the most significant factor in home and garden care activities. Pollutants may dissolve in irrigation water and then be transported to the storm drain, or particles and materials coated with fertilizers and pesticides may be suspended in the irrigation flow and carried to the storm drain. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before conducting garden care activities. Remember - The ocean starts at your front door.

<b>The activities outlined in this fact sheet target the following pollutants:</b>	
Sediment	x
Nutrients	x
Bacteria	x
Foaming Agents	
Metals	
Hydrocarbons	
Hazardous Materials	
Pesticides and Herbicides	x
Other	x

### Required Activities

- Irrigation systems must be properly adjusted to reflect seasonal water needs.
- Minimize the use of pesticides and fertilizers. Read the labels and follow directions to avoid improper use. Do not apply chemicals if it is windy or about to rain.
- Properly clean up and dispose of spills of gardening chemicals, fertilizers, or soils. If possible, return the spilled material to the container for future use.
- Lawn and garden care products must be stored in closed labeled containers, in covered areas, or off-ground and under protective tarps.
- Household hazardous waste must be properly disposed at a household hazardous waste center.
- Cover nonvegetated surfaces to prevent erosion.

### Recommended Activities

- Utilize xeriscaping and use of drought and insect resistant landscaping.
- Cultivate garden often to control weeds
- Use integrated pest management (IPM). Planting pest repelling plants (e.g. Marigolds) or using pest eating insects (e.g. ladybugs) may reduce the need for pesticides.
- Do not leave food (human or pet) outside overnight
- Remove fruit and garden waste



# R-5 DISPOSAL OF PET WASTES

Pet wastes left in the environment may introduce solids, bacteria, and nutrients to the storm drain. The type and quantity of waste will dictate the proper disposal method. Small quantities of waste are best disposed with regular trash or flushed down a toilet. Large quantities of wastes from herbivore animals may be composted for subsequent use or disposal to landfill.

Pick up after your pet! It's as easy as 1-2-3. 1) Bring a bag. 2) Clean it up. 3) Dispose of it properly (toilet or trash). The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before you dispose of any pet wastes. Remember - The ocean starts at your front door.

## Required Activities

- All pet wastes must be picked up and properly disposed of. Pet waste should be disposed of in the regular trash, flushed down a toilet, or composted as type and quantities dictate.
- Properly dispose of unused flea control products (shampoo, sprays, or collars).
- Manure produced by livestock in uncovered areas should be removed at least daily for composting, or storage in water-tight container prior to disposal. Never hose down to stream or storm drain. Composting or storage areas should be configured and maintained so as not to allow contact with runoff. Compost may be donated to greenhouses, nurseries, and botanical parks. Topsoil companies and composting centers may also accept composted manure.
- Line waste pits or trenches with an impermeable layer, such as thick plastic sheeting.
- When possible, allow wash water to infiltrate into the ground, or collect in an area that is routed to the sanitary sewer.
- Confine livestock in fenced in areas except during exercise and grazing times. Restrict animal access to creeks and streams, preferably by fencing.
- Install gutters that will divert roof runoff away from livestock areas.

## Recommended Activities

- In order to properly dispose of pet waste, carry bags, pooper-scooper, or equivalent to safely pick up pet wastes while walking with pets.
- Bathe pets indoors and use less toxic shampoos. When possible, have pets professionally groomed.
- Properly inoculate your pet in order to maintain their health and reduce the possibility of pathogens in pet wastes.
- Maintain healthy and vigorous pastures with at least three inches of leafy material.
- Consider indoor feeding of livestock during heavy rainfall, to minimize manure exposed to potential runoff.
- Locate barns, corrals, and other high use areas on portions of property that either drain away from or are located distant form nearby creeks or storm drains.

The activities outlined in this fact sheet target the following pollutants:	
Sediment	x
Nutrients	x
Bacteria	x
Foaming Agents	
Metals	
Hydrocarbons	
Hazardous Materials	
Pesticides and Herbicides	
Other	



## R-6 DISPOSAL OF GREEN WASTES

Green wastes entering the storm drain may clog the system creating flooding problems. Green wastes washed into receiving waters create an oxygen demand as they are decomposed, reducing the available oxygen for aquatic life. Pesticide and nutrient residues may be carried to the receiving water with the green wastes. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before disposing of any green wastes – Remember - The ocean starts at your front door.

### Required Activities

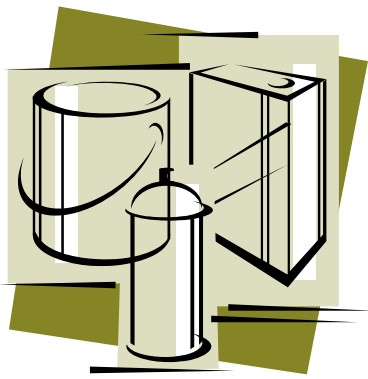
- Green wastes can not be disposed of in the street, gutter, public right-of-way, storm drain, or receiving water. Dispose of green wastes as a part of the household trash. If the quantities are too large, arrange a pick up with the local waste hauler.
- After conducting yard or garden activities sweep the area and properly dispose of the clippings and waste. Do not sweep or blow out into the street or gutter.

### Recommended Activities

- Utilize a commercial landscape company to conduct the landscape activities and waste disposal.
- Utilize native plants and drought tolerant species to reduce the water use and green waste produced.
- Use a lawn mower that has a mulcher so that the grass clippings remain on the lawn and do not have to be collected and disposed of.
- Compost materials in a designated area within the yard.
- Recycle lawn clippings and greenery waste through local programs if available.

The activities outlined in this fact sheet target the following pollutants:	
Sediment	x
Nutrients	x
Bacteria	x
Foaming Agents	
Metals	
Hydrocarbons	
Hazardous Materials	x
Pesticides and Herbicides	x
Other	





# R-7 HOUSEHOLD HAZARDOUS WASTE

Household hazardous wastes (HHW) are defined as waste materials which are typically found in homes or similar sources, which exhibit characteristics such as: corrosivity, ignitability, reactivity, and/or toxicity, or are listed as hazardous materials by the EPA.

**List of most common HHW products:**

- Drain openers
- Oven cleaners
- Wood and metal cleaners and polishes
- Automotive oil and fuel additives
- Grease and rust solvents
- Carburetor and fuel injection cleaners
- Starter fluids
- Batteries
- Paint Thinners
- Paint strippers and removers
- Adhesives
- Herbicides
- Pesticides
- Fungicides/wood preservatives

Many types of waste can be recycled, however options for each waste type are limited. Recycling is always preferable to disposal of unwanted materials. All gasoline, antifreeze, waste oil, and lead-acid batteries can be recycled. Latex and oil-based paint can be reused, as well as recycled. Materials that cannot be reused or recycled should be disposed of at a properly permitted landfill.

Think before disposing of any household hazardous waste. Remember - The ocean starts at your front door.

**The activities outlined in this fact sheet target the following pollutants:**

Sediment	
Nutrients	
Bacteria	
Foaming Agents	x
Metals	x
Hydrocarbons	x
Hazardous Materials	x
Pesticides and Herbicides	x
Other	x

## Required Activities

- Contact CR&R to schedule pickup of HHW at your door. Call 877-728-0446 or log onto [www.crrwasteservices.com](http://www.crrwasteservices.com).
- Dispose of HHW at a local collection facility. Call (714) 834-6752 for the household hazardous waste center closest to your area or log onto [oclandfills.com](http://oclandfills.com).
- Household hazardous materials must be stored indoors or under cover, and in closed and labeled containers.
- If safe, contain, clean up, and properly dispose all household hazardous waste spills. If an unsafe condition exists, call 911 to activate the proper response team.

## Recommended Activities

- Use non-hazardous or less-hazardous products.
- Participate in HHW reuse and recycling. Call (714) 834-6752 for the participating household hazardous waste centers.





## R-8 WATER CONSERVATION

Excessive irrigation and/or the overuse of water is often the most significant factor in transporting pollutants to the storm drain system. Pollutants from a wide variety of sources including automobile repair and maintenance, automobile washing, automobile parking, home and garden care activities and pet care may dissolve in the water and be transported to the storm drain. In addition, particles and materials coated with fertilizers and pesticides may be suspended in the flow and be transported to the storm drain.

Hosing off outside areas to wash them down not only consumes large quantities of water, but also transports any pollutants, sediments, and waste to the storm drain system. The pollution prevention activities outlined in this fact sheets are used to prevent the discharge of pollutants to the storm drain system.

Think before using water. Remember - The ocean starts at your front door.

<b>The activities outlined in this fact sheet target the following pollutants:</b>	
Sediment	X
Nutrients	X
Bacteria	X
Foaming Agents	X
Metals	X
Hydrocarbons	X
Hazardous Materials	X
Pesticides and Herbicides	X
Other	X

### Required Activities

- Irrigation systems must be properly adjusted to reflect seasonal water needs.
- Do not hose off outside surfaces to clean, sweep with a broom instead.

### Recommended Activities

- Fix any leaking faucets and eliminate unnecessary water sources.
- Use xeriscaping and drought tolerant landscaping to reduce the watering needs.
- Do not over watering lawns or gardens. Over watering wastes water and promotes diseases.
- Use a bucket to re-soak sponges/rags while washing automobiles and other items outdoors. Use hose only for rinsing.
- Wash automobiles at a commercial car wash employing water recycling.



**APPENDIX D**  
**INDUSTRIAL INVENTORY**

# Industrial Inventory

BL #	Name	Street Address	Business Type	Watershed	SIC	Tributary to 303(d) Segment	303(d) Pollutant Potential Generated by Facility	Description of product or service	ESAs
28115	Left Coast Brewing Company	1245 Puerta Del Sol	Beer Brewery	M02	2082	No	N/A	Beer Brewery	No
304646	SnowPure LLC	130 Calle Iglesia, Unit A	Water Purification Systems	M02	3569	No	N/A	Water Purification Systems	No
21716	ROBERTSONS READY MIX	116 RINCON COURT	CONCRETE PRODUCTS MFG	M02	3272	Yes	Turbidity	CONCRETE PRODUCTS MFG	No
30012	SAN CLEMENTE TRUCK & AUTO WRECKING	1520 AVE DE LA ESTRELLA Unit A&B	AUTO PARTS & ACCESSORIES	M02	5013	Yes	Turbidity	AUTO PARTS & ACCESSORIES	No
15614	KELCOURT PLASTICS INC / KELPAC MEDICAL	1000 CALLE RECODO	PLASTIC MANUFACTURER	M02	3569	No	N/A	PLASTIC MANUFACTURER	No
21084	FLAVORCHEM CORPERATION	271 CALLE PINTORESCO	FLAVOR MFG	M02	2087	No	N/A	FLAVOR MFG	No
N/A	SAN CLEMENTE MUNICIPAL LANDFILL (CLOSED)	400 AVE BAHIA	Closed Landfill	M03	4953	No	N/A	TREATMENT AND DISPOSAL	No

**APPENDIX E**  
**Commercial Inventory**

# Commercial Inventory

BL #	Name	Number, Street	City, State	Zip	Business Type	Watershed	SIC	Tributary to 303(d) Segment	303(d) Pollutant Potential Generated by Facility	Description of product or service
<b>(a) Automotive Repair, Maintenance, Fueling, or Cleaning</b>										
15205	Full Tilt Off-Road	1027 Trepadora	San Clemente, CA	92673	AUTOMOBILE REPAIR	M02	7569	No	N/A	AUTOMOBILE REPAIR
311721	RSC Automotive Repair Center	245 Calle Pintoresco	San Clemente, CA	92673	AUTOMOBILE REPAIR	M02	7569	No	N/A	AUTOMOBILE REPAIR
21651	Rincon Truck Center	114 Rincon Court	San Clemente, CA	92672	TRUCK & TRAILER REPAIR	M02	7538	Yes	Turbidity	TRUCK & TRAILER REPAIR
14256	West Coast Automotive and Restoration	216 Calle De Los Molinos, Unit B	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
310403	Dickey Hot Rod Fabrications	130 Calle Iglesia	San Clemente, CA	92673	AUTOMOBILE REPAIR	M02	7538	No	N/A	AUTOMOBILE REPAIR
10935	Jay's Car Repair	1504 Ave De La Estrella	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
318408	Uncle Joe's Rocket Shop	512 S El Camino Real	San Clemente, CA	92672	AUTOMOBILE REPAIR	M00	7538	No	N/A	AUTOMOBILE REPAIR
199	Klink's Auto Repair	2225 S El Camino Real	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	No	Turbidity	AUTOMOBILE REPAIR
17204	Brewster Industries, Inc.	1520 Ave De La Estrella	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
311258	San Clemente Truck & Auto Repair LLC	1520 Avenida De La Estrella, Unit A	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
311228	Valvoline Instant Oil Change #GN-0035	525 Ave Pico	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
309553	Fonseca Jr. Tires	176 Avenida Navarro	San Clemente, CA	92672	TIRES	M02	5531	Yes	Turbidity	TIRES
15986	Coastline Automotive - Coastliner	174 Navarro	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
305360	Coastline Automotive	172 Navarro	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
17203	Star Tech (Eurostar M & M Inc. )	247 Pintoresco	San Clemente, CA	92673	AUTOMOBILE REPAIR	M02	7538	No	N/A	AUTOMOBILE REPAIR
12659	Shadetree Automotive	1635 N El Camino Real	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
288	Frank's Foreign Car Service	509 S El Camino Real	San Clemente, CA	92672	AUTOMOBILE REPAIR	M00	7538	No	N/A	AUTOMOBILE REPAIR
18169	Auto Repair of San Clemente	151 Ave Vaquero	San Clemente, CA	92672	AUTOMOBILE REPAIR	M01	7538	Yes	Turbidity	AUTOMOBILE REPAIR
27225	Amendt, Bob Auto Repair	219 Calle Los Molinos	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
27146	Carlos Auto Repair	151 Ave Navarro	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
22931	Auto-Medic	103 Rincon Court	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
313641	Streamline Automotive	184 Ave Navarro	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
307504	San Clemente Collision Center Inc.	127 Calle De Los Molinos	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
15408	Courtesy Automotive Services, Inc.	2229 S El Camino Real	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
21729	Littlepage, Mark Automotive	152 Los Obreros Ln	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
16556	Dave Wert Automotive, Inc	180 Navarro	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
19933	Victoria Auto Repair	1520 Ave Estrella	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
309511	El Camino Automotive & Tire Center	145 Ave Navarro	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
317263	San Clemente Diesel	530 Via Pico Plaza, Unit A	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
312699	Ocean Breeze Automotive	530 Via Pico Plaza, Unit B	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
29327	Gutierrez Auto Repair	180 Avenida Navarro	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
32218	Coastline Automotive - Coastliner #2	174 Avenida Navarro	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
318181	San Clemente Smog and Repair	1520 Ave De La Estrella, Unit A	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
304724	M & M Smog	530 Via Pico Plaza Unit C	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
30451	EZ Smog Check	2231 S El Camino Real	San Clemente, CA	92672	AUTOMOBILE REPAIR	M00	7538	No	N/A	AUTOMOBILE REPAIR
28531	Freeway Auto Restoration	1508 Ave Estrella	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
310544	Mueller's Art Deco Museum & Garage	215 Calle De Los Molinos	San Clemente, CA	92672	AUTOMOBILE RETAIL SALES	M02	5999	Yes	Turbidity	AUTOMOBILE RETAIL SALES
316344	OC German Car Service	530 Via Pico Unit A	San Clemente, CA	92672	AUTOMOBILE REPAIR	M02	7538	No	N/A	AUTOMOBILE REPAIR
304050	S.C. Auto Center / Jimenez Auto Center	2345 S El Camino Real	San Clemente, CA	92672	AUTOMOBILE REPAIR	M00	7538	No	N/A	AUTOMOBILE REPAIR
19336	First Vehicle Services	390 Ave Pico	San Clemente, CA	92673	AUTOMOBILE REPAIR	M02	7538	Yes	Turbidity	AUTOMOBILE REPAIR
24296	Wal-Mart Automotive Center	951 Ave Pico	San Clemente, CA	92673	AUTOMOBILE REPAIR	M02	7538	No	N/A	AUTOMOBILE REPAIR
314028	Classic Auto Sales	2485 S. El Camino Real	San Clemente, CA	92672	AUTOMOBILE NEW & USED	M00	5599	No	N/A	AUTOMOBILE NEW & USED
312719	San Clemente Auto	824 N El Camino Real	San Clemente, CA	92672	AUTOMOBILE NEW & USED	M00	5599	No	N/A	AUTOMOBILE NEW & USED
318380	Goldstone Motors	430 N El Camino Real	San Clemente, CA	92672	AUTOMOBILE NEW & USED	CC	5599	No	N/A	AUTOMOBILE NEW & USED
309173	Enterprise Rent-a-Car	1002 N. El Camino Real	San Clemente, CA	92672	RETAIL SALES	M00	5999	No	N/A	AUTOMOBILE RENTAL
23451	Ocean Auto Sales	1650 N. El Camino Real	San Clemente, CA	92672	AUTOMOBILE NEW & USED	M02	5599	Yes	Turbidity	AUTOMOBILE NEW & USED
29078	Wesselink Racing And Classic Cars, LLC	1238 Puerta Del Sol	San Clemente, CA	92673	AUTOMOBILE NEW & USED	M02	5599	No	N/A	AUTOMOBILE NEW & USED
314077	Seaside Auto Sales	1645 N El Camino Real	San Clemente, CA	92672	AUTOMOBILE NEW & USED	M02	5599	Yes	Turbidity	AUTOMOBILE NEW & USED
9499	O'Reilly Auto Parts #2676	1113 S El Camino Real	San Clemente, CA	92672	AUTO PARTS & ACCESSORIES	M00	5013	No	N/A	AUTO PARTS & ACCESSORIES
24480	O'Reilly Auto Parts #3143	400 Camino De Estrella	San Clemente, CA	92672	AUTO PARTS & ACCESSORIES	M01	5013	No	N/A	AUTO PARTS & ACCESSORIES
314576	Big O Tires #5848	927 N El Camino Real	San Clemente, CA	92672	TIRES	M00	5531	No	N/A	TIRES
311866	Ramonia Tire and Service Centers	603 S El Camino Real	San Clemente, CA	92672	TIRES	M00	5531	No	N/A	TIRES
312702	Pep Boys #1670	1606 N El Camino Real	San Clemente, CA	92672	TIRES	M02	5531	Yes	Turbidity	TIRES
30171	Jimmy's Tire Center, LIC	911 Avenida Pico	San Clemente, CA	92673	TIRES	M02	5531	No	N/A	TIRES
15185	Holley's Tire Service, Inc	1225 N El Camino Real	San Clemente, CA	92672	TIRES	M02	5531	Yes	Turbidity	TIRES
316346	Advanced Automotive Services Inc	2310 S El Camino Real	San Clemente, CA	92672	AUTOMOBILE REPAIR	M00	5531	No	N/A	TIRES
28640	Autozone Parts, Inc	717 N El Camino Real	San Clemente, CA	92672	RETAIL SALES	M02	5999	Yes	Turbidity	AUTO PARTS & ACCESSORIES
28894	Certified Welding Fabrication & Muffler	1517 N El Camino Real	San Clemente, CA	92672	CONTRS WITH CORRELATED BUS	M02	1629	Yes	Turbidity	AUTOMOTIVE WELDING

**(b) Airplane Repair, Maintenance, Fueling, or Cleaning****(c) Boat Repair, Maintenance, Fueling, or Cleaning****(d) Equipment Repair, Maintenance, Fueling or Cleaning**

309326	SC Rentals, Inc	143 Calle De Los Molinos	San Clemente, CA	92672	EQUIPMENT RENTAL	M02	7359	Yes	Turbidity	EQUIPMENT RENTAL
4233	U-Haul Co.	310 Pico	San Clemente, CA	92672	EQUIPMENT RENTAL	M02	7359	Yes	Turbidity	EQUIPMENT RENTAL
316692	Lawnmower's Etc. Inc.	1030 Calle Recodo	San Clemente, CA	92673	REPAIR SERVICES	M02	1521	No	N/A	REPAIR SERVICES
30212	Rick's Trailer Supply	220 Ave Fabricante	San Clemente, CA	92672	RETAIL SALES	M02	5999	No	N/A	RETAIL SALES
314655	Montgomery Motorcycle Company LLC	151 Calle De Los Molinos	San Clemente, CA	92672	WHOLESALE TRADE	M00	5046	No	N/A	WHOLESALE TRADE
304182	SC Rider Supply	520 S El Camino Real	San Clemente, CA	92672	RETAIL SALES	M00	5999	No	N/A	REPAIR SERVICES
31117	Girard Systems	1361 Calle Avanzado	San Clemente, CA	92673	MANUFACTURING IND	M03	3569	No	N/A	MANUFACTURING IND

**(e) Automotive and Other Vehicle Body Repair or Painting**

304998	Coast Powder Coatings Inc	227 Calle Pintoresco	San Clemente, CA	92672	POWDER COAT	M02	7538	No	N/A	POWDER COAT
312948/317092	Caliber Collision Centers	231 & 235 Calle Pintoresco	San Clemente, CA	92673	AUTO BODY & PAINT	M02	7532	No	N/A	AUTO BODY & PAINT
19078	RSI Auto Collision	150 Ave Navarro	San Clemente, CA	92672	AUTO BODY & PAINT	M02	7532	Yes	Turbidity	AUTO BODY & PAINT
2992	Frank's Auto Body & Paint	1510 Ave De La Estrella - Unit E	San Clemente, CA	92672	AUTO BODY & PAINT	M02	7532	Yes	Turbidity	AUTO BODY & PAINT
2992	Frank's Auto Body & Paint	2101 S El Camino Real	San Clemente, CA	92672	AUTO BODY & PAINT	M00	7532	No	N/A	AUTO BODY & PAINT
11324	B & M Auto Body	1520 Ave De La Estrella	San Clemente, CA	92672	AUTO BODY & PAINT	M02	7532	Yes	Turbidity	AUTO BODY & PAINT

**(f) Mobile Automobile or Other Vehicle Washing**

23996	San Clemente Car Wash	1731 No El Camino Real	San Clemente, CA	92672	AUTO WASHING	M02	7532	Yes	Turbidity	AUTO WASHING
926	San Clemente Buggy Bath Inc.	2201 S El Camino Real	San Clemente, CA	92672	AUTO WASHING	M00	7532	No	N/A	AUTO WASHING
25951	Huie, Norm Auto Detailing	239 S. La Esperanza	San Clemente, CA	92672	SERVICES IN CITY	M00	8999	Yes	Turbidity	AUTO WASHING
31524	Danny's Mobile Detail	609 Calle Campana	San Clemente, CA	92672	SERVICES IN CITY	M00	8999	Yes	Turbidity	AUTO WASHING
315438	Fermin And N's Detail	225 Ave Pelayo	San Clemente, CA	92672	SERVICES IN CITY	M00	8999	Yes	Turbidity	AUTO WASHING

**(g) Automobile (or other vehicle) Parking Lots and Storage Facilities**

10520	Arons R.V. Storage 20 Units	104 Rincon Court	San Clemente, CA	92672	RENTAL STORAGE AREAS	M02	4225	Yes	Turbidity	RENTAL STORAGE AREAS
314160	San Clemente Towing and Storage	1520 Avenida De La Estrella	San Clemente, CA	92	TOWING SERVICE	M02	7549	Yes	Turbidity	TOWING SERVICE
36819	Preferred Service Towing	1610 Calle Valle	San Clemente, CA	92672	TOWING SERVICE	M02	7549	Yes	Turbidity	TOWING SERVICE
26097	S&K Towing	1520 Avenida De La Estrella	San Clemente, CA	92672	TOWING SERVICE	M02	7549	Yes	Turbidity	TOWING SERVICE
317350	A. C. RV Storage	180 Calle Iglesia	San Clemente, CA	92672	RENTAL STORAGE AREAS	M02	4225	No	N/A	RENTAL STORAGE AREAS
17213	A. C. Towing, Inc.	180 Calle Iglesia	San Clemente, CA	92672	TOWING SERVICE	M02	7549	No	N/A	TOWING SERVICE

**(h) Retail or Wholesale Fueling**

17803	San Clemente Union 76	2360 S El Camino Real	San Clemente, CA	92672	GASOLINE SERVICE STATIONS	M00	5541	No	N/A	GASOLINE SERVICE STATIONS
311132	Tesoro Refining and Marketing Co. # 63391	590 Camino De Estrella	San Clemente, CA	92672	GASOLINE SERVICE STATIONS	M01	5541	No	N/A	GASOLINE SERVICE STATIONS
27957	Apro #29 United Oil - Gas Station	795 S El Camino Real	San Clemente, CA	92672	GASOLINE SERVICE STATIONS	M00	5541	No	N/A	GASOLINE SERVICE STATIONS
13173	San Clemente Shell	2400 S El Camino Real	San Clemente, CA	92672	GASOLINE SERVICE STATIONS	M00	5541	No	N/A	GASOLINE SERVICE STATIONS
32163	Mobil On The Run #18821 Gasoline Service	901 Ave Pico	San Clemente, CA	92673	GASOLINE SERVICE STATIONS	M02	5541	No	N/A	GASOLINE SERVICE STATIONS
12363	San Clemente Arco	2749 N El Camino Real	San Clemente, CA	92672	GASOLINE SERVICE STATIONS	M01	5541	Yes	Hydrocarbon	GASOLINE SERVICE STATIONS
23282	San Clemente Gas & Service	504 N Estrella Ave	San Clemente, CA	92672	GASOLINE SERVICE STATIONS	M00	5541	No	N/A	GASOLINE SERVICE STATIONS
28852	Mobil Mart #15901 Gas Station	600 Ave Pico	San Clemente, CA	92673	GASOLINE SERVICE STATIONS	M02	5541	No	N/A	GASOLINE SERVICE STATIONS
30172	San Clemente Fuel, Inc San Clemente 76	1201 S El Camino Real	San Clemente, CA	92673	GASOLINE SERVICE STATIONS	M00	5541	No	N/A	GASOLINE SERVICE STATIONS
311475	Western Fuel Group - Union 76	606 Camino De Los Mares	San Clemente, CA	92673	GASOLINE SERVICE STATIONS	M01	5541	Yes	Toxicity / Hydrocarbon	GASOLINE SERVICE STATIONS
306554	San Clemente Chevron #99944	515 East Avenida Pico	San Clemente, CA	92672	GASOLINE SERVICE STATIONS	M02	5541	Yes	None	GASOLINE SERVICE STATIONS
29810	Chevron G & M Oil #132	1729 S El Camino Real	San Clemente, CA	92672	GASOLINE SERVICE STATIONS	M00	5541	No	N/A	GASOLINE SERVICE STATIONS

**(i) Pest Control Services**

556	Reynolds Termite Control	616 S El Camino Real	San Clemente, CA	92672	EXTERMINATING	M00	7342	Yes	Toxicity	PEST EXTERMINATING
26238	Colony Termite Control	1402 Calle Alcazar	San Clemente, CA	92672	EXTERMINATING	M00	7342	Yes	Toxicity	PEST EXTERMINATING

**(j) Eating or Drinking Establishments, Including Food Markets**

3661	Elk+B127:B322s Lodge #2068	1505 N El Camino Real	San Clemente, CA	92672	RETAIL SALES WITH ABC PERMIT	M00	5311	No	N/A	RETAIL SALES WITH ABC PERMIT
308016	Califia Beach Café	250 Ave Calafia	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
307656	Sundried Tomato Café of Talega	821 Via Suerte #101	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS



306675	Rocco's Restaurant	203 North El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
308905	Hearties LLC. - North Beach Snack Stand	1700 Ave Estacion	San Clemente, CA	92672	RESTAURANTS	M02	5812	Yes	Bacteria	RESTAURANTS
308449	Board & Brew	979 Ave Pico, Unit C	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
310681	South Of Nick's	110 N El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
308354	Nick's Restaurant	213 Ave Del Mar	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
307293	Old City Plaza Café	111 Ave. Palizada, Unit C	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
308953	San Clemente Yogurt, Tea, Coffee, & Juice	165 Ave Del Mar, Unit A	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
317812	Surfs Up Frozen Yogurt & Ice Cream	624 Ave Victoria	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
22714	Rubio's Fresh Mexican Grill	638 Cam De Los Mares	San Clemente, CA	92673	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
317934	Flights & Irons	376 Camino De Estrella	San Clemente, CA	92672	RESTAURANTS	M01	5812	No	N/A	RESTAURANTS
313881	Philly's Best Cheesesteak	638 Cam De Los Mares, Suite F110	San Clemente, CA	92673	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
317913	La Ventura Event Center	2316 South El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
309530	Inka Mamas	821 Via Suerte #104	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
314167	Cassano's Pizza	818 - 820 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
317555	Cosentino's Pizza	626 Ave Victoria	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
316202	Blaze Pizza	225 W Ave Vista Hermosa	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
318429	Brussels Bistro	218 Ave Del Mar	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	Bacteria	RESTAURANTS
318603	Matcha	979 Avenida Pico, Ste F	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
318426	Caterina's Est. 1990	614 Ave. Victoria, Unit C	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	Bacteria	RESTAURANTS
318312	Rockwell's Bakery & Café	101 West Avenida Vista Hermosa 116	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
310733	San Clemente Events Center	111 W Ave Palizada	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
13635	New Mandarin Garden	111 W Ave Palizada	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
17687	Pick Up Stix #7104	415 Ave Pico #A1	San Clemente, CA	92672	RESTAURANTS	M02	5812	Yes	Bacteria	RESTAURANTS
23447	San Clemente Café	1810 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
21774	Senor Pedro's Tacos	550 N El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
313947	Las Golondrinas #7	821 Via Suerte #102	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
25055	Las Golondrinas #5	400 Camino De Estrella	San Clemente, CA	92672	RESTAURANTS	M01	5812	No	N/A	RESTAURANTS
18214	Subway Sandwiches/Salads #3219	415 Ave Pico Unit B	San Clemente, CA	92672	RESTAURANTS	M02	5812	Yes	Bacteria	RESTAURANTS
26739	International House of Pancakes	915 Ave Pico	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
307242	Selma's Chicago Pizzeria	218 Ave Del Mar	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
310058	Papa John's Pizza	802 Ave Pico, Unit P	San Clemente, CA	92672	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
311721	Wingstop	800 Ave Pico, Unit T	San Clemente, CA	92672	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
308182	Humphry's Sandwich Shop	800 Ave Pico Unit S	San Clemente, CA	92672	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
24374	Donut House	401 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
316884	HM Foods LLC	207 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
27753	The Grill at Surfin Donuts	202 N El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
318010	Dunkin' Donuts	635 Camino De Los Mares #100	San Clemente, CA	92673	RESTAURANTS	M01	5812	No	N/A	RESTAURANTS
22157	Surfin Donuts Coffee Houses	1822 S.El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
17388	Surfer Seasonal - T-Street Concession Stand	0 Beach At T-Street	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
24329	Denny's Restaurant Inc.	529 E Ave Pico	San Clemente, CA	92672	RESTAURANTS	M02	5812	Yes	Bacteria	RESTAURANTS
18745	Biggie's Burger	1017 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
16433	Surfin Chicken	71 Via Pico Plaza	San Clemente, CA	92672	RESTAURANTS	M02	5812	Yes	Bacteria	RESTAURANTS
860	Jack In The Box #378	2398 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
10103	Senor Pedro's Tacos	2313 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
24541	Taco Bell #20693	959 Ave Pico	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
27140	Cafe Calypso	114 Ave Del Mar #4	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
27043	Dominos Pizza	1502 N El Camino Real, Unit D	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
312950	Yogurtland	638 Camino De Los Mares H160	San Clemente, CA	92672	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
309591	Zebra House Coffee LLC.	1001 S El Camino Real, Unit A	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
315603	Auntie Anne's Pretzels	101 W Ave Vista Hermosa, Unit 606	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
315583	Rocky Mountain Chocolate Factory	101 W Ave Vista Hermosa, Unit 612	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
314925	Bowlology	101 W Ave Vista Hermosa, Unit E	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
316999	Slapfish	101 W Ave Vista Hermosa, Unit 616	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
315650	Ruby's Diner	101 W Ave Vista Hermosa	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
314924	Starbucks Coffee #21567	101 W Ave Vista Hermosa, #21567	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
22556	Starbucks Coffee #5430	300 S. El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
308012	The Flame Broiler / Rice Bowl King	638 Camino De Los Mares F120	San Clemente, CA	92672	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
317255	Sancho's Tacos	1101 South El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
20168	Starbucks Coffee #670	638 Camino De Los Mares, Unit H180	San Clemente, CA	92673	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
25864	Super Bowl Express	1622 N El Camino Real	San Clemente, CA	92672	RESTAURANTS	M02	5812	Yes	Bacteria	RESTAURANTS
429	Taco Bell #4345	918 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
27283	Carl's Jr. Restaurant	3929 S. El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
24865	Carl's Jr. Restaurant #38	957 Avenida Pico	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
8236	McDonald's of San Clemente	650 E. Avenida Pico	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
25176	El Pollo Loco	963 Avenida Pico	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
20450	Subway #14209	638 Camino De Los Mares, Unit H170	San Clemente, CA	92672	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
18875	La Tiendita	114 Ave Victoria	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
25695	Kelly's Donuts	430 Camino De Estrella	San Clemente, CA	92672	RESTAURANTS	M01	5812	No	N/A	RESTAURANTS
27196	Sunrise Cafe	701 N El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
15939	Pizza Hut Inc. #32021	415 E. Ave Pico	San Clemente, CA	92672	RESTAURANTS	M02	5812	Yes	Bacteria	RESTAURANTS

309796	Guicho's Eatery #2	440 Camino De Estrella	San Clemente, CA	92672	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
26187	Guicho's Eatery	1110 S. El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
317743	The Fuel Shack	360 Camino De Estrella	San Clemente, CA	92672	RESTAURANTS	M01	5812	No	N/A	RESTAURANTS
12791	San Clemente Pizza Company	401 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
313688	Poche Burger and Kitchen	2727 Via Cascadita Unit I&J	San Clemente, CA	92672	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
27622	Baja Fresh Mexican Grill	979 Ave Pico Unit A	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
315499	Full Moon Sushi	647 Camino De Los Mares #101	San Clemente, CA	92673	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
317311	Cafe Smith	647 Camino De Los Mares #122	San Clemente, CA	92673	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
313018	Banzai Bowls	120 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	Bacteria	RESTAURANTS
315448	Muse Sushi	223 Ave Del Mar, Unit A	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
305939	Cafe Del Sol	3817 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
28547	Starbucks Coffee #6495	1001 Ave. Pico, Unit F	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
30652	Romano's Pasta & Pizzeria	979 Ave Pico, Unit E	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
29761	China Well Restaurant	620 Camino De Los Mares	San Clemente, CA	92673	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
314927	TJ's Woodfire Grill	641 Camino De Los Mares #C100-110	San Clemente, CA	92672	RESTAURANTS	M01	5812	No	N/A	RESTAURANTS
22288	Krikorian Concession	641 Camino De Los Mares #B100	San Clemente, CA	92672	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
315838	Sushi Kiosk (Sprouts)	550 Camino De Estrella - Unit C	San Clemente, CA	92672	RESTAURANTS	M01	5812	No	N/A	RESTAURANTS
317716	Broke Da Mouth Poke	118 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
30049	Poke + Roll 808	129 Avenida Del Mar - Unit A	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
30203	Subway 2020	401 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
33093	Cafe Rae, LLC	1421 N. Cl Camino Real - Unit D	San Clemente, CA	92672	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
318300	Thai Dara 2	640 Camino De Los Mares - Unit D110	San Clemente, CA	92671	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
311916	The Habit Burger Grill	638 Camino De Los Mares - Unit A100	San Clemente, CA	92672	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
309029	Burger Junkies	415 East Avenida Pico Unit N-2	San Clemente, CA	92672	RESTAURANTS	M02	5812	Yes	Bacteria	RESTAURANTS
304657	Tacos El Bocho / Chronic Tacos	415 East Avenida Pico Unit N-1	San Clemente, CA	92672	RESTAURANTS	M02	5812	Yes	Bacteria	RESTAURANTS
28273	La Rocco's Pizzeria	113 S El Camino Real Unit B	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
310612	Chipotle Mexican Grill # 1683	806 Avenida Pico Unit D	San Clemente, CA	92672	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
306143	Panda Express #1608	806 Avenida Pico Unit A	San Clemente, CA	92672	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
31504	Golden Spoon Frozen Yogurt	800 Ave Pico, Unit V	San Clemente, CA	92672	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
304229	Mama Cimino's Surfside Pizza	216 Avenida Vaquero, Unit D	San Clemente, CA	92672	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
28731	The Vine	211 N. El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
30328	The Bagel Shack	777 S. El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
30349	La Galette Creperie Culinaeria, LLC	612 Ave Victoria	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
309262	Thai Palace	1021 Avenida Pico Unit A	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
29597	Pipes Cafe	2017 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
28047	Mr Pete's Burger	420 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
313552	Adolfo's Mexican Food	700 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
20458	Crab Pot And Beach Eatery	609 Ave Victoria	San Clemente, CA	92672	RESTAURANTS	M00	5812	Yes	Bacteria	RESTAURANTS
29604	Bamboo Bamboo's	1021 Ave Pico, Unit B	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
316367	Juice My Heart	804 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
329553	Z Pizza	1021 Ave Pico, Unit C	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
306868	Peet's Coffee & Tea Inc.	801 Ave Talega Unit B	San Clemente, CA	92673	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
30888	Kaylani Coffee Co.	1844 N El Camino Real	San Clemente, CA	92672	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
307894	Café Mimosa	243 Ave Del Mar	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
19826	Captain Mauri's	149 Ave Del Mar	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
2185	Del Taco #61	109 Via Pico Plaza	San Clemente, CA	92672	RESTAURANTS	M02	5812	Yes	Bacteria	RESTAURANTS
15892	Billy's Meat, Seafood & Deli	111 Del Mar, Unit 1A	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
307022	Dukes Rstaurant / Bar	204 S El Camino Real	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
317195	KIKI SC / S&C Chicken Factory	979 Ave. Pico, Unit F	San Clemente, CA	92673	RESTAURANTS W/BEER & WINE	M02	5812	No	N/A	RESTAURANTS W/BEER & WINE
312078	Round Table Pizza	612 Cam De Los Mares	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M01	5812	Yes	Bacteria	RESTAURANTS W/BEER & WINE
22319	Wahoo's Fish Tacos	641 Cam De Los Mares, Unit A100	San Clemente, CA	92673	RESTAURANTS W/BEER & WINE	M01	5812	Yes	Bacteria	RESTAURANTS W/BEER & WINE
27526	Italian Cravings	105 S Ola Vista	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
313388	Smashburger	806 Avenida Pico, Unit E	San Clemente, CA	92672	RESTAURANTS	M02	5812	No	N/A	RESTAURANTS
11848	Mongkut Thai Restaurant	212 Del Mar	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
26738	Village Mediterranean Rim	123 Ave Del Mar	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
13533	Tina & Vince Italian Imports	221 Del Mar, Unit B	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
313606	MRK Public	1402 S. El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
312754	Coastal Creations Catering Company	111 Vista Montana	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M02	5812	No	N/A	RESTAURANTS W/BEER & WINE
26853	Pizza Port San Clemente	301 S. El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
11401	La Siesta	920 N El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
310572	Brick Pizzeria	216 N El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
310260	Pho Thanh Biah	107 Via Pico Plaza	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M02	5812	Yes	Bacteria	RESTAURANTS W/BEER & WINE
308420	Tin Radio / The Riders Club Café	1701 N El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M02	5812	No	N/A	RESTAURANTS W/BEER & WINE
19927	Stuft Pizza	91 Via Pico Plaza	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M02	5812	Yes	Bacteria	RESTAURANTS W/BEER & WINE
25835	Miyako Japanese Restaurant	641 Cam De Los Mares, Unit E120	San Clemente, CA	92673	RESTAURANTS W/BEER & WINE	M01	5812	Yes	Bacteria	RESTAURANTS W/BEER & WINE
16042	Rose's Sugar Shack	2319 S El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
23191	Fratello's Italian Restaurant	647 Camino De Los Mares, Unit 126	San Clemente, CA	92673	RESTAURANTS W/BEER & WINE	M01	5812	Yes	Bacteria	RESTAURANTS W/BEER & WINE
316248	Café Mint	1011 Ave Pico, Unit C	San Clemente, CA	92673	RESTAURANTS W/BEER & WINE	M02	5812	No	N/A	RESTAURANTS W/BEER & WINE
26560	Thai Paradise	3551 Camino Mira Costa	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M01	5812	No	N/A	RESTAURANTS W/BEER & WINE
3272	Sonny's Pizza	429 N El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE

317696	Malulu Inc.	415 E Ave Pico , Unit C	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M02	5812	Yes	Bacteria	RESTAURANTS W/BEER & WINE
317907	SK BBQ	1925 S El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
316838	Blackbird Artisan Pie	111 W Ave Palizada, Unit 15B	San Clemente, CA	92672	BAKERIES	M00	5461	No	N/A	BAKERIES
317098	Old Town Subs	111 W Ave Palizada, Unit D	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	Sandwich shop
316544	Firehouse Ribs and More	111 W Ave Palizada, Unit D	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
23966	Los Patios Restaurant	111 W Ave Palizada #17	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
17071	Antoine's Cafe	218 S El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
309194	Tommy's Restaurants, Inc	1409 S. El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
31790	Adeles at The San Clemente Inn	2600 Avenida Del Presidente	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
28823	El Jefe Cafe	106 E Escalones	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
314120	La Colombiana	1640 N El Camino Real	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M02	5812	Yes	Bacteria	RESTAURANTS W/BEER & WINE
304756	9 Style Sushi	102 Avenida Victoria - Unit E	San Clemente, CA	92672	RESTAURANTS W/BEER & WINE	M00	5812	No	N/A	RESTAURANTS W/BEER & WINE
317556	Café Hermosa	979 Ave Pico - Unit D	San Clemente, CA	92673	RESTAURANTS W/BEER & WINE	M02	5812	No	N/A	RESTAURANTS W/BEER & WINE
311988	Nomads Canteen	102 Avenida Cabrillo	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
17673	Shore Cliffs Golf Club	501 Avenida Vaquero	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M01	5813	Yes	Bacteria	RESTAURANTS W/LIQUOR
17611	Bella Collina Town & Golf Club	200 La Pata	San Clemente, CA	92673	RESTAURANTS W/LIQUOR	M03	5813	No	N/A	RESTAURANTS W/LIQUOR
16391	Carbonara Trattoria Italiana	111 Avenida Del Mar Unit B	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
311165	Ellie's Table	120 Ave Pico	San Clemente, CA	92672	RESTAURANTS	M02	5813	Yes	Bacteria	RESTAURANTS
27112	Iva Lee's Inc	555 N El Camino Real Suite E	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
27246	Beachfire LLC	204 Ave Del Mar, Unit D	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
307079	Hapa J's Kitchen, Bar & Lounge	2016 S El Camino Real	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
3295	Taka-o Japanese Restaurant	425 N El Camino Real	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
25869	Talega Golf Club Restaurant	990 Ave Talega	San Clemente, CA	92673	RESTAURANTS W/LIQUOR	M02	5813	No	N/A	RESTAURANTS W/LIQUOR
16997	Yuji Enterprises, / Ichibiri Restaurant	1814 N El Camino Real	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M02	5813	Yes	Bacteria	RESTAURANTS W/LIQUOR
20458	Fisherman's Restaurant	611 Ave Victoria	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	Yes	Bacteria	RESTAURANTS W/LIQUOR
317391	Poki World	439 N El Camino Real #F	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
16394	Maxime's - Holiday Inn	111 Ave De La Estrella	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
29099	Avila's El-Ranchito	204 Ave Del Mar, Unit A&B	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
315129	Bay Leaf, Inc	647 Camino De Los Mares, #126	San Clemente, CA	92673	RESTAURANTS W/LIQUOR	M01	5813	Yes	Bacteria	RESTAURANTS W/LIQUOR
305373	O. C. Tavern & Grill	2369 S El Camino Real	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
316582	JD's	215 S El Camino Real	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
313673	Pierside Kitchen & Bar	610 Ave Victoria	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	Yes	Bacteria	RESTAURANTS W/LIQUOR
311748	Fallbrook F&B Operator Inc. - DBA Wedgewood SC	150 E. Magdalena	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
311906	Molly Blooms Irish Bar & Restarant	2391 S. El Camino Real	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5813	No	N/A	RESTAURANTS W/LIQUOR
318013	Valentina Market #2	101 W El Portal	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M00	5141	No	N/A	GROCERIES W/BEER & WINE
307191	San Clemente Cellar	156 Ave Del Mar	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M00	5141	No	N/A	GROCERIES W/BEER & WINE
21656	7-Eleven - 16483-G-2172	1802 N. El Camino Real	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M02	5141	Yes	Bacteria	GROCERIES W/BEER & WINE
15354	7-Eleven - 2172-13789 B	1114 S El Camino Real	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M00	5141	No	N/A	GROCERIES W/BEER & WINE
14967	7-Eleven - 20788C-2172	2249 S El Camino Real	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M00	5141	No	N/A	GROCERIES W/BEER & WINE
306554	Chevron Food Mart	515 East Avenida Pico	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M02	5541	Yes	None	GROCERIES W/BEER & WINE
23820	Chevron Food Mart	1729 S El Camino Real	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M00	5141	No	N/A	GROCERIES W/BEER & WINE
311132	USA Gasoline Food Mart	590 Camino De Estrella	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M01	5541	No	N/A	GASOLINE SERVICE STATIONS
28000	United Oil Food Mart #29	795 S El Camino Real	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M00	5141	No	N/A	GROCERIES W/BEER & WINE
310498	Circle K #2709470	600 Ave Pico	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M02	5141	No	N/A	GROCERIES W/BEER & WINE
310499	Circle K #2709479	901 Ave Pico	San Clemente, CA	92673	GROCERIES W/BEER & WINE	M02	5141	No	N/A	GROCERIES W/BEER & WINE
17803	Union 76 Food Mart	2360 S El Camino Real	San Clemente, CA	92672	GROCERIES	M00	5541	No	N/A	GASOLINE SERVICE STATIONS
311475	Union 76 Food Mart	606 Camino De Los Mares	San Clemente, CA	92673	GROCERIES W/BEER & WINE	M01	5541	Yes	Toxicity / Hydrocarbon	GASOLINE SERVICE STATIONS
13173	Shell Food Mart	2400 S El Camino Real	San Clemente, CA	92672	GROCERIES W/BEER & WINE	M00	5541	No	N/A	GASOLINE SERVICE STATIONS
21116	7-Eleven - 13788-B 2172	502 N. El Camino Real	San Clemente, CA	92673	GROCERIES W/BEER & WINE	M00	5141	No	N/A	GROCERIES W/BEER & WINE
16511	Ralphs Grocery Company No. 15	638 Cam De Los Mares	San Clemente, CA	92672	GROCERIES W/LIQUOR	M01	5141	Yes	Bacteria	GROCERIES W/LIQUOR
310388	Target Store T-2730	990 Ave Vista Hermosa	San Clemente, CA	90673	GROCERIES W/LIQUOR	M01	5141	No	N/A	GROCERIES W/LIQUOR
17527	Trader Joe's #16	638 Los Mares	San Clemente, CA	92672	GROCERIES W/LIQUOR	M01	5141	Yes	Bacteria	GROCERIES W/LIQUOR
315325	Sprouts Farmers Market	550 Camino De Estrella	San Clemente, CA	92672	GROCERIES W/LIQUOR	M01	5141	No	N/A	GROCERIES W/LIQUOR
21910	Ralphs Grocery Company	903 S. El Camino Real	San Clemente, CA	92672	GROCERIES W/LIQUOR	M00	5141	No	N/A	GROCERIES W/LIQUOR
27231	Albertsons #6563	989 Avenida Pico	San Clemente, CA	92673	GROCERIES W/LIQUOR	M02	5141	No	N/A	GROCERIES W/LIQUOR
24337	Stater Bros. Markets #149	616 Cam De Los Mares	San Clemente, CA	92672	GROCERIES W/LIQUOR	M01	5141	Yes	Bacteria	GROCERIES W/LIQUOR
316232	Bear Coast Coffee	618.5 Ave Victoria	San Clemente, CA	92672	COFFEE SHOP	M00	5141	No	N/A	COFFEE SHOP
19362	Pier Market	618 Ave Victoria	San Clemente, CA	92672	GROCERIES W/LIQUOR	M00	5141	Yes	Bacteria	GROCERIES W/LIQUOR
18810	Albertsons #6509	804 Ave Pico	San Clemente, CA	92672	GROCERIES W/LIQUOR	M02	5141	No	N/A	GROCERIES W/LIQUOR
310290	Hansons Market LLC	415 Ave Pico, Unit P	San Clemente, CA	92672	GROCERIES	M02	5141	Yes	Bacteria	GROCERIES
305733	Larrys Liquor & Jr. Market	204 Avenida Vaquero	San Clemente, CA	92672	GROCERIES W/LIQUOR	M01	5141	Yes	Bacteria	GROCERIES W/LIQUOR
308443	Sugar Blossom Bake Shop	204 Ave Del Mar, Unit F	San Clemente, CA	92674	BAKERIES	M00	5461	No	N/A	BAKERIES
310510	Caseys Cupcake Bakery, LLC	1042 Calle Recodo	San Clemente, CA	92673	BAKERIES	M02	5461	No	N/A	BAKERIES
9749	Rose Donuts	624 Camino De Los Mares	San Clemente, CA	92672	BAKERIES	M01	5461	Yes	Bacteria	BAKERIES
314457	San Clemente Donut House	806 Ave Pico, Unit G	San Clemente, CA	92672	BAKERIES	M01	5461	No	N/A	BAKERIES
308602	Panera Bread	802 Ave Talega #101	San Clemente, CA	92673	BAKERIES	M02	5461	No	N/A	BAKERIES
317596	Panera Bread	101 W Ave Vista Hermosa #480	San Clemente, CA	92673	BAKERIES	M00	5461	Yes	Bacteria	BAKERIES
31175	Bread Gallery	1624 N El Camino Real	San Clemente, CA	92672	BAKERIES	M02	5461	No	N/A	BAKERIES
313958	Ball park Pizza	831 Via Suerte, Unit 101	San Clemente, CA	92673	RESTAURANTS	M02	5813	No	N/A	RESTAURANTS
312368	Barnoa Wine Bar	831 Via Suerte, Unit 106	San Clemente, CA	92673	COCKTAIL LOUNGE	M02	5813	No	N/A	COCKTAIL LOUNGE

25181	The Red Fox Lounge, Inc.	220 S El Camino Real	San Clemente, CA	92672	COCKTAIL LOUNGE	M00	5813	No	N/A	COCKTAIL LOUNGE
22661	Big Helyns	3317 S El Camino Real	San Clemente, CA	92672	COCKTAIL LOUNGE	M00	5813	No	N/A	COCKTAIL LOUNGE
22027	Mulligan's Sports Bunker	1401 Calle Valle	San Clemente, CA	92672	COCKTAIL LOUNGE	M02	5813	Yes	Bacteria	COCKTAIL LOUNGE
21093	Knuckleheads Sports Bar	1715-1717 N El Camino Real	San Clemente, CA	92672	COCKTAIL LOUNGE	M02	5813	Yes	Bacteria	COCKTAIL LOUNGE
27045	Bart's Lil Outrigger	1920 S El Camino Real	San Clemente, CA	92672	COCKTAIL LOUNGE	M00	5813	Yes	Bacteria	COCKTAIL LOUNGE
318263	Nalus Hawaiian Fish Grill	641 Camino De Los Mares D130			RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
318200	Jersey Mike's Subs	641 Camino De Los Mares D140	San Clemente, CA	92672	RESTAURANTS	M01	5812	Yes	Bacteria	RESTAURANTS
28752	Goody's Tavern	206 S El Camino Real	San Clemente, CA	92672	COCKTAIL LOUNGE	M00	5813	No	N/A	COCKTAIL LOUNGE
19337	Ole's Tavern, Inc	127 S El Camino Real	San Clemente, CA	92672	COCKTAIL LOUNGE	M02	5813	No	N/A	COCKTAIL LOUNGE
307071	Active Culture / Velvet Yogurt	111 S El Camino Real	San Clemente, CA	92672	ICE CREAM/YOGURT	M00	5451	No	N/A	ICE CREAM/YOGURT
316473	South Swell Hand Dipped Ice Cream Shop	137 Ave Del Mar	San Clemente, CA	92672	ICE CREAM/YOGURT	M00	5999	No	N/A	ICE CREAM/YOGURT
313307	Nekter Juice Bar	638 Camino De Los Mares D2-A	San Clemente, CA	92673	RETAIL SALES	M01	5999	Yes	Bacteria	JUICE BAR
24006	Baskin-Robbins #3056	104 No El Camino Real	San Clemente, CA	92672	ICE CREAM/YOGURT	M00	5451	No	N/A	ICE CREAM/YOGURT
316442	The Shwack Cantina	1527 N El Camino Real	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5921	No	N/A	RESTAURANTS W/LIQUOR
26312	Catalina Liquor	102 Ave Victoria	San Clemente, CA	92672	LIQUOR STORE	M00	5921	No	N/A	LIQUOR STORE
23947	Beach Front Liquor	2320 S El Camino Real	San Clemente, CA	92672	LIQUOR STORE	M00	5921	No	N/A	LIQUOR STORE
315972	HH Cottons	201 Ave Del Mar	San Clemente, CA	92672	RESTAURANTS W/LIQUOR	M00	5921	No	N/A	RESTAURANTS W/LIQUOR
23124	Normand's Liquor	1618 N. El Camino Real	San Clemente, CA	92672	LIQUOR STORE	M02	5921	No	N/A	LIQUOR STORE
3052	Fred's Liquor Inc	220 S Ola Vista	San Clemente, CA	92672	LIQUOR STORE	M00	5921	No	N/A	LIQUOR STORE
24923	Victoria Market & Liquor	201 Ave Victoria	San Clemente, CA	92672	LIQUOR STORE	M00	5921	No	N/A	LIQUOR STORE
25018	San O Market Corp	3119 S. El Camino Real	San Clemente, CA	92672	LIQUOR STORE	M00	5921	No	N/A	LIQUOR STORE
612	Bob's Liquors	470 Camino De La Estrella	San Clemente, CA	92672	LIQUOR STORE	M01	5921	No	N/A	LIQUOR STORE
428	Dad's Liquor & Deli	2421 S El Camino Real	San Clemente, CA	92672	LIQUOR STORE	M00	5921	No	N/A	LIQUOR STORE
3256	Rite Aid #5749	801 N El Camino Real	San Clemente, CA	92672	DRUG STORE	M00	5912	No	N/A	DRUG STORE
25006	CVS/ Pharmacy #8882	638 Camino De Los Mares	San Clemente, CA	92673	DRUG STORE	M01	5912	Yes	Bacteria	DRUG STORE
29191	CVS/ Pharmacy #8893	602 N El Camino Real	San Clemente, CA	92672	DRUG STORE	M00	5912	No	N/A	DRUG STORE
30786	99 Cent Only Store	55 Via Pico Plaza	San Clemente, CA	92672	DRUG STORE	M02	5912	Yes	Bacteria	DRUG STORE
306295	Pier Shack and Grill	615 Ave Victoria - End Of The Pier	San Clemente, CA	92672	RETAIL SALES	M00	5999	Yes	Bacteria	RETAIL SALES
28240	Lavender Lounge Tea Company	104 N. El Camino Real	San Clemente, CA	92673	RETAIL SALES	M00	5999	No	N/A	RETAIL SALES
28475	Juice Stop	641 Camino De Los Mares , Unit D100	San Clemente, CA	92672	RETAIL SALES	M01	5999	Yes	Bacteria	RETAIL SALES
304857	Juice It Up !	802 E Avenida Pico, Unit J	San Clemente, CA	92673	RETAIL SALES	M02	5999	No	N/A	RETAIL SALES
316711	MAAOCA	211 Ave Del Mar, Unit B	San Clemente, CA	92674	RETAIL SALES	M00	5999	No	N/A	RETAIL SALES
33588	Olivers Tasting Galery	211 Ave Del Mar, Suite C	San Clemente, CA	92674	RETAIL SALES	M00	5999	No	N/A	RETAIL SALES
307279	Jenny Craig Weight Loss Center #176	638 Camino De Los Mares #210	San Clemente, CA	92672	RETAIL SALES	M01	5999	Yes	Bacteria	RETAIL SALES
310507	Rocket Fizz	107 Ave Del Mar	San Clemente, CA	92674	RETAIL SALES	M00	5999	No	N/A	RETAIL SALES
30163	Maya's (Schmid's) Fine Chocolates	99 Ave Del Mar	San Clemente, CA	92672	RETAIL SALES	M00	5999	No	N/A	RETAIL SALES
	See's Candy	638 Camino De Los Mares, #G140	San Clemente, CA	92672	RETAIL SALES	M00	5999	No	N/A	RETAIL SALES
312430	Aha Sushi	305 S El Camino Real #A	San Clemente, CA	92672	RESTAURANTS	M00	5812	No	N/A	RESTAURANTS
316880	Edible Arrangements	305 S El Camino Real #102B	San Clemente, CA	92672	RETAIL SALES	M00	5999	No	N/A	RETAIL SALES
304166	Subway #35316 (Wal-Mart)	951 Ave Pico	San Clemente, CA	92673	RETAIL SALES	M02	5999	No	N/A	RETAIL SALES
310700	Nutrition Zone	400 Ave Pico	San Clemente, CA	92672	RETAIL SALES	M02	5999	No	N/A	RETAIL SALES
22948	GNC	806 Ave Pico, Unit C	San Clemente, CA	92672	RETAIL SALES	M02	5999	No	N/A	RETAIL SALES
313624	Holistic Natural Remedies	305 N El Camino Real	San Clemente, CA	92672	RETAIL SALES	M00	5999	No	N/A	RETAIL SALES
311024	North Beach Nutrition	1502 N El Camino Real, Unit E	San Clemente, CA	92672	RETAIL SALES	M02	5999	Yes	Bacteria	RETAIL SALES
304178	San Clemente Wine Co.	212 1/2 Avenida Del Mar	San Clemente, CA	92672	RETAIL SALES WITH ABC PERMIT	M00	5311	No	N/A	RETAIL SALES WITH ABC PERMIT
306309	Ralphs #287	811 Avenida Talega	San Clemente, CA	92673	RETAIL SALES WITH ABC PERMIT	M02	5311	No	N/A	RETAIL SALES WITH ABC PERMIT
19026	Aguas Frescas Festival	1021 Calle Sombra Unit B	San Clemente, CA	92673	WHOLESALE TRADE	M02	5046	No	N/A	WHOLESALE TRADE
314860	Rancho Capistrano Winery	921 Calle Amanecer, Unit G	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
29691	Paragon Food Service Corp Dba Left Coast	1245 Puerta Del Sol	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
316341	Lost Winds Brewing Co.	924 Calle Negocio, Unit C	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
312869	Creative Flavor Concepts, Inc	1330 Calle Avanzado	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
313578	Artifex Brewing Company	919 Calle Amanecer	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
307632	Penguin Natural Foods Inc.	1011 Calle Recodo	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
304712	Custom Ingredients Inc	160 Calle Iglesia #101 & 102	San Clemente, CA	92672	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
306094	Jeff The Silent Chef	2145 Avenida Espada	San Clemente, CA	92673	MANUFACTURING IND (CATERING)	M02	3569	No	N/A	MANUFACTURING IND (CATERING)

**(k) Mobile Carpet, Drape, or Furniture Cleaning**

23671	Steam Age Carpet & Upholstery Cleaner	149 Del Poniente	San Clemente, CA	92672	HOME OCC SERVICE	M00	8999	Yes	Turbidity	CARPET / DRAPE CLEANING
23933	Danielson Carpet Cleaning	2319 Ave. Marejada	San Clemente, CA	92673	HOME OCC SERVICE	M01	8999	Yes	Turbidity	CARPET / DRAPE CLEANING
11019	South Coast Carpet Cleaning	114 Chiquita	San Clemente, CA	92673	HOME OCC SERVICE	M00	8999	Yes	Turbidity	CARPET / DRAPE CLEANING
28381	Rocky's Carpet Care	7 Paseo Luna	San Clemente, CA	92673	HOME OCC SERVICE	M01	8999	Yes	Turbidity	CARPET / DRAPE CLEANING
29895	Reynolds Chris Carpet Cleaning	8 W Ave San Gabriel	San Clemente, CA	92672	HOME OCC SERVICE	M00	8999	Yes	Turbidity	CARPET / DRAPE CLEANING

**(l) Cement Mixing or Cutting**

20492	Kirra Concrete Construction	228 Ave Fabricante	San Clemente, CA	92673	CONCRETE	M02	1611	No	N/A	CEMEMNT MIXING / CUTTING
312088	Mike McGuire Concrete Construction	129 W Ave Ramona	San Clemente, CA	92672	CONCRETE	M00	1611	No	N/A	CEMEMNT MIXING / CUTTING
35040	Jesus Sandoval Concrete Construction Company	308 Ave Granada	San Clemente, CA	92672	CONCRETE	M00	1611	No	N/A	CEMEMNT MIXING / CUTTING

312468	Imperial Concrete	4209 Calle Abril	San Clemente, CA	92673	CONCRETE	M01	1611	No	N/A	CEMEMNT MIXING / CUTTING
12461	Fickling Concrete Construction	2914 Obrajero	San Clemente, CA	92673	CONCRETE	M01	1611	Yes	Turbidity	CEMEMNT MIXING / CUTTING
17313	Young Ideas Inc.	130 Ave Serra	San Clemente, CA	92672	CONCRETE	M00	1611	Yes	Turbidity	CEMEMNT MIXING / CUTTING
13016	Don Wert Construction	124 La Placentia	San Clemente, CA	92672	CONCRETE	M02	1611	Yes	Turbidity	CEMEMNT MIXING / CUTTING
20186	South Coast Hauling & Bobcat	2811 Via Montecito	San Clemente, CA	92672	EARTHWORK & PAVING	M01	1794	Yes	Turbidity	CEMEMNT MIXING / CUTTING
12825	Kuno's Grading, Inc	3410 Calle Sin Rival	San Clemente, CA	92673	EARTHWORK & PAVING	M01	1794	Yes	Turbidity	CEMEMNT MIXING / CUTTING
19272	L.J. Rotunno Concrete Construction	224 Ave Vaquero	San Clemente, CA	92672	CONTRS WITH CORRELATED BUS	M01	1629	Yes	Turbidity	CEMEMNT MIXING / CUTTING

### (m) Masonry and Plastering

23759	Laforza Tile & Stone	530 N El Camino Real	San Clemente, CA	92672	MASONARY	M00	1741	Yes	Turbidity	RETAIL TILE & STONE ONLY
22295	Kriskey, Mike	108 Loma Lane	San Clemente, CA	92672	MASONARY	M00	1741	Yes	Turbidity	MASONARY / PLASTERING
13441	Mercado Masonry & Concrete	103 Ave Gaviota	San Clemente, CA	92672	MASONARY	M00	1741	Yes	Turbidity	MASONARY / PLASTERING
23521	David Ochoa Installations	1510 Ave De Estrella	San Clemente, CA	92672	MASONARY	M00	1741	Yes	Turbidity	MASONARY / PLASTERING
20323	Edgewater Tile & Marble	800 S El Camino Real #200	San Clemente, CA	92672	MASONARY	M00	1741	Yes	Turbidity	MASONARY / PLASTERING
12367	Anthony Van Liefde Masonary Monarch	1411 Jinette	San Clemente, CA	92672	MASONARY	M01	1741	Yes	Turbidity	MASONARY / PLASTERING
15583	Ted Harlow Masonry	105 E. Ave San Antonio	San Clemente, CA	92672	MASONARY	M00	1741	Yes	Turbidity	MASONARY / PLASTERING
12096	Dilbeck Masonry	3154 Inclinado	San Clemente, CA	92673	MASONARY	M01	1741	Yes	Turbidity	MASONARY / PLASTERING
10450	Strucco General Engineering	3303 S El Camino Real	San Clemente, CA	92672	PLASTERING / TILES	M00	1742	Yes	Turbidity	MASONARY / PLASTERING / TILE
12445	Dalton Plastering	2863 Calle Heraldo	San Clemente, CA	92672	PLASTERING	M01	1742	Yes	Turbidity	MASONARY / PLASTERING
10129	Richard B Eyre Plastering	122 Gaviota	San Clemente, CA	92672	PLASTERING	M00	1742	Yes	Turbidity	MASONARY / PLASTERING
22465	Mark Zeni Tile	59 Albergar	San Clemente, CA	92672	TILE CERAMIC & MOSAIC	M02	1743	Yes	Turbidity	MASONARY / PLASTERING
29251	Steven W Evers Tile Company	2172 Calle Ola Verde	San Clemente, CA	92673	TILE CERAMIC & MOSAIC	M02	1743	Yes	Turbidity	MASONARY / PLASTERING

### (n) Painting and Coating

311398	AR Paints & Flooring	1420 N El Camino Real	San Clemente, CA	92672	PAINT & WALLPAPER	M02	5231	Yes	Turbidity	PAINTING / DECORATING RETAIL
310152	IM Painting Inc	1020 Calle Cordiller, Unit 104	San Clemente, CA	92673	PAINTING AND DECORATING	M02	1799	Yes	Turbidity	PAINTING / DECORATING
307950	Stafford Paintaing	521 E Ave San Juan	San Clemente, CA	92672	PAINTING AND DECORATING	M00	1799	Yes	Turbidity	PAINTING / DECORATING
311063	Riviera Painting	300 Ave Adobe	San Clemente, CA	92672	PAINTING AND DECORATING	M00	1799	Yes	Turbidity	PAINTING / DECORATING
16431	Jerry L Davis Painting & Wallcovering	1012 Venezia	San Clemente, CA	92672	PAINTING AND DECORATING	M02	1799	Yes	Turbidity	PAINTING / DECORATING
24115	Pro Coat Painting, Inc.	417 Calle Gomez	San Clemente, CA	92672	PAINTING AND DECORATING	M00	1799	Yes	Turbidity	PAINTING / DECORATING
24022	Moore Professional Painting	142 Ave. Presidio	San Clemente, CA	92672	PAINTING AND DECORATING	M00	1799	Yes	Turbidity	PAINTING / DECORATING
309799	Paint By Smokey	114 Camino De Los Molinos, Unit A	San Clemente, CA	92672	MOTORCYCLE PAINTING	M02	7699	Yes	Turbidity	80 per E-Bay sales 20 per painting
304071	Rags 2 Richs	81 Via Marbrisa	San Clemente, CA	92673	PAINTING AND DECORATING	M02	1799	Yes	Turbidity	PAINTING / DECORATING
26535	Gitano Painting & Plastering	526 Ave Victoria	San Clemente, CA	92672	HOME OCC SERVICE	M00	8999	Yes	Turbidity	PAINTING / DECORATING
27364	Branstrom Painting	2413 Ave Mastil	San Clemente, CA	92673	HOME OCC SERVICE	M02	8999	Yes	Turbidity	PAINTING / DECORATING
27866	Native Wear Inc Dba B & E Painting	1715 Calle Alcazar	San Clemente, CA	92672	Specialty CSLB	M00	17	Yes	Turbidity	PAINTING / DECORATING
30449	Engineered Surface Finishing	990 Calle Negocio	San Clemente, CA	92673	Specialty CSLB	M02	17	Yes	Turbidity	PAINTING / DECORATING

### (o) Botanical or Zoological Gardens and Exhibits

### (p) Landscaping

9863	Llamas Gardening	21 W Ave Cornelio	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
312365	David Perez Landscaping	350 Calle Estival	San Clemente, CA	92672	LANDSCAPING	M01	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
33323	J.C. Landscaping	308 Ave Sierra	San Clemente, CA	92672	LANDSCAPING	M00	784	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
314051	Meza's Gardening	601 Calle Campana	San Clemente, CA	92672	LANDSCAPING	M01	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
1440	Littlepage Landscaping	1437 N. El Camino Real	San Clemente, CA	92672	LANDSCAPING	M02	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
23007	Barkshire Laser Leveling, Inc	4007 Calle Mayo	San Clemente, CA	92673	LANDSCAPING	M01	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
10493	South Coast Gardening Service	1610 Calle Vale	San Clemente, CA	92672	LANDSCAPING	M02	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
23038	Costa Verde Landscape	133 Ave Buena Ventura	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
16467	Burns Contract Gardening & Landscaping	5109 Costa Rustico	San Clemente, CA	92673	LANDSCAPING	M02	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
3957	Coastal Surroundings	119 Cristobal	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
9006	Glen's Landscape & Lighting	116 Ave. Sierra	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
19955	Paradise Designs, Inc	1395 Calle Avanzado	San Clemente, CA	92673	LANDSCAPING	M03	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
14569	Diaz Landscaping	115 Calle Campo	San Clemente, CA	92672	LANDSCAPING	M02	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
8949	Landscape Designs Exotic	337 Vaquero	San Clemente, CA	92672	LANDSCAPING	M01	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
25450	Bouquet Enterprise, Inc	1046 Calle Recodo	San Clemente, CA	92673	LANDSCAPING	M02	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
309847	R L Dietz Landscape Construction	21 W Avenida San Gabriel	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
28347	Pacific Coast Landscape	25 Calle Verdadero	San Clemente, CA	92673	LANDSCAPING	M02	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
856	Adrian's Garden Service	211 Ave Sierra	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
23567	Navarro's Landscape	2705 S. El Camino Real	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
15273	Carillo's Gardening & Tree Service	124 Pelayo	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
14310	Laleh Landscaping	114 Del Playo	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
27323	Francisco Landscape	2613 S El Camino Real	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
18205	Trent Landscape Maintenance	2432 Corso Rio	San Clemente, CA	92673	LANDSCAPING	M01	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
22790	Perez Gardening & Maintenance Service	224 Ave Pelayo	San Clemente, CA	92672	LANDSCAPING	M02	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING

31584	OC Gardening Service	2937 Bonanza	San Clemente, CA	92672	LANDSCAPING	M01	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
30359	Pedro's Gardening	117 Loma Lane	San Clemente, CA	92672	LANDSCAPING	M00	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
25444	TruGreen	400 Ave Bahia	San Clemente, CA	92672	LANDSCAPING	M03	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING
314666	Bemus Landscape Inc	951 Calle Negocio, Unit D	San Clemente, CA	92673	LANDSCAPING	M02	781	Yes	Phosphorus/Turbidity/Bacteria	LANDSCAPING / GARDENING

**(q) Nurseries and Greenhouses**

24	Shore Gardens Nursery	201 South Ola Vista	San Clemente, CA	92672	NURSERY	M00	1629	No	N/A	NURSERY
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**(r) Golf Courses, Parks and Other Recreational Areas/Facilities**

25871	Talega Golf Course Maint	73 La Pata	San Clemente, CA	92673	GOLF COURSE	M02	7992	No	N/A	GOLF COURSE / GOLF CLUB
13403	Bella Collina Golf Course	200 La Pata	San Clemente, CA	92673	GOLF COURSE	M03	7992	No	N/A	GOLF COURSE / GOLF CLUB
15002	Shore Cliff Golf Course	501 Avenida Vaquero	San Clemente, CA	92672	GOLF COURSE	M01	7992	Yes	Phosphorus/Turbidity/Bacteria	GOLF COURSE / GOLF CLUB

**(s) Cemeteries**

**(t) Pool and Fountain Cleaning**

306674	Trublue Pool Service	2027 Domador	San Clemente, CA	92672	POOL MAINTENANCE	M01	7389	No	N/A	POOL / SPA MAINTENANCE
313941	Pro Liberty Pool Service	209 Ave De La Grulla	San Clemente, CA	92672	POOL MAINTENANCE	M02	7389	Yes	Turbidity/Bacteria	POOL / SPA MAINTENANCE
15097	Bill's Pool Supply & Service	103 Calle Campo	San Clemente, CA	92672	POOL MAINTENANCE	M02	7389	Yes	Turbidity/Bacteria	POOL / SPA MAINTENANCE
24808	The Poolice Pool & Spa Services	1001 AVENIDA PICO STE #C	San Clemente, CA	92673	POOL MAINTENANCE	M02	7389	No	N/A	POOL / SPA MAINTENANCE
32075	Plumeria Pools	2837 Riachuelo	San Clemente, CA	92673	POOL MAINTENANCE	M01	7389	Yes	Turbidity/Bacteria	POOL / SPA MAINTENANCE
29689	Innovative Pool Products, LLC	1521 Via Tulipan	San Clemente, CA	92672	Home Occ	M02	3569	No	N/A	INTERNET SALES
17303	California Pools Inc.	901 Calle Amanecer #115	San Clemente, CA	92672	POOL MAINTENANCE	M02	7389	No	N/A	POOL / SPA MAINTENANCE
20235	Alderete Pools	63 Via Pico Plaza	San Clemente, CA	92672	GENERAL CONTRACTOR	M02	1623	No	N/A	POOL / SPA MAINTENANCE

**(u) Marinas**

**(v) Portable Sanitary Services**

**(w) Building Material Retailers and Storage**

17834	Ron Dwinell Trucking	1523 Ave De La Estrella	San Clemente, CA	92672	BUILDING MATERIALS	M02	5211	Yes	Turbidity	BUILDING MATERIALS
271	Denault's Hardware	535 N El Camino Real	San Clemente, CA	92672	RETAIL SALES	M00	5999	No	N/A	BUILDING MATERIALS
26145	Lowe's HIW, Inc. #1050	907 Ave. Pico	San Clemente, CA	92673	RETAIL SALES	M02	5999	No	N/A	BUILDING MATERIALS
31026	South Coast Lighting & Design	1391 Calle Avanzado	San Clemente, CA	92673	WHOLESALE TRADE	M03	5046	No	N/A	BUILDING MATERIALS
25603	Imperial Sprinkler Supply Inc	140 Ave Navarro	San Clemente, CA	92672	WHOLESALE TRADE	M02	5046	Yes	Turbidity	BUILDING MATERIALS
28709	Ewing Irrigation Products, Inc	1270 Puerta Del Sol	San Clemente, CA	92673	WHOLESALE TRADE	M02	5046	No	N/A	BUILDING MATERIALS
827	South Coast Dist. Co.	309 Los Molinos	San Clemente, CA	92672	WHOLESALE TRADE	M02	5046	Yes	Turbidity	BUILDING MATERIALS
20396	Euro Classic Stone Inc.,	1309 Calle Avanzado	San Clemente, CA	92673	MANUFACTURING IND	M03	3569	No	N/A	GENERAL CONTRACTOR

**(x) Animal Facilities**

310586	San Clemente Grooming	801 Via Suerte, Unit 101	San Clemente, CA	92673	SERVICES IN CITY	M02	8999	No	N/A	ANIMAL GROOMING
317128	Sea Shore Pet Spa	111 W Ave Palizada, Suite 15C	San Clemente, CA	92672	SERVICES IN CITY	M00	8999	No	N/A	ANIMAL GROOMING
304338	Vip Pet Spa	810 S. El Camino Real	San Clemente, CA	92672	SERVICES IN CITY	M00	8999	No	N/A	ANIMAL GROOMING
318392	Whole Life Veterinary Care	3551 Camino Mira Costa	San Clemente, CA	92672	VETERINARY SERVICES	M00	742	No	N/A	VETERINARY SERVICES
401	Camino Veterinary Clinc	620 Camino De Los Mares	San Clemente, CA	92672	VETERINARY SERVICES	M01	742	Yes	Bacteria	VETERINARY SERVICES
362	Pico Veterinary Clinic	415 Ave Pico, Unit E	San Clemente, CA	92672	VETERINARY SERVICES	M02	742	Yes	Bacteria	VETERINARY SERVICES
27066	Avenida Animal Hospital	1513 N. El Camino Real	San Clemente, CA	92672	VETERINARY SERVICES	M02	742	No	N/A	VETERINARY SERVICES
313185	Bow Wow Beautiful Pet Spa	364 Camino De Estrella	San Clemente, CA	92672	ANIMAL GROOMING	M02	742	No	N/A	ANIMAL GROOMING
30130	Pet Treasures	653 Camino De Los Mares #100	San Clemente, CA	92672	ANIMAL GROOMING	M01	742	Yes	Bacteria	ANIMAL GROOMING
306056	The Pet Palace	802 Avenida Pico Unit O	San Clemente, CA	92673	ANIMAL GROOMING	M02	742	No	N/A	ANIMAL GROOMING
30722	Paws Pet Resorts Corporation	1285 Puerta Del Sol	San Clemente, CA	92673	ANIMAL GROOMING	M02	742	No	N/A	ANIMAL GROOMING
306821	Pacific Coast Veterinary Hospital	1242 Puerto Del Sol	San Clemente, CA	92673	ANIMAL HOSPITAL	M02	742	No	N/A	VETERINARY SERVICES
16553	San Clemente Veterinary Hospital	1833 S El Camino Real	San Clemente, CA	92672	ANIMAL HOSPITAL	M00	742	No	N/A	VETERINARY SERVICES
30731	Talega Animal Hospital	995 Ave Pico	San Clemente, CA	92673	ANIMAL HOSPITAL	M02	742	No	N/A	VETERINARY SERVICES
310247	Unleashed #5112	979 Ave Pico, Unit M	San Clemente, CA	92673	PET SHOP	M02	5999	No	N/A	PET SHOP
313712	It's A Dogs Life	1302 S El Camino Real, Unit E	San Clemente, CA	92672	PET SHOP	M00	5999	No	N/A	PET SHOP
306920	Pets Plus	638 Camino De Los Mares A140	San Clemente, CA	92672	PET SHOP	M01	5999	Yes	Bacteria	PET SHOP
26251	Pets Plus	415 Ave. Pico	San Clemente, CA	92672	PET SHOP	M02	5999	Yes	Bacteria	PET SHOP
306852	Camp Bow Wow	220 Calle Pintoresco	San Clemente, CA	92673	SERVICES IN CITY	M02	752	No	N/A	PET DAYCARE
25774	Super Critter Sitter	262 Del Gado Road	San Clemente, CA	92672	HOME OCC SERVICE	M01	8999	No	N/A	PET DAYCARE

304812	Three Dog Bakery San Clemente	174 Ave Del Mar, Unit A	San Clemente, CA	92672	RETAIL SALES	M00	5999	No	N/A	Pet Bakery
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**(z) Mobile Pet Services**

31003	Aussie Pet Mobile	1211 Puerta Del Sol #120	San Clemente, CA	92673	ANIMAL GROOMING	M02	742	Yes	Bacteria	PET SERVICES
12534	Veterinary Housecalls	1499 Calle Alcazar	San Clemente, CA	92672	HOME OCC SERVICE	M00	8999	Yes	Bacteria	PET SERVICES
28192	Said And Done / Pawsabilities	2922 Caballista Del Norte	San Clemente, CA	92673	HOME OCC SERVICE	M01	8999	Yes	Bacteria	PET SERVICES
30984	4 Happy Paws	2891 Calle Heraldo	San Clemente, CA	92673	HOME OCC SERVICE	M01	8999	Yes	Bacteria	PET SERVICES
32522	Mike's Pet Care	211 W Marquita	San Clemente, CA	92672	HOME OCC SERVICE	M00	8999	Yes	Bacteria	PET SERVICES

**(y) Power Washing Services**

**(aa) Other Sites and Sources With a History of Un-Authorized Discharges to the MS4**

35459	STEGO Industries	216 Ave Fabricante #101	San Clemente, CA	92673	PLASTIC SHEETING CONSTRUCTION MFG	M02	3569	No	N/A	MANUFACTURING IND
21287	Plastics Development Corp.	960 Calle Negocio	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
18044	Reynard Corporation	1020 Sombra	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
15893	South Bay Technology, Inc	1120 Via Callejon	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
19944	CMI/Composite Manufacturing Inc	970 Amanecer	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
21338	Kui Co. Inc	266 Pintoresco	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
306874	Intersect Partners LLC	1120 Calle Cordillera #102	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
16041	Toolander Engineering, Inc	1110 Callejon	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
311243	International Rubber Products Inc.	1035 Calle Amanecer	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
15738	Immutopics Inc	931 Calle Negocio Unit G	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
15738	Immutopics Inc	929 Calle Negocio Unit A	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
25969	XYZ Precision Manufacturing, Inc	151 Calle Iglesia	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
34588	Rox Medical	150 Calle Iglesia	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
307521	Sensory Medical Inc	1235 Puerta Del Sol #500	San Clemente, CA	92673	MANUFACTURING IND	M02	3569	No	N/A	MANUFACTURING IND
726	Miller Iron Works	1321 Calle Valle, Unit G	San Clemente, CA	92672	ORNAMENTAL METALS	M02	1799	Yes	Turbidity	ORNAMENTAL METALS
13769	South Coast Fashion Jewelry Mfg	990 Negocio	San Clemente, CA	92672	JEWELRY	M02	5944	No	N/A	JEWELRY

**APPENDIX F**  
**Industrial/Commercial BMP Fact Sheets**



# IC1. AIRPLANE MAINTENANCE AND REPAIR

## Best Management Practices (BMPs)

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

Targeted Constituents	
Sediment	x
Nutrients	x
Floatable Materials	
Metals	x
Bacteria	
Oil & Grease	x
Organics & Toxicants	x
Pesticides	
Oxygen Demanding	x

### MINIMUM BEST MANAGEMENT PRACTICES

#### Pollution Prevention/Good Housekeeping

- Utilize dry cleanup methods (i.e. sweeping), try to avoid washing down work areas.
- Use drip pans and/or containers where needed.
- Dispose of all waste products properly and recycle whenever possible.
- Paint signs near outdoor drains and post signs at sinks to remind employees and others not to pour wastes down storm drains.
- Clean storm drain inlet(s) on a regular schedule and after large storms.
- Store idle equipment under cover.
- Keep equipment clean and free of excessive oil and grease.

#### Stencil storm drains

#### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

### 1. Only conduct maintenance or repair work in designated areas.

- Conduct maintenance and repair work in a designated area with spill containment.
- Construct a berm or intercept trench at doorways to prevent stormwater runoff as well as the runoff of uncontaminated stormwater from adjacent areas.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

- 2. Utilize dry cleanup methods (i.e. sweeping), try to avoid washing down work areas.**
  - If work areas are washed and if discharge to the sanitary sewer is allowed treat water with an appropriate treatment device (e.g. clarifier) before discharging. **DO NOT** discharge wash water to sanitary sewer until contacting the local sewer authority to find out if pretreatment is required.
  - If discharge to the sanitary sewer is not permitted, pump water to a tank and dispose of properly.
- 3. Use drip pans and/or containers where needed.** Keep a drip pan or container under the airplane when unclipping hoses, unscrewing filters, or conducting other maintenance and repair work that may result in fluids dripping or splattering onto the shop floor or ground.
- 4. Inspect airplanes for leaks.**
  - Inspect incoming airplanes for leaks.
  - Inspect airplanes for leaks during regular maintenance; keep records.
- 5. Dispose of all waste products properly and recycle whenever possible.**
  - Promptly transfer waste materials to the proper waste or recycling drums.
  - Store waste and/or recycling drums in designated areas with spill containment.
  - Separate hazardous and non-hazardous wastes, do not mix used oil and solvents and keep chlorinated solvents separate from non-chlorinated solvents.
  - Recycle greases, used oils, oil filters, antifreeze, cleaning solutions, batteries, and hydraulic and transmission fluids whenever possible.
- 6. Paint signs near outdoor drains and post signs at sinks to remind employees and others not to pour wastes down storm drains.**
- 7. Clean storm drain inlet(s) on a regular schedule and after large storms.**
- 8. Store idle equipment under cover.**
- 9. Keep equipment clean and free of excessive oil and grease.**
- 10. Completely drain oil filters before recycling/disposal.**
- 11. Use non-toxic chemicals for maintenance when possible.**
- 12. Minimize the use of solvents.**

## **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 3. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
- 4. Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003.  
[www.cabmphandbooks.com](http://www.cabmphandbooks.com) California Storm Water Best Management Practice Handbooks.

Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. King County Surface Water Management. July 1995. On-line:  
<http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

### **For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*

## IC2. ANIMAL HANDLING AREAS

### Best Management Practices (BMPs)

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

Targeted Constituents	
Sediment	x
Nutrients	x
Floatable Materials	x
Metals	
Bacteria	x
Oil & Grease	
Organics & Toxicants	
Pesticides	
Oxygen Demanding	x

#### MINIMUM BEST MANAGEMENT PRACTICES

##### Pollution Prevention/Good Housekeeping

- Use dry cleaning methods to clean animal handling areas regularly.
- Properly collect and dispose of water when water is used for cleaning.
- Prevent animals from moving away from controlled areas where BMPs are in use (e.g. fencing, leashing, etc.)
- Clean storm drain inlet(s) on a regular schedule and after large storms.

##### Stencil storm drains

##### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### 1. Use dry cleaning methods to clean animal handling areas regularly.

- Sweeping animal handling areas is encouraged over other methods.
- Properly dispose of droppings, uneaten food, and other potential contaminants.

#### 2. If water is used for cleaning:

- Do not discharge wash water to storm water drains or other receiving waters.
- Block the storm drain and contain the runoff for proper disposal.
- Wash water should be collected and pumped to the sanitary sewer, do not allow wash water to enter storm drains. **DO NOT** discharge wash water to sanitary sewer until contacting the local sewer authority to find out if pretreatment is required.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

3. **Keep animals in paved and covered areas, if feasible.**
4. **If keeping animals in covered areas is not feasible, cover the ground with vegetation or some other type of ground cover such as mulch.**
5. **Prevent animals from moving away from controlled areas where BMPs are in use (e.g. fencing, leashing, etc.).**

## **Training**

1. **Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
2. **Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
3. **Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
4. **Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003.  
[www.cabmphandbooks.com](http://www.cabmphandbooks.com)

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. King County Surface Water Management. July 1995. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

### **For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*

## **IC3. BUILDING MAINTENANCE**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	x
Floatable Materials	
Metals	x
Bacteria	x
Oil & Grease	
Organics & Toxicants	
Pesticides	
Oxygen Demanding	

#### **MINIMUM BEST MANAGEMENT PRACTICES**

##### Pollution Prevention/Good Housekeeping

- Properly collect and dispose of water when pressure washing buildings, rooftops, and other large objects.
- Properly prepare work area before conducting building maintenance.
- Properly clean and dispose of equipment and wastes used and generated during building maintenance.
- Store toxic material under cover when not in use and during precipitation events.

##### Stencil storm drains

##### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### **1. Properly collect and dispose of water when pressure washing buildings, rooftops, and other large objects.**

- If pressure washing where the surrounding area is paved, use a water collection device that enables collection of wash water and associated solids. Use a sump pump, wet vacuum or similarly effective device to collect the runoff and loose materials. Dispose of the collected runoff and solids properly.
- If pressure washing on a landscaped area (with or without soap), runoff must be dispersed as sheet flow as much as possible, rather than as a concentrated stream. The wash runoff must remain on the landscaping and not drain to pavement.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

2. **Properly prepare work area before conducting building maintenance.**
  - Use ground or drop cloths underneath outdoor painting, scraping, and sandblasting work, and properly dispose of collected material daily.
  - Use a ground cloth or oversized tub for activities such as paint mixing and tool cleaning.
  - Block off the storm drain and collect the material(s) if dust, grit, wash water, or other pollutants may be discharged.
3. **Properly clean and dispose of equipment and wastes used and generated during building maintenance.**
  - Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be dumped into a sanitary sewer drain. Brushes and tools covered with non-water-based paints, finishes, or other materials must be cleaned in a manner that enables collection of used solvents (e.g., paint thinner, turpentine, etc.) for recycling or proper disposal.
  - Properly dispose of wash water, sweepings, and sediments.
  - Properly store equipment, chemicals, and wastes.
  - Do not dump any toxic substance or liquid waste on the pavement, the ground, or toward a storm drain.
  - OPTIONAL: Recycle residual paints, solvents, lumber, and other materials to the maximum extent practicable
4. **Employ soil erosion and stabilization techniques when exposing large areas of soil.**
  - Confine excavated materials to pervious surfaces away from storm drain inlets, sidewalks, pavement, and ditches. Material must be covered if rain is expected.
  - Use chemical stabilization or geosynthetics to stabilize bare ground surfaces.
5. **Store toxic material under cover when not in use and during precipitation events.**
6. **Properly dispose of fluids from air conditioning, cooling tower, and condensate drains.**
7. **Regularly inspect air emission control equipment under AQMD permit.**
8. **Switch to non-toxic chemicals for maintenance when possible.**
  - If cleaning agents are used, select biodegradable products whenever feasible
  - Consider using a waterless and non-toxic chemical cleaning method for graffiti removal (e.g. gels or spray compounds).
9. **Use chemicals that can be recycled.**
  - Buy recycled products to the maximum extent practicable

## **Training**

1. **Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
2. **Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
3. **Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
4. **Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003. [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser& McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. King County Surface Water Management. July 1995. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

### **For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*



## **IC4. CARPET CLEANING**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right.

Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	
Floatable Materials	
Metals	
Bacteria	
Oil & Grease	
Organics & Toxicants	x
Pesticides	
Oxygen Demanding	

#### **MINIMUM BEST MANAGEMENT PRACTICES**

##### Pollution Prevention/Good Housekeeping

- Discharge wash water to sink, toilet, or other drain connected to the sanitary sewer system.

##### Stencil storm drains

##### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### **Discharge wash water to sink, toilet, or other drain connected to the sanitary sewer system.**

- Never discharge wash water to a street, gutter, parking lot, or storm drain. Either:
  - 1) Empty the spent cleaning fluid tank into a utility sink or other indoor sewer connection at the service provider's home base
  - 2) Arrange with the customer to discharge into a toilet or utility sink on their premises.
- Check the local wastewater authority's requirements for sanitary sewer discharge.
- Filter wash water before discharging to the sanitary sewer to avoid clogging pipes. Dispose of filtered material in the garbage, provided the carpet was not contaminated with hazardous materials.
- These guidelines apply even to cleaning products labeled "nontoxic" and "biodegradable."

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

## **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 3. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
- 4. Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003.  
[www.cabmphandbooks.com](http://www.cabmphandbooks.com)

Water Quality Guidelines for Carpet Cleaning Activities. Orange County Stormwater Program.  
Prepared by Watershed & Coastal Resources Division. January 2002. On-line:  
[http://www.ocwatersheds.com/PublicEducation/pe\\_brochures\\_carpet.asp](http://www.ocwatersheds.com/PublicEducation/pe_brochures_carpet.asp)

Orange County Stormwater Program. 2002. Water Quality Guidelines for Carpet Cleaning Activities.  
March.

### **For additional information contact:**

*City of San Clemente*  
*Water Quality Section*  
*(949) 361-6143*

## **IC5. CONCRETE / ASPHALT PRODUCTION, APPLICATION, AND CUTTING**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right.

Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	
Floatable Materials	
Metals	
Bacteria	
Oil & Grease	
Organics & Toxicants	
Pesticides	
Oxygen Demanding	

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### **1. Properly collect and dispose of process water.**

Discharge process water from production, pouring, equipment cleaning, and cutting activities to a sump, process water treatment or recycling system, or sanitary sewer system if allowed.

#### **2. Protect production, pouring, and cutting areas from stormwater runoff and runoff.** Construct a berm around the perimeter of the area to prevent the runoff of uncontaminated stormwater from adjacent areas as well as runoff of stormwater.

#### **3. Sweep the production, pouring, and cutting areas regularly to collect loose materials.**

- **DO NOT** hose down area to a storm drain or conveyance ditch.
- Do not wash sweepings from exposed aggregate concrete into the street or storm drain. Collect and return sweepings to aggregate base stockpile, or dispose in the trash.

### **MINIMUM BEST MANAGEMENT PRACTICES**

#### Pollution Prevention/Good Housekeeping

- Properly collect and dispose of process water.
- Protect production, pouring, and cutting areas from stormwater runoff and runoff.
- Sweep the production, pouring, and cutting areas regularly to collect loose materials.
- Pre-heat, transfer or load hot bituminous material away from storm drain inlets.
- Use drip pans or absorbent material to catch drips from paving equipment, including equipment that is not in use.
- Cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc.
- To avoid runoff, use only as much water as necessary for dust control.

#### Stencil storm drains

#### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"  
IC5 Concrete and Asphalt Production,  
Application, and Cutting

4. **Pre-heat, transfer or load hot bituminous material away from storm drain inlets.**
5. **Use drip pans or absorbent material to catch drips from paving equipment, including equipment that is not in use. Dispose of collected material and absorbents properly.**
6. **Cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc.**
  - Clean covers regularly.
  - Leave covers in place until job is complete and clean any debris for proper disposal.
7. **Conduct surface repair work during dry weather to prevent contamination from contacting stormwater runoff.**
8. **To avoid runoff, use only as much water as necessary for dust control.**
9. **Do not allow concrete and concrete pumping vehicles to discharge concrete, slurry, or rinse water into gutters, storm drains, or drainage ditches.**

## **Training**

1. **Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
2. **Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
3. **Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
4. **Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003.  
[www.cabmphandbooks.com](http://www.cabmphandbooks.com)

Los Angeles County Stormwater Quality. Public Agency Activities Model Program. On-line:  
[http://ladpw.org/wmd/npdes/public\\_TC.cfm](http://ladpw.org/wmd/npdes/public_TC.cfm)

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. King County Surface Water Management. July 1995. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998. (Revised February 2002 by the California Coastal Commission)

Santa Clara Valley Urban Runoff Pollution Prevention Program. Maintenance Best Management Practices for the Construction Industry. Brochures: Landscaping, Gardening, and Pool; Roadwork and Paving; and Fresh Concrete and Mortar Application. June 2001.

**For additional information contact:**

*City of San Clemente*  
*Water Quality Section*  
*(949) 361-6143*

## **IC6. CONTAMINATED OR ERODIBLE SURFACES AREAS**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right.

Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	x
Floatable Materials	
Metals	x
Bacteria	x
Oil & Grease	x
Organics & Toxicants	x
Pesticides	x
Oxygen Demanding	

<b>MINIMUM BEST MANAGEMENT PRACTICES</b>	
<u>Pollution Prevention/Good Housekeeping</u>	
•	Protect contaminated or erodible surface areas from rainfall and wind dispersal.
•	Protect materials from stormwater runoff and runoff.
•	Conduct routine maintenance.
<u>Stencil storm drains</u>	
<u>Training</u>	
1.	Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
2.	Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### **1. Protect contaminated or erodible surface areas from rainfall and wind dispersal through one or more of the following:**

- Preserve natural vegetation.
- Re-plant or landscaping bare ground surfaces.
- Use chemical stabilization or geosynthetics to stabilize bare ground surfaces. Be sure and check with the City Engineer before application.
- Remove contaminated soils.
- Cover materials with a fixed roof or a temporary waterproof covering made of polyethylene, polypropylene or hypalon. Keep covers in place at all times when work is not occurring. If areas are so large that they cannot feasibly be covered and contained, implement erosion

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

control practices at the perimeter of the area and at any catch basins to prevent dispersion of the stockpiled material.

2. **Protect materials from stormwater runoff and runoff.** Construct a berm around the perimeter of the area to prevent the runoff of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from the material.
3. **Minimize pooling of water.** Paved areas should be sloped in a manner that minimizes the pooling of water in the area. A minimum slope of 1.5 percent is recommended.
4. **Conduct routine maintenance.** Sweep paved areas regularly to collect loose materials.
  - **DO NOT** hose down area to a storm drain or conveyance ditch.
  - Properly dispose of waste materials.

## **Training**

1. **Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
2. **Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
3. **Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
4. **Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003.  
[www.cabmphandbooks.com](http://www.cabmphandbooks.com)

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. King County Surface Water Management. July 1995. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

## **For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*

## **IC7. LANDSCAPE MAINTENANCE**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	x
Floatable Materials	x
Metals	
Bacteria	x
Oil & Grease	
Organics & Toxicants	
Pesticides	x
Oxygen Demanding	x

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### **1. Take steps to reduce landscape maintenance requirements.**

- Where feasible, retain and/or plant native vegetation with features that are determined to be beneficial. Native vegetation usually requires less maintenance than planting new vegetation.
- When planting or replanting consider using low water use flowers, trees, shrubs, and groundcovers.
- Consider alternative landscaping techniques such as naturescaping and xeriscaping.

#### **2. Properly store and dispose of gardening wastes.**

- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage at a permitted landfill or by composting.

### **MINIMUM BEST MANAGEMENT PRACTICES**

#### Pollution Prevention/Good Housekeeping

- Properly store and dispose of gardening wastes.
- Use mulch or other erosion control measures on exposed soils.
- Properly manage irrigation and runoff.
- Properly store and dispose of chemicals.
- Properly manage pesticide and herbicide use.
- Properly manage fertilizer use.

#### Stencil storm drains

#### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"



- Do not dispose of gardening wastes in streets, waterways, or storm drainage systems.
- Place temporarily stockpiled material away from watercourses and storm drain inlets, and berm and/or cover.

**3. Use mulch or other erosion control measures on exposed soils.**

**4. Properly manage irrigation and runoff.**

- Irrigate slowly or pulse irrigate so the infiltration rate of the soil is not exceeded.
- Inspect irrigation system regularly for leaks and to ensure that excessive runoff is not occurring.
- If re-claimed water is used for irrigation, ensure that there is no runoff from the landscaped area(s).
- If bailing of muddy water is required (e.g. when repairing a water line leak), do not put it in the storm drain; pour over landscaped areas.
- Use automatic timers to minimize runoff.
- Use popup sprinkler heads in areas with a lot of activity or where pipes may be broken. Consider the use of mechanisms that reduce water flow to broken sprinkler heads.

**5. Properly store and dispose of chemicals.**

- Implement storage requirements for pesticide products with guidance from the local fire department and/or County Agricultural Commissioner.
- Provide secondary containment for chemical storage.
- Dispose of empty containers according to the instructions on the container label.
- Triple rinse containers and use rinse water as product.

**6. Properly manage pesticide and herbicide use.**

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of pesticides and herbicides and training of applicators and pest control advisors.
- Follow manufacturers' recommendations and label directions.
- Use pesticides only if there is an actual pest problem (not on a regular preventative schedule). When applicable use less toxic pesticides that will do the job. Avoid use of copper-based pesticides if possible. Use the minimum amount of chemicals needed for the job.
- Do not apply pesticides if rain is expected or if wind speeds are above 5 mph.
- Do not mix or prepare pesticides for application near storm drains. Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the targeted pest.
- Whenever possible, use mechanical methods of vegetation removal rather than applying herbicides. Use hand weeding where practical.
- Do not apply any chemicals directly to surface waters, unless the application is approved and permitted by the state. Do not spray pesticides within 100 feet of open waters.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- **Sweep** pavement and sidewalk if chemicals are spilled on these surfaces before applying irrigation water.
- When conducting mechanical or manual weed control, avoid loosening the soil, which could lead to erosion.
- Purchase only the amount of pesticide that you can reasonably use in a given time period.
- Careful soil mixing and layering techniques using a topsoil mix or composted organic material can be used as an effective measure to reduce herbicide use and watering.

**7. Properly manage fertilizer use.**

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers.
- Follow manufacturers' recommendations and label directions.
- Employ techniques to minimize off-target application (e.g. spray drift) of fertilizer, including consideration of alternative application techniques. Calibrate fertilizer distributors to avoid excessive application.
- Periodically test soils for determining proper fertilizer use.
- Fertilizers should be worked into the soil rather than dumped or broadcast onto the surface.
- Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Use slow release fertilizers whenever possible to minimize leaching

**8. Incorporate the following integrated pest management techniques where appropriate:**

- Mulching can be used to prevent weeds where turf is absent.
- Remove insects by hand and place in soapy water or vegetable oil. Alternatively, remove insects with water or vacuum them off the plants.
- Use species-specific traps (e.g. pheromone-based traps or colored sticky cards).
- Sprinkle the ground surface with abrasive diatomaceous earth to prevent infestations by soft-bodied insects and slugs. Slugs also can be trapped in small cups filled with beer that are set in the ground so the slugs can get in easily.
- In cases where microscopic parasites, such as bacteria and fungi, are causing damage to plants, the affected plant material can be removed and disposed of (pruning equipment should be disinfected with bleach to prevent spreading the disease organism).
- Small mammals and birds can be excluded using fences, netting, and tree trunk guards.
- Promote beneficial organisms, such as bats, birds, green lacewings, ladybugs, praying mantis, ground beetles, parasitic nematodes, trichogramma wasps, seedhead weevils, and spiders that prey on detrimental pest species.

## **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Educate and train employees on the use of pesticides and pesticide application techniques. Only employees properly trained to use pesticides can apply them.**
- 3. Train and encourage employees to use integrated pest management techniques.**
- 4. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 5. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
- 6. Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## References

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003. [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. King County Surface Water Management. July 1995. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

Water Quality Handbook for Nurseries. Oklahoma Cooperative Extension Service. Division of Agricultural Sciences and Natural Resources. Oklahoma State University. E-951. September 1999.

### **For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*

## **IC8. NURSERIES AND GREENHOUSES**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right.

Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	x
Floatable Materials	x
Metals	
Bacteria	x
Oil & Grease	
Organics & Toxicants	
Pesticides	
Oxygen Demanding	x

#### **MINIMUM BEST MANAGEMENT PRACTICES**

##### Pollution Prevention/Good Housekeeping

- Properly manage irrigation and runoff.
- Properly store and dispose of gardening wastes.
- Properly store and dispose of chemicals.
- Properly manage pesticide and herbicide use.
- Properly manage fertilizer use.

##### Stencil storm drains

##### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### **1. Properly manage irrigation and runoff.**

- Utilize intermittent (pulse) irrigation or drip irrigation so the infiltration rate of the soil is not exceeded.
- Regularly inspect irrigation systems for leaks and to ensure that excessive runoff is not occurring.
- Convert paved or bare soil areas to vegetation that will retard runoff (turf grasses or other comparable plant materials) wherever possible.
- Group plants with similar water needs together to improve irrigation efficiency.
- Establish plant buffer zones between production areas and ditches, creeks, ponds, lakes, or wetlands.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

- Install and use moisture sensors and automatic sprinklers for more accurate scheduling of irrigation.
- Recycle runoff, blend with fresh water as necessary.

## **2. Properly store and dispose of gardening wastes.**

- Dispose of grass clippings, leaves, sticks, or other collected vegetation as garbage at a permitted landfill or by composting.
- Do not dispose of gardening wastes in streets, waterways, or storm drainage systems.
- Place temporarily stockpiled material away from watercourses and storm drain inlets, and berm and/or cover.

## **3. Properly store and dispose of chemicals.**

- Implement storage requirements for pesticide products with guidance from the local fire department and/or County Agricultural Commissioner.
- Provide secondary containment for chemical storage.
- Dispose of empty containers according to the instructions on the container label.
- Triple rinse containers and use rinse water as product.

## **4. Properly manage pesticide and herbicide use.**

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of pesticides and herbicides and training of applicators and pest control advisors.
- Follow manufacturers' recommendations and label directions.
- Use pesticides only if there is an actual pest problem (not on a regular preventative schedule). When applicable use less toxic pesticides that will do the job. Avoid use of copper-based pesticides if possible. Use the minimum amount of chemicals needed for the job.
- Do not apply pesticides if rain is expected or if wind speeds are above 5 mph.
- Do not mix or prepare pesticides for application near storm drains. Prepare the minimum amount of pesticide needed for the job and use the lowest rate that will effectively control the pest.
- Do not mix, prepare, or spray pesticides within 100 feet of any well, stream, or pond.
- Do not get rid of unused pesticides by washing them down drains.
- Employ techniques to minimize off-target application (e.g. spray drift) of pesticides, including consideration of alternative application techniques.
- **Sweep** pavement and sidewalk if chemicals are spilled on these surfaces before applying irrigation water
- Careful soil mixing and layering techniques using a topsoil mix or composted organic material can be used as an effective measure to reduce herbicide use and watering.

## **5. Properly manage fertilizer use.**

- Follow all federal, state, and local laws and regulations governing the use, storage, and disposal of fertilizers.
- Follow manufacturers' recommendations and label directions.
- Employ techniques to minimize off-target application (e.g. spray drift) of fertilizer, including consideration of alternative application techniques. Calibrate fertilizer distributors to avoid excessive application.
- Periodically test soils for determining proper fertilizer use.
- Whenever feasible, spread out applications of controlled-release fertilizers and use split applications of soluble fertilizers over the growing season.
- Work fertilizers into the soil rather than dumping or broadcasting them.

- Sweep pavement and sidewalk if fertilizer is spilled on these surfaces before applying irrigation water.
- Transition from the use of soluble fertilizers to controlled-release fertilizers. Use slow release fertilizers whenever possible to minimize leaching.
- Reduce or eliminate routine leaching of crops.

**6. Incorporate the following integrated pest management techniques where appropriate:**

- Remove insects by hand and place in soapy water or vegetable oil. Alternatively, remove insects with water or vacuum them off the plants.
- Use species-specific traps (e.g. pheromone-based traps or colored sticky cards).
- Sprinkle the ground surface with abrasive diatomaceous earth to prevent infestations by soft-bodied insects and slugs. Slugs also can be trapped in small cups filled with beer that are set in the ground so the slugs can get in easily.
- In cases where microscopic parasites, such as bacteria and fungi, are causing damage to plants, the affected plant material can be removed and disposed of (pruning equipment should be disinfected with bleach to prevent spreading the disease organism).
- Small mammals and birds can be excluded using fences, netting, and tree trunk guards.
- Promote beneficial organisms, such as bats, birds, green lacewings, ladybugs, praying mantis, ground beetles, parasitic nematodes, trichogramma wasps, seedhead weevils, and spiders that prey on detrimental pest species.

## **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Educate and train employees on the use of pesticides and pesticide application techniques.**
- 3. Train and encourage maintenance crews to use integrated pest management techniques.**
- 4. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site’s spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 5. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
- 6. Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003. [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser& McKee, Larry Walker Associates,

Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. King County Surface Water Management. July 1995. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

Water Quality Handbook for Nurseries. Oklahoma Cooperative Extension Service. Division of Agricultural Sciences and Natural Resources. Oklahoma State University. E-951. September 1999.

**For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*

## **IC9. OUTDOOR DRAINAGE FROM INDOOR AREAS**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	X
Nutrients	X
Floatable Materials	X
Metals	X
Bacteria	X
Oil & Grease	X
Organics & Toxicants	X
Pesticides	X
Oxygen Demanding	X

#### **MINIMUM BEST MANAGEMENT PRACTICES**

##### Pollution Prevention/Good Housekeeping

- Utilize dry cleanup methods such as sweeping for removal of litter and debris, or use of rags and absorbents for leaks and spills.

##### Stencil storm drains

##### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

- 1. Design operating areas to minimize stormwater exposure.**
  - Construct a berm or intercept trench at doorways.
  - Install a collection system for pretreatment and sewer disposal under permit.
- 2. Utilize dry cleanup methods such as sweeping for removal of litter and debris, or use of rags and absorbents for leaks and spills.** Properly dispose of collected wastes.
- 3. Use secondary containment or protective barriers for indoor liquid storage.**
- 4. Install a fire sprinkler containment system for hazardous material storage.**

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"



## **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 3. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
- 4. Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003.  
[www.cabmphandbooks.com](http://www.cabmphandbooks.com)

California Storm Water Best Management Practice Handbooks. Municipal Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

## **For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*

## **IC10. OUTDOOR LOADING/UNLOADING OF MATERIALS**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right.

Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	x
Floatable Materials	
Metals	x
Bacteria	
Oil & Grease	x
Organics & Toxicants	x
Pesticides	x
Oxygen Demanding	

#### MINIMUM BEST MANAGEMENT PRACTICES

##### Pollution Prevention/Good Housekeeping

- Park vehicles and conduct loading/unloading only in designated loading/unloading areas so that spills or leaks can be contained.
- Clean loading/unloading areas regularly to remove potential sources of pollutants.
- Reduce exposure of materials to rain.
- Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections.
- Inspect equipment regularly.
- If possible, conduct loading and unloading in dry weather.

##### Stencil storm drains

##### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### **1. Properly design loading/unloading areas to prevent storm water runoff, runoff of spills, etc.**

- Grade and/or berm the area to prevent runoff.
- Position roof downspouts to direct stormwater away from the area.
- Grade and/or berm the loading/unloading area to a drain that is connected to a dead-end.
- The area where truck transfers take place should be paved. If the liquid is reactive with the asphalt, Portland cement should be used to pave the area.
- Avoid placing loading/unloading areas near storm drains.

#### **2. Park vehicles and conduct loading/unloading only in designated loading/unloading areas so that spills or leaks can be contained.**

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

3. **Clean loading/unloading areas regularly to remove potential sources of pollutants.** This includes outside areas that are regularly covered by containers or other materials.
4. **Reduce exposure of materials to rain.**
  - Cover the loading/unloading areas.
  - If a cover is unfeasible, use overhangs, or seals or door skirts to enclose areas.
5. **Use drip pans underneath hose and pipe connections and other leak-prone spots during liquid transfer operations, and when making and breaking connections.**
6. **Inspect equipment regularly**
  - Designate a responsible party to check under delivery vehicles for leaking fluids, spilled materials, debris, or other foreign materials.
  - Check loading/unloading equipment regularly for leaks.
7. **If possible, conduct loading and unloading in dry weather.**

## **Training**

1. **Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
2. **Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
3. **Train employees on the proper techniques used during liquid transfers to avoid leaks and spills.**
4. **Train forklift operators on the proper loading and unloading procedures.**
5. **Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
6. **Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003. [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs.  
Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14.  
August 2001.

**For additional information contact:**

*City of San Clemente*  
*Water Quality Section*  
*(949) 361-6143*

# **IC11. OUTDOOR PROCESS EQUIPMENT OPERATIONS AND MAINTENANCE**

## **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	
Floatable Materials	
Metals	x
Bacteria	
Oil & Grease	x
Organics & Toxicants	x
Pesticides	
Oxygen Demanding	

**MINIMUM BEST MANAGEMENT PRACTICES**

Pollution Prevention/Good Housekeeping

- Conduct activities indoors and/or under covered areas
- Inspect equipment regularly.

Stencil storm drains

Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

**1. Alter activities to prevent exposure of pollutants to stormwater.**

- Perform activities during dry periods.
- Move activities indoors.
- Replace toxic materials with benign materials.

**2. Cover process equipment/area with a permanent roof.**

**3. Design process area to prevent stormwater runoff.**

- Grade and/or berm the area to prevent runoff.
- Position roof downspouts to direct stormwater away from the area.

**4. Design process area to contain spills.**

- Place equipment on an impervious surface, or install a drip pan under potential leak points.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

- Construct a berm around the process equipment to contain spills.
  - Install drains connected to the public sewer or the facility’s process wastewater system within these contained areas. **DO NOT** discharge to a public sewer until contacting the local sewer authority to find out if pretreatment is required. If discharge to the sanitary sewer is not allowed, pump water to a tank and dispose of properly.
- 5. Inspect equipment regularly.**
- Conduct regular and frequent inspection of equipment for leaks, malfunctions, staining on and around equipment, and other evidence of leaks.
  - Develop a standard methodology for reporting inspection results.
  - Develop a procedure for taking action on items in the report, responding to leaks, cleaning up spills, and completing repairs to prevent future leaks.
- 6. If possible, eliminate or reduce the amount of hazardous materials and waste** by substituting non-hazardous or less hazardous material:
- Use non-caustic detergents instead of caustic cleaning for parts cleaning.
  - Use a water-based cleaning service and have tank cleaned. Use detergent-based or water-based cleaning systems in place of organic solvent degreasers.
  - Replace chlorinated organic solvents with non-chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of properly. Check list of active ingredients to see whether it contains chlorinated solvents.
  - Choose cleaning agents that can be recycled.
- 7. Recycled wastes whenever possible**
- Recycling is always preferable to disposal of unwanted materials.
  - Separate wastes for easier recycling. Keep hazardous and non-hazardous wastes separate, do not mix used oil and solvents, and keep chlorinated solvents separate from non-chlorinated solvents.
  - Label and track the recycling of waste material (e.g. used oil, spent solvents, batteries). Purchase recycled products to support the market for recycled materials.

## Training

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site’s spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 3. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
- 4. Use a training log or similar method to document training.**

## Stencil storm drains

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003.  
www.cabmphandbooks.com

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser& McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

### **For additional information contact:**

*City of San Clemente*  
*Water Quality Section*  
*(949) 361-6143*

## **IC12. OUTDOOR STORAGE OF RAW MATERIALS, PRODUCTS, AND CONTAINERS**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	x
Floatable Materials	
Metals	x
Bacteria	
Oil & Grease	x
Organics & Toxicants	x
Pesticides	
Oxygen Demanding	

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

- 1. Store materials indoors, if feasible.**
- 2. Store materials on paved or impervious surfaces.**
- 3. Protect materials stored outside from rainfall and wind dispersal.**
  - Cover materials with a fixed roof or a temporary waterproof covering made of polyethylene, polypropylene, or hypalon.
  - Keep covers in place at all times when work is not occurring.
  - If areas are so large that they cannot feasibly be covered and contained, implement erosion control practices at the perimeter of the area and at any catch basins to prevent dispersion of the stockpiled material.

#### **MINIMUM BEST MANAGEMENT PRACTICES**

##### Pollution Prevention/Good Housekeeping

- Store materials indoors, if feasible.
- Store materials on paved or impervious surfaces.
- Protect materials stored outside from rainfall and wind dispersal.
- Protect materials stored outside from stormwater runoff.
- Properly store and handle chemical materials.
- Keep outdoor storage containers in good condition.
- Conduct regular inspections of storage areas.
- If drums are stored in an area where unauthorized persons may gain access secure them in such a manner as to prevent accidental spillage, pilferage, or any unauthorized use.

##### Stencil storm drains

##### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"  
IC12 Outside Storage of Raw Materials,  
Products, and Containers



4. **Protect materials stored outside from stormwater runoff.** Construct a berm around the perimeter of the material storage area to prevent the runoff of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from the material.
5. **Minimize pooling of water.** Slope paved areas to minimize the pooling of water on the site, particularly with materials that may leach pollutants into stormwater and/or groundwater, such as compost, logs, and wood chips. A minimum slope of 1.5 percent is recommended.
6. **All materials stored outside should have a secondary containment system.**
  - Surround storage tanks with a berm or other secondary containment system.
  - Slope the area inside the berm to a drain.
  - Drain liquids to the sanitary sewer if available.
  - **DO NOT** discharge wash water to sanitary sewer until contacting the local sewer authority to find out if pretreatment is required. If discharge to the sanitary sewer is not allowed, pump water to a tank and dispose of properly.
  - Pass accumulated stormwater in petroleum storage areas through an oil/water separator.
7. **Properly store and handle chemical materials.**
  - Designate a secure material storage area that is paved with Portland cement concrete, free of cracks and gaps, and impervious in order to contain leaks and spills.
  - Do not store chemicals, drums, or bagged materials directly on the ground. Place these items in secondary containers.
  - Liquid materials should be stored in UL approved double walled tanks or surrounded by a curb or dike to provide the volume to contain 10 percent of the volume of all the containers or 110 percent of the volume of the largest container, whichever is greater.
  - Keep chemicals in their original containers, if feasible, and keep them well labeled.
8. **Keep outdoor storage containers in good condition.**
  - Keep storage areas clean and dry.
  - Sweep and maintain routes to and from storage areas.
9. **Conduct regular inspections of storage areas.**
  - Check for external corrosion of material containers, structural failures, spills and overfills due to operator error, failure of piping system, etc.
  - Inspect tank foundations, connections, coatings, tank walls, and piping system.
  - Look for corrosion, leaks, cracks, scratches, and other physical damage that may weaken tanks or container systems.
10. **If drums are stored in an area where unauthorized persons may gain access secure them in such a manner as to prevent accidental spillage, pilferage, or any unauthorized use.**

## Training

1. **Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
2. **Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
3. **Train forklift operators on the proper loading and unloading procedures.**
4. **Establish a regular training schedule, train all new employees, and conduct annual refresher training.**

**5. Use a training log or similar method to document training.**

**Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

**References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003.  
www.cabmphandbooks.com

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser& McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

**For additional information contact:**

*City of San Clemente*  
*Water Quality Section*  
*(949) 361-6143*

## **IC13. OVER WATER ACTIVITIES**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	
Nutrients	
Floatable Materials	x
Metals	x
Bacteria	x
Oil & Grease	x
Organics & Toxicants	x
Pesticides	
Oxygen Demanding	x

### **MINIMUM BEST MANAGEMENT PRACTICES**

#### Pollution Prevention/Good Housekeeping

- Move maintenance and repair activities on-shore, if feasible.
- Use ground cloths and/or secondary containment when painting boats on land.
- Shelter any blasting and spray painting activities.
- Post signs to indicate proper use and disposal of residual paints, rags, used oil, and other engine fluids.
- Keep boat motors well-tuned to prevent fuel and lubricant leaks.
- Recycle used motor oil, diesel oil, and other fluids and parts whenever possible.
- Maintain a clean working environment.
- Properly dispose of bilge water, ballast water, and wastewater.

#### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### **1. Move maintenance and repair activities on-shore if feasible.**

- Perform paint and solvent mixing, fuel mixing, and similar handling of liquids on-shore, to avoid spillage directly to surface water bodies.
- If minor hull surface maintenance (sanding and minor painting) is being completed, protect the water body below with secondary containment. Major hull resurfacing should occur on land.

#### **2. Use ground cloths and/or secondary containment when painting boats on land.**

#### **3. Shelter any blasting and spray painting activities.**

- Hang wind-blocking tarps to prevent blasting dust and overspray from escaping.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

- Do not conduct these activities when wind conditions are such that containment is rendered ineffective.
4. **Post signs to indicate proper use and disposal of residual paints, rags, used oil, and other engine fluids.**
  5. **Boats with inboard engines should have oil absorption pads in bilge areas that are changed when no longer useful or at least once a year.**
  6. **Keep boat motors well-tuned to prevent fuel and lubricant leaks.**
  7. **Recycle used motor oil, diesel oil, and other fluids and parts whenever possible.**
  8. **Maintain a clean working environment.**
    - Utilize dry cleaning methods (e.g. sweeping). If washing is unavoidable, collect wash water for treatment and/or proper disposal.
    - Vacuum loose paint chips and paint dust to prevent paint and other chemical substances from entering waters.
    - Properly dispose of surface chips, used blasting sand, residual paints, and other materials. Use temporary storage containment that is not exposed to rain.
  9. **Properly dispose of bilge water, ballast water, and wastewater.**
    - Collect bilge and ballast water that has an oily sheen for proper disposal.
    - Collect and properly dispose of wash water from washing painted boat hulls.
    - Pump bilge water into storage tanks on shore for analysis, treatment and proper disposal.
    - **DO NOT** discharge treated or untreated sewage from vessels to harbors.
    - Empty portable toilets into approved shore side waste handling facilities and MSDs should be discharged into approved pump out stations.
    - Use as fine a filter as is practical on the ballast water intake ports to eliminate as many organisms and as much particulate matter as possible.
    - Carry out physical or chemical sterilization or neutralization of ballast water *in situ*, and subsequent neutralization of the sterilant, if required, before discharge.
    - Dump estuarine or harbor ballast water at sea and take in fresh high salinity water to eliminate both pollutants and estuarine organisms.
  10. **Minimize impacts of cleaning products.**
    - Clean parts without using solvents whenever possible.
    - Use nontoxic chemicals that do not harm humans or aquatic life.
    - Use phosphate-free and biodegradable detergents for hull washing.
    - Choose cleaning agents that can be recycled.

## **Training**

1. **Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
2. **Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
3. **Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
4. **Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003. [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

## **For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*

# **IC14. PAINTING, FINISHING, COATINGS OF VEHICLES, BOATS, BUILDINGS, & EQUIPMENT**

## **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	
Nutrients	
Floatable Materials	
Metals	x
Bacteria	
Oil & Grease	x
Organics & Toxicants	x
Pesticides	
Oxygen Demanding	

### **MINIMUM BEST MANAGEMENT PRACTICES**

#### Pollution Prevention/Good Housekeeping

- Use drop/ground cloths.
- Shelter any blasting and spray painting activities.
- Maintain a clean working environment.
- Cover and seal nearby storm drain inlets.
- Properly clean, store, and dispose of painting, finishing, and coating materials.

#### Stencil storm drains

#### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### **1. Use drop/ground cloths.**

- Underneath outdoor painting, scraping, and sandblasting work.
- Underneath outdoor mixing of paints, solvents, and tool cleaning.

#### **2. Shelter any blasting and spray painting activities.**

- Hang wind-blocking tarps to prevent sand blasting dust and overspray from escaping.
- Do not conduct these activities when wind conditions are such that containment is ineffective.
- Do not conduct these activities over open water.

#### **3. Maintain a clean working environment.**

- Utilize dry cleaning methods (e.g. sweeping). If washing is unavoidable, collect wash water for treatment and/or proper disposal.
- Vacuum loose paint chips and paint dust to prevent discharges
- Properly dispose of surface chips, used blasting sand, residual paints, and other materials. Use temporary storage containment that is not exposed to rain.

#### **4. Cover and seal nearby storm drain inlets.**

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"  
IC14 Painting, Finishing, and Coating of Vehicles,  
Boats, Buildings, and Equipment

- Cover and seal nearby storm drain inlets with waterproof material, mesh, or other runoff control device.
  - Leave covers in place until job is complete.
  - Clean covers daily and remove any debris for proper disposal.
- 5. Properly clean, store, and dispose of painting, finishing, and coating materials.**
- Do not dispose of toxic substances or liquid wastes on the pavement, ground, or storm drain.
  - Cover materials with a temporary waterproof covering made of polyethylene, polypropylene or hypalon.
  - Clean paint brushes and tools covered with water-based paints in sinks connected to sanitary sewers or in portable containers that can be poured into a sanitary sewer drain.
  - Clean paint brushes and tools covered with non-water-based paints, finishes, or other materials such that used solvents (e.g., paint thinner, turpentine, etc.) can be collected for recycling or proper disposal.
  - Recycle paint, paint thinner, solvents, and other recyclable materials whenever possible.

## **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 3. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
- 4. Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003.  
www.cabmphandbooks.com

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser& McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. King County Surface Water Management. July 1995. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

## **For additional information contact:**

*City of San Clemente*  
*Water Quality Section*  
*(949) 361-6143*

# IC15. PARKING AND STORAGE AREA MAINTENANCE

## Best Management Practices (BMPs)

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right.

Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

Targeted Constituents	
Sediment	x
Nutrients	x
Floatable Materials	x
Metals	x
Bacteria	x
Oil & Grease	x
Organics & Toxicants	x
Pesticides	x
Oxygen Demanding	x

### MINIMUM BEST MANAGEMENT PRACTICES

#### Pollution Prevention/Good Housekeeping

- Conduct regular cleaning.
- Properly collect and dispose of wash water.
- Keep the parking and storage areas clean and orderly.
- Use absorbent materials and properly dispose of them when cleaning heavy oily deposits.
- When conducting surface repair work cover materials and clean paintbrushes and tools appropriately.

#### Stencil storm drains

#### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

### 1. Conduct regular cleaning.

- Sweeping or vacuuming the parking facility is encouraged over other methods.
- Sweep all parking lots at least once before the onset of the wet season.
- Establish frequency of sweeping based on usage and field observations of waste accumulation.

### 2. Properly collect and dispose of wash water.

- Block the storm drain or contain runoff.
- Wash water should be collected and pumped to the sanitary sewer or discharged to a pervious surface, do not allow wash water to enter storm drains. **DO NOT** discharge wash

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"



water to sanitary sewer until contacting the local sewer authority to find out if pretreatment is required.

- Dispose of parking lot sweeping debris and dirt at a landfill.

**3. Consider use of source treatment BMPs to treat runoff.**

- Allow sheet runoff to flow into biofilters (vegetated strip and swale) and/or infiltration devices.
- Utilize sand filters or oleophilic collectors for oily waste in low quantities.

**4. Keep the parking and storage areas clean and orderly.**

- Clean out and cover litter receptacles frequently to prevent spillage.
- Remove debris in a timely fashion.

OPTIONAL:

- Post “No Littering” signs.

**5. When cleaning heavy oily deposits:**

- If possible, clean oily spots with absorbent materials.
- Do not allow discharges to the storm drain.
- Appropriately dispose of spilled materials and absorbents.

**6. When conducting surface repair work:**

- Pre-heat, transfer or load hot bituminous material away from storm drain inlets.
- Conduct surface repair work during dry weather to prevent contamination from contacting stormwater runoff.
- Cover and seal nearby storm drain inlets (with waterproof material or mesh) and manholes before applying seal coat, slurry seal, etc. Leave covers in place until job is complete and clean any debris for proper disposal.
- To avoid runoff, use only as much water as necessary for dust control.
- Use drip pans or absorbent material to catch drips from paving equipment that is not in use. Dispose of collected material and absorbents properly.

**7. Conduct inspections on a regular basis.**

- Designate personnel to conduct inspections of the parking facilities and stormwater conveyance systems associated with them.
- Inspect cleaning equipment/sweepers for leaks on a regular basis.

**8. Keep accurate maintenance logs to evaluate materials removed/stored and improvements made.**

**9. Arrange rooftop drains to prevent drainage directly onto paved surfaces.**

## **Training**

**1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**

**2. Train employees on proper spill containment and cleanup.**

- Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
- Ensure that employees are familiar with the site’s spill control plan and/or proper spill cleanup procedures.
- BMP IC17 discusses Spill Prevention and Control in detail.

**3. Provide regular training to field employees and/or contractors regarding cleaning of paved areas and proper operation of equipment.**

**4. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**

## **5. Use a training log or similar method to document training.**

### **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

### **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003. [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. King County Surface Water Management. July 1995. On-line: <http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

### **For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*

## **IC16. POOL AND FOUNTAIN CLEANING**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	x
Floatable Materials	x
Metals	
Bacteria	x
Oil & Grease	
Organics & Toxicants	x
Pesticides	x
Oxygen Demanding	x

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

- 1. Prevent algae problems with regular cleaning, consistent adequate chlorine levels, and well-maintained water filtration and circulation systems.**
  - Do not use copper-based algaecides.
  - Control algae with chlorine or other alternatives, such as sodium bromide.
- 2. Manage pH and water hardness to minimize corrosion of copper pipes.**
- 3. Discharge pool and fountain water properly.** Consider hiring a professional pool-draining service to collect all pool water for off-site disposal. If this is not feasible, adhere to the following:
  - When draining pools or fountains never discharge water to a street or storm drain, discharge to the sanitary sewer if permitted to do so.

### **MINIMUM BEST MANAGEMENT PRACTICES**

#### Pollution Prevention/Good Housekeeping

- Prevent algae problems with regular cleaning, consistent adequate chlorine levels, and well-maintained water filtration and circulation systems.
- Discharge pool and fountain water properly.

#### Stencil storm drains

#### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

- If draining a pool to the sanitary sewer, prevent backflow by maintaining an “air gap” between the discharge line and the sewer line (do not seal the connection between the hose and sewer line). Be sure to call the local sewer authority for guidance on flow rate restrictions, backflow prevention, and handling special cleaning waste (such as acid wash). Keep discharge flows to the low levels. Higher flow rates may be prohibited by local ordinance.
- If water is dechlorinated with a neutralizing chemical or by allowing chlorine to dissipate for a few days (do not use the facility during this time), the water may be recycled/reused by draining it gradually onto a landscaped area. Water must be tested prior to discharge to ensure that chlorine is not present.
- Provide drip pans or buckets beneath drain pipe connections to catch leaks. This will be especially pertinent if pool or spa water that has not been dechlorinated is pumped through piping to a discharge location.

#### **4. Properly clean and/or dispose of filters.**

- Never clean a filter in the street or near a storm drain.
- Rinse cartridge filters onto a dirt area, and work filter residue into soil.
- Backwash diatomaceous earth filters onto dirt. Dispose of spent diatomaceous earth in the garbage. Diatomaceous earth cannot be discharged to surface waters, storm drainage systems, septic systems, or on the ground.
- If there is not a suitable dirt area, discharge filter backwash or rinsewater to the sanitary sewer if permitted to do so by the local sewer agency.

### **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site’s spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 3. Train maintenance personnel on the proper techniques for testing chlorine levels and applying neutralizing chemicals.**
- 4. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
- 5. Use a training log or similar method to document training.**

### **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

### **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003. [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

King County Stormwater Pollution Control Manual. Best Management Practices for Businesses. 1995. King County Surface Water Management. July. On-line:  
<http://dnr.metrokc.gov/wlr/dss/spcm.htm>

Los Angeles County Stormwater Quality. Public Agency Activities Model Program. On-line:  
[http://ladpw.org/wmd/npdes/public\\_TC.cfm](http://ladpw.org/wmd/npdes/public_TC.cfm)

Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

Santa Clara Valley Urban Runoff Pollution Prevention Program. Maintenance Best Management Practices for the Construction Industry. Brochures: Landscaping, Gardening, and Pool; Roadwork and Paving; and Fresh Concrete and Mortar Application. June 2001.

**For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*

## **IC17. SPILL PREVENTION AND CLEANUP**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	x
Nutrients	x
Floatable Materials	x
Metals	x
Bacteria	x
Oil & Grease	x
Organics & Toxicants	x
Pesticides	x
Oxygen Demanding	x

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

### **Spill Prevention**

#### **1. Develop procedures to prevent/mitigate spills to storm drain systems.**

Standardize reporting procedures, containment, storage, and disposal activities, documentation, and follow-up procedures.

#### **2. Post “No Dumping” signs with a phone number for reporting illegal dumping and disposal.**

#### **3. Conduct routine cleaning, inspections, and maintenance.**

- Sweep and clean storage areas consistently at a designated frequency (e.g. weekly, monthly). **DO NOT** hose down areas to storm drains.

#### MINIMUM BEST MANAGEMENT PRACTICES

##### Pollution Prevention/Good Housekeeping

- Develop procedures to prevent/mitigate spills to storm drain systems.
- Post “No Dumping” signs with a phone number for reporting illegal dumping and disposal.
- Conduct routine cleaning, inspections, and maintenance.
- Properly store and handle chemical materials.
- Protect materials stored outside from stormwater runoff.
- Secure drums stored in an area where unauthorized persons may gain access to prevent accidental spillage, pilferage, or any unauthorized use.
- Identify key spill response personnel.
- Clean up leaks and spills immediately.
- Report and track spills.

##### Stencil storm drains

##### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

- Place drip pans or absorbent materials beneath all mounted taps, and at all potential drip and spill locations during filling and unloading of tanks. Reuse, recycle, or properly dispose of any collected liquids or soiled absorbent materials.
  - Check tanks (and any containment sumps) frequently for leaks and spills. Replace tanks that are leaking, corroded, or otherwise deteriorating with tanks in good condition. Collect all spilled liquids and properly dispose of them.
  - Check for external corrosion of material containers, structural failures, spills and overfills due to operator error, failure of piping system, etc.
  - Inspect tank foundations, connections, coatings, and tank walls and piping system.
- 4. Properly store and handle chemical materials.**
- Designate a secure material storage area that is paved with Portland cement concrete, free of cracks and gaps, and impervious in order to contain leaks and spills.
  - Do not store chemicals, drums, or bagged materials directly on the ground. Place these items in secondary containers.
  - Keep chemicals in their original containers, if feasible.
  - Keep containers well labeled according to their contents (e.g., solvent, gasoline).
  - Label hazardous substances regarding the potential hazard (corrosive, radioactive, flammable, explosive, poisonous).
  - Prominently display required labels on transported hazardous and toxic materials (per US DOT regulations).
- 5. Utilize secondary containment systems for liquid materials.**
- Surround storage tanks with a berm or other secondary containment system.
  - Slope the area inside the berm to a drain.
  - Drain liquids to the sanitary sewer if available. **DO NOT** discharge wash water to sanitary sewer until contacting the local sewer authority to find out if pretreatment is required
  - Pass accumulated stormwater in petroleum storage areas through an oil/water separator.
  - Use catch basin filtration inserts.
  - If the liquid is oil, gas, or other material that separates from and floats on water, install a spill control device (such as a tee section) in the catch basins that collect runoff from the storage tank area. The material should then be pumped out and disposed of properly.
- 6. Protect materials stored outside from stormwater runoff.** Construct a berm around the perimeter of the material storage area to prevent the runoff of uncontaminated stormwater from adjacent areas as well as runoff of stormwater from the material.
- 7. Secure drums stored in an area where unauthorized persons may gain access to prevent accidental spillage, pilferage, or any unauthorized use.**

## **Spill Control and Cleanup Activities**

- 8. Identify key spill response personnel.**
- 9. Adopt the Orange County Hazardous Materials Area Plan or an equivalent plan, which includes a set of planned responses to hazardous materials emergencies. The plan should include:**
- Description of the facility, owner and address, activities and chemicals present
  - Facility map
  - Notification and evacuation procedures
  - Cleanup instructions
  - Identification of responsible departments
- 10. Clean up leaks and spills immediately.**

- Place a stockpile of spill cleanup materials where they will be readily accessible (e.g. near storage and maintenance areas).
- Utilize dry cleaning methods to clean up spills to minimize the use of water. Use a rag for small spills, a damp mop for general cleanup, and absorbent material for larger spills. If the spilled material is hazardous, then used cleanup materials are also hazardous and must be sent to a certified laundry (rags) or disposed of as hazardous waste. Physical methods for the cleanup of dry chemicals include the use brooms, shovels, sweepers, or plows.
- Never hose down or bury dry material spills. Sweep up the material and dispose of properly.
- Clean up chemical materials with absorbents, gels, and foams. Use adsorbent materials on small spills rather than hosing down the spill. Remove the adsorbent materials promptly and dispose of properly.
- For larger spills, a private spill cleanup company or Hazmat team may be necessary.

## 11. Reporting

1. **Report spills that pose an immediate threat to human health or the environment to local agencies, such as the fire department, and the Regional Water Quality Control Board.**
2. **Establish a system for tracking incidents. The system should be designed to identify the following:**
  - Types and quantities (in some cases) of wastes
  - Patterns in time of occurrence (time of day/night, month, or year)
  - Mode of dumping (abandoned containers, “midnight dumping” from moving vehicles, direct dumping of materials, accidents/spills)
  - Responsible parties
3. **Federal regulations require that any oil spill into a water body or onto an adjoining shoreline be reported to the National Response Center (NRC) at 800-424-8802 (24 hour).**

## Training

1. **Educate employees about spill prevention and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Educate employees on aboveground storage tank requirements.
  - Train all employees upon hiring and conduct annual refresher training.
2. **Train employees responsible for aboveground storage tanks and liquid transfers on the Spill Prevention Control and Countermeasure Plan.**

## Stencil storm drains

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

## References

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003. [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser& McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.



Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities. Prepared by City of Monterey, City of Santa Cruz, California Coastal Commission, Monterey Bay National Marine Sanctuary, Association of Monterey Bay Area Governments, Woodward-Clyde, Central Coast Regional Water Quality Control Board. July 1998 (Revised February 2002 by the California Coastal Commission).

Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

**For additional information contact:**

*City of San Clemente  
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(949) 361-6143*

## IC18. VEHICLE AND EQUIPMENT FUELING

### Best Management Practices (BMPs)

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

Targeted Constituents	
Sediment	
Nutrients	
Floatable Materials	x
Metals	x
Bacteria	
Oil & Grease	x
Organics & Toxicants	x
Pesticides	
Oxygen Demanding	

#### MINIMUM BEST MANAGEMENT PRACTICES

##### Pollution Prevention/Good Housekeeping

- Maintain clean fuel-dispensing areas.
- Utilize fueling safeguards.
- Conduct regular inspections of fueling equipment.

##### Stencil storm drains

##### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

- 1. Use properly maintained off-site fueling stations whenever possible.** These businesses are better equipped to handle fueling and spills.
- 2. Maintain clean fuel-dispensing areas.**
  - Use dry cleanup methods such as sweeping for removal of litter and debris, or use of rags and absorbents for leaks and spills.
  - If cleaning by washing, place a temporary plug in the downstream storm drain and pump out the accumulated water. Properly dispose of the water. **DO NOT** discharge wash water to sanitary sewer until contacting the local sewer authority to find out if pretreatment is required.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

- 3. Design fueling areas to minimize stormwater exposure.**
  - Cover the fuel dispensing area such that the cover's minimum dimensions are equal to or greater than the area within the grade break or fuel dispensing area. Position roof downspouts to direct water away from fueling areas.
  - Pave fuel area with Portland cement concrete or equivalent smooth impervious surface. Grade with a 2 to 4 percent slope to prevent ponding.
  - Use secondary containment. Construct a berm around the perimeter of the material storage area to prevent the runoff of uncontaminated stormwater from adjacent areas as well as stormwater runoff.
- 4. Minimize pooling of water.**
  - Use a perimeter drain or slope pavement inward with drainage to sump. A minimum slope of 1.5 percent is recommended.
  - Install inlet catch basin equipped with a small sedimentation basin or grit chamber to remove large particles from stormwater in impervious areas.
  - During the wet season, release accumulated stormwater frequently.
- 5. If conducting mobile fueling, designate mobile fueling areas and bring equipment to these areas.**
  - Use secondary containment when conducting mobile fueling.
  - Cover storm drains in the vicinity during transfer.
- 6. Utilize fueling safeguards.**
  - Use overflow protection devices on tank systems to warn the operator to automatically shutdown transfer pumps when the tank reaches full capacity.
  - Install protective guards around tanks and piping to prevent vehicle or forklift damage.
  - Clearly tag or label all valves to reduce human error.
  - Place spill kits at fueling areas and/or on vehicles.
  - Install vapor recovery nozzles to help control drips as well as air pollution.
  - Eliminate or post hose bibs.
  - Fit fuel dispensing nozzles with "hold-open latches" (automatic shutoffs) except where prohibited by local fire departments.
- 7. Conduct regular inspections of fueling equipment.**
  - Check fueling equipment for external corrosion and structural failure.
  - Check for spills and overfills due to operator error.
  - Check for failure of piping system.
  - Check for leaks or spills during pumping of liquids or gases from truck or rail car to a storage facility or visa versa.
  - Visually inspect new tank or container installation for loose fittings, poor welding, and/or improper or poorly fitting gaskets.
  - Inspect tank foundations, connections, leaks, cracks, scratches, and other physical damage that may weaken the tank or container system.
  - Report leaking vehicles to fleet maintenance.
  - Periodically, have a qualified professional conduct integrity testing.
- 8. Use secondary containment when transferring fuel from the tank truck to the fuel tank and cover storm drains in the vicinity during transfer.**
- 9. Fit underground storage tanks (USTs) with spill containment and overflow prevention systems meeting the requirements of Section 2635(b) of Title 23 of the California Code of Regulations.**
- 10. Equip USTs with spill and overflow protection.**
- 11. Install required AQMD equipment and post a notice.**

- 12. Post signs to remind employees and customers not to top off the fuel tank when filling and signs that ban customers and employees from changing engine oil or other fluids at that location.**

## **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Train employees on proper fueling and cleanup procedures.**
- 3. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 4. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
- 5. Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003. [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

California Storm Water Best Management Practice Handbooks. Industrial/Commercial Best Management Practice Handbook. Prepared by Camp Dresser & McKee, Larry Walker Associates, Uribe and Associates, Resources Planning Associates for Stormwater Quality Task Force. March 1993.

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## **For additional information contact:**

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(949) 361-6143*

# **IC19. VEHICLE AND EQUIPMENT MAINTENANCE AND REPAIR**

## **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	
Nutrients	
Floatable Materials	
Metals	x
Bacteria	
Oil & Grease	x
Organics & Toxicants	x
Pesticides	
Oxygen Demanding	

### **MINIMUM BEST MANAGEMENT PRACTICES**

#### Pollution Prevention/Good Housekeeping

- Utilize dry cleanup methods such as sweeping try to avoid washing down work areas.
- Use drip pans and/or containers where needed.
- Inspect vehicles and equipment for leaks.
- Dispose of all waste products properly and recycle whenever possible.
- Clean storm drain inlet(s) on a regular schedule and after large storms.
- Store idle equipment under cover.
- Keep equipment clean and free of excess oil and grease.
- Remove all fluids from retired, wrecked, or salvaged vehicles.
- Dispose of solvents per instructions on the container.

#### Stencil storm drains

#### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

### **1. Only conduct maintenance or repair work in designated areas.**

- Conduct maintenance and repair work in a designated area with spill containment.
- Construct a berm or intercept trench at doorways to prevent the runoff of uncontaminated stormwater from adjacent areas as well as stormwater runoff.

### **2. Utilize dry cleanup methods such as sweeping, try to avoid washing down work areas.**

- If work areas are washed and if discharge to the sanitary sewer is allowed, treat water with an appropriate treatment device (e.g. clarifier) before discharging. **DO**

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

- NOT** discharge wash water to sanitary sewer until contacting the local sewer authority to find out if pretreatment is required.
- If discharge to the sanitary sewer is not permitted, pump water to a tank and dispose of properly.
- 3. Use drip pans and/or containers where needed.** Keep a drip pan or container under equipment or vehicles when unclipping hoses, unscrewing filters, or conducting other maintenance and repair work that may result in fluids dripping or splattering onto the shop floor or ground.
  - 4. Inspect vehicles and equipment for leaks.**
    - Inspect incoming vehicles and equipment for leaks.
    - Inspect vehicles and equipment during regular maintenance; keep records.
  - 5. Dispose of all waste products properly and recycle whenever possible.**
    - Promptly transfer waste materials to the proper waste or recycling drums.
    - Store waste and/or recycling drums in designated areas with spill containment.
    - Separate hazardous and non-hazardous wastes, do not mix used oil and solvents and keep chlorinated solvents separate from non-chlorinated solvents.
    - Store cracked batteries in a non-leaking secondary container and dispose of properly at recycling or household hazardous waste facilities.
    - Recycle greases, used oils, oil filters, antifreeze, cleaning solutions, batteries, and hydraulic and transmission fluids whenever possible.
    - Label and track the recycling of waste material (e.g. used oil, spent solvents, batteries). Purchase recycled products to support the market for recycled materials.
    - Separate wastes for easier recycling. Keep hazardous and non-hazardous wastes separate, do not mix used oil and solvents, and keep chlorinated solvents separate from non-chlorinated solvents.
  - 6. Paint signs near outdoor drains and post signs at sinks to remind employees and others not to pour wastes down drains.**
  - 7. Clean storm drain inlet(s) on a regular schedule and after large storms.**
  - 8. Store idle equipment under cover.**
  - 9. Keep equipment clean and free of excess oil and grease.**
  - 10. Completely drain oil filters before recycling/disposal.**
  - 11. Remove all fluids from retired, wrecked, or salvaged vehicles.**
  - 12. Dispose of solvents per instructions on the container.**
  - 13. Use non-toxic chemicals for maintenance when possible.**
    - Use non-caustic detergents instead of caustic cleaning for parts cleaning.
    - Use a water-based cleaning service and have tank cleaned. Use detergent-based or water-based cleaning systems in place of organic solvent degreasers.
    - Replace chlorinated organic solvents with non-chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of properly. Check list of active ingredients to see whether it contains chlorinated solvents.
    - Choose cleaning agents that can be recycled.
  - 14. Reduce or eliminate use of solvents when feasible**

## **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 3. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
- 4. Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003. [www.cabmphandbooks.com](http://www.cabmphandbooks.com)

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Stormwater Management Manual for Western Washington. Volume IV Source Control BMPs. Prepared by Washington State Department of Ecology Water Quality Program. Publication No. 99-14. August 2001.

### **For additional information contact:**

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(949) 361-6143*

## IC20. VEHICLE AND EQUIPMENT WASHING AND STEAM CLEANING

### Best Management Practices (BMPs)

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right.

Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

Targeted Constituents	
Sediment	X
Nutrients	X
Floatable Materials	
Metals	X
Bacteria	
Oil & Grease	X
Organics & Toxicants	
Pesticides	
Oxygen Demanding	X

#### MINIMUM BEST MANAGEMENT PRACTICES

##### Pollution Prevention/Good Housekeeping

- Consider using off-site commercial washing and/or steam cleaning businesses, if feasible.
- Use on-site commercial washing and/or steam cleaning businesses capable of disposing of wastewater off-site.
- Designate an impervious indoor or outdoor area to be used solely for vehicle and equipment washing/steam cleaning.
- Clearly mark the vehicle and equipment washing/steam cleaning area.
- If the area is outdoors, cover the wash area when not in use to prevent contact with rainwater.
- Provide trash containers in wash area and empty on a regular basis.
- Use hoses with nozzles that automatically turn off when left unattended.

##### Stencil storm drains

##### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

- 1. Use off-site commercial washing and/or steam cleaning businesses.** These businesses are better equipped to handle and properly dispose of the wash waters.
- 2. Use on-site commercial washing and/or steam cleaning businesses capable of disposing of wastewater off-site.** Mobile cleaning businesses must use a leak proof cover device that will catch and contain all contaminated (i.e. chemical additives such as soaps, solvents, or degreasers are used) wastewater runoff for later disposal in a manner that complies with all city, county, state, and federal codes.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"



**If washing must occur on-site:**

- 3. Designate an impervious indoor or outdoor area to be used solely for vehicle and equipment washing/steam cleaning.** Do not conduct oil changes and other engine maintenance in the designated washing area.
- 4. Clearly mark the vehicle and equipment washing/steam cleaning area.**
- 5. Design wash area to properly collect and dispose of wash water and/or effluent generated.**
  - Install sumps or drain lines to collect wash water.
  - Construct a berm around the designated area and grade to collect wash water as well as to prevent storm water runoff.
  - Use portable containment (such as ground cover devices) and vacuum collection of wastewater.
  - Inspect and maintain equipment (such as ground cover devices) regularly to ensure proper and effective functioning.
- 6. If the area is outdoors, cover the wash area when not in use to prevent contact with rainwater.**
- 7. Provide trash containers in wash area and empty on a regular basis.**
- 8. Use hoses with nozzles that automatically turn off when left unattended.**
- 9. Use biodegradable, phosphate-free detergents if possible.**
- 10. Recycle waste materials, whenever possible**
  - Recycling is always preferable to disposal of unwanted materials.
  - Separate wastes for easier recycling. Keep hazardous and non-hazardous wastes separate, do not mix used oil and solvents, and keep chlorinated solvents separate from non-chlorinated solvents.
  - Label and track the recycling of waste material (e.g. used oil, spent solvents, batteries).
  - Purchase recycled products to support the market for recycled materials.
- 12. If possible, eliminate or reduce the amount of hazardous materials and waste by substituting non-hazardous or less hazardous material:**
  - Use non-caustic detergents instead of caustic cleaning for parts cleaning.
  - Use a water-based cleaning service and have tank cleaned. Use detergent-based or water-based cleaning systems in place of organic solvent degreasers.
  - Replace chlorinated organic solvents with non-chlorinated solvents. Non-chlorinated solvents like kerosene or mineral spirits are less toxic and less expensive to dispose of properly. Check list of active ingredients to see whether it contains chlorinated solvents.
  - Choose cleaning agents that can be recycled.

## **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Train staff on the proper maintenance of the wash area.**
- 3. Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
- 4. Establish a regular training schedule, train all new employees, and conduct annual refresher training.**

## **5. Use a training log or similar method to document training.**

### **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

### **References**

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### **For additional information contact:**

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(949) 361-6143*

## IC21. WASTE HANDLING AND DISPOSAL

### Best Management Practices (BMPs)

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right.

Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

Targeted Constituents	
Sediment	x
Nutrients	x
Floatable Materials	x
Metals	x
Bacteria	x
Oil & Grease	x
Organics & Toxicants	x
Pesticides	x
Oxygen Demanding	x

### MINIMUM BEST MANAGEMENT PRACTICES

#### Pollution Prevention/Good Housekeeping

- Prevent waste materials from coming in direct contact with wind or rain. .
- Keep waste collection areas clean.
- Secure solid waste containers when not in use.
- Regularly inspect, repair, and/or replace waste containers.
- Use all of a product before disposing of the container.
- Label and store hazardous wastes according to hazardous waste regulations.

#### Stencil storm drains

#### Training

- Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.
- Provide on-going employee training in pollution prevention.

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### 1. Prevent waste materials from coming in direct contact with wind or rain.

- Cover the waste management area with a permanent roof.
- If this is not feasible, cover waste piles with temporary covering material such as reinforced tarpaulin, polyethylene, polyurethane, polypropylene, or hypalon.
- Cover dumpsters to prevent rain from washing out waste materials.

#### 2. Design waste handling and disposal area to prevent stormwater runoff.

- Enclose the waste handling and disposal area or build a berm around it.
- Position roof downspouts to direct stormwater away from waste handling and disposal area.

#### 3. Design waste handling and disposal area to contain spills.

- Place dumpsters or other waste receptacles on an impervious surface.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"

- Construct a berm around the area to contain spills.
  - Install drains connected to the public sewer or the facility's process wastewater system within these contained areas. **DO NOT** discharge to a public sewer until contacting the local sewer authority to find out if pretreatment is required.
- 4. Keep waste collection areas clean.**
- When cleaning around waste handling and disposal areas use dry methods when possible (e.g. sweeping, use of absorbents).
  - If water must be used, collect water and discharge to the sewer if permitted to do so. **DO NOT** discharge to a public sewer until contacting the local sewer authority to find out if pretreatment is required. If discharge to the sanitary sewer is not allowed, pump water to a tank and dispose of properly.
  - Post "No Littering" signs.
- 5. Secure solid waste containers when not in use.**
- 6. Regularly inspect, repair, and/or replace waste containers.**
- 7. Do not fill waste containers with washout water or any other liquid.**
- 8. Use all of a product before disposing of the container.**
- 9. Segregate wastes by type and label and date wastes.**
- Do not mix wastes; this can cause chemical reactions, make recycling impossible, and complicate disposal.
  - Ensure that only appropriate solid wastes are added to solid waste containers.
  - Certain wastes such as hazardous wastes, appliances, fluorescent lamps, pesticides, etc. may not be disposed of in solid waste containers.
- 10. Label and store hazardous wastes according to hazardous waste regulations.**
- Consult your local hazardous waste agency or Fire Department for details.
  - Obtain a hazardous waste generator license or permit if necessary.
- 12. Minimize waste.**
- Recycle materials whenever possible.
  - Modify processes or equipment to increase efficiency.
  - Identify and promote use of non-hazardous alternatives.
  - Reduction in the amount of waste generated can be accomplished using many different types of source controls such as:
    - Production planning and sequencing
    - Process or equipment modification
    - Raw material substitution or elimination
    - Loss prevention and housekeeping
    - Waste segregation and separation
    - Close loop recycling
  - Establish a material tracking system to increase awareness about material usage. This may reduce spills and minimize contamination, thus reducing the amount of waste produced.

## **Training**

- 1. Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
- 2. Train employees in proper waste handling and disposal.**
- 3. Train employees on proper spill containment and cleanup.**

- Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site’s spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
4. **Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
  5. **Use a training log or similar method to document training.**

### **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read “No Dumping Drains to Ocean”.

### **References**

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## **IC22. EATING AND DRINKING ESTABLISHMENTS**

### **Best Management Practices (BMPs)**

A BMP is a technique, measure or structural control that is used for a given set of conditions to improve the quality of the stormwater runoff in a cost effective manner<sup>1</sup>. The minimum required BMPs for this activity are outlined in the box to the right. Implementation of pollution prevention/good housekeeping measures may reduce or eliminate the need to implement other more costly or complicated procedures. Proper employee training is key to the success of BMP implementation.

The BMPs outlined in this fact sheet target the following pollutants:

<b>Targeted Constituents</b>	
Sediment	
Nutrients	x
Floatable Materials	x
Metals	
Bacteria	x
Oil & Grease	x
Organics & Toxicants	x
Pesticides	x
Oxygen Demanding	x

<b>MINIMUM BEST MANAGEMENT PRACTICES</b>	
<u>Pollution Prevention/Good Housekeeping</u>	
<ul style="list-style-type: none"> <li>• Use dry cleaning methods instead of water</li> <li>• Clean equipment (floor mats, grease filters, grills, garbage cans, etc.) indoors or in a covered outdoor wash area that is plumbed to the sanitary sewer or in an area that will contain the wash water.</li> <li>• Recycle and/or properly dispose of grease and oil.</li> <li>• Block the storm drain when hosing or steam/pressure washing outside dumpster areas, sidewalks, and common areas.</li> </ul>	
<u>Stencil storm drains</u>	
<u>Training</u>	
<ul style="list-style-type: none"> <li>• Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.</li> <li>• Provide on-going employee training in pollution prevention.</li> </ul>	

Provided below are specific procedures associated with each of the minimum BMPs along with procedures for additional BMPs that should be considered if this activity takes place at a facility located near a sensitive waterbody. In order to meet the requirements for medium and high priority facilities, the owners/operators must select, install and maintain appropriate BMPs on site. Since the selection of the appropriate BMPs is a site-specific process, the types and numbers of additional BMPs will vary for each facility.

#### **1. Practice good housekeeping.**

- Conduct regular sweeping or vacuuming of outdoor areas: Dry sweep pavement areas including “drive-thru” areas, parking lots, sidewalks, outdoor eating areas and dumpster storage areas frequently.
- Keep outside areas free of trash & debris.
- Do not hose out dumpsters or fill them with liquid waste.
- Regularly inspect, repair, and/or replace dumpsters.

#### **2. Clean equipment (floor mats, grease filters, grills, garbage cans, etc.) indoors or in a covered outdoor wash area that is plumbed to the sanitary sewer.**

- Clean equipment in a mop sink if possible (never in a food preparation sink). If there is no mop sink, dedicate an indoor cleaning area where a drain is plumbed to the sanitary sewer.
- Dispose mop water from cleaning floors in a mop sink, toilet or other drain that is plumbed to the sanitary sewer.

<sup>1</sup> EPA " Preliminary Data Summary of Urban Stormwater Best Management Practices"  
IC22 Eating and Drinking Establishments

- Do not pour wash water outside or into a street, gutter, or storm drain.
  - Dispose of all wastewater containing oil and grease in a grease trap or interceptor.
3. **Recycle and/or properly dispose of grease and oil.** Collect and dispose of concentrated waste oil and grease and disposed of by a certified waste grease hauler. NEVER pour grease or oil into a sink, floor drain, storm drain or dumpster.
  4. **Block storm drain(s) when cleaning (hosing or steam/pressure washing) outside dumpster areas, sidewalks, and common areas with hot water, soap, or other cleaning agent.** Collect water/waste and discharge to the sanitary sewer (with approval of the local sanitation district).
    - Prior to washing clean and/or sweep all large debris from the area.
    - Clean any fluid spills with an appropriate dry method, such as kitty litter or other absorbent, and dispose of appropriately.

## **Training**

1. **Train employees on these BMPs, storm water discharge prohibitions, and wastewater discharge requirements.**
2. **Train employees on proper spill containment and cleanup.**
  - Establish training that provides employees with the proper tools and knowledge to immediately begin cleaning up a spill.
  - Ensure that employees are familiar with the site's spill control plan and/or proper spill cleanup procedures.
  - BMP IC17 discusses Spill Prevention and Control in detail.
3. **Establish a regular training schedule, train all new employees, and conduct annual refresher training.**
4. **Use a training log or similar method to document training.**

## **Stencil storm drains**

Storm drain system signs act as highly visible source controls that are typically stenciled directly adjacent to storm drain inlets. Stencils should read "No Dumping Drains to Ocean".

## **References**

California Storm Water Best Management Practice Handbook. Industrial and Commercial. 2003.  
www.cabmphandbooks.com

Carlsbad Jurisdictional Urban Runoff Management Plan. Best Management Practices for Restaurants. City of Carlsbad. February 2002. On-line: <http://www.ci.carlsbad.ca.us/cserv/jurmp.html>

Orange County Stormwater Program. 2001. Water Quality Guidelines for Exterior Restaurant Cleaning Operations. Brochure. June.

Orange County Stormwater Program. Good Cleaning Practices Food & Restaurant Industry. Poster. Courtesy of the City and County of LA.

## **For additional information contact:**

*City of San Clemente  
Water Quality Section  
(949) 361-6143*

**APPENDIX G**  
**Enforcement Response Plan**



# Appendix G

## Storm Water Management and Urban Runoff

### Enforcement Response Plan



**CITY OF SAN CLEMENTE**  
**STORM WATER MANAGEMENT AND URBAN RUNOFF**  
**ENFORCEMENT RESPONSE PLAN**

**I. INTRODUCTION**

The City of San Clemente (City) controls pollutant discharges into and from its storm drain system within its jurisdiction through enforcement of its Water Quality Ordinance, which is Chapter 13.40 of the City of San Clemente Municipal Code, its Grading Ordinance, which is Chapter 15.36 of the City of San Clemente Municipal Code, and certain other complimentary Municipal Code provisions identified in Section 4 of the City's Jurisdictional Urban Runoff Plan (JRMP) (referred to collectively as the City ordinances).

Unless otherwise defined in this Enforcement Response Plan (ERP), all capitalized terms used in this ERP are defined in the Water Quality Ordinance or the JRMP.

This ERP works in conjunction with the City's Ordinances as part of the City's efforts to effectively administer the storm water quality control programs described in the Drainage Area Management Plan (DAMP), the JRMP, and the South Orange County Water Quality Improvement Plan (WQIP), and is intended to be consistent with these programmatic documents.

This ERP describes the applicable approaches and options the City takes to investigate and enforce violations of the City's Ordinances in order to achieve compliance with the requirements of the National Pollutant Discharge Elimination System (NPDES) Permit (Permit) with respect to Illicit Discharge Detection and Elimination, Development Planning, Construction Management, and Existing Development. It is intended to provide guidance to Authorized Inspectors, Enforcing Attorneys, and other City personnel responsible for implementing the Water Quality Ordinance and the City's storm water quality control programs in order to assist them to take appropriate, adequate, consistent, and timely enforcement actions for the protection of the environment and public health, safety and welfare.

This ERP was developed in support of the City's Ordinances, and is not intended to support the enforcement of requirements under the State General Industrial and General Construction Permit Programs, which are subject to enforcement by other state and regional authorities.

**II. OVERVIEW OF ENFORCEMENT OPTIONS AND APPROACHES TO RESPONDING TO NONCOMPLIANCE**

The goals of the City's enforcement program include the following:

- To educate the regulated community.
- To achieve compliance with the laws and regulations within the regulated community.

- To return violators to compliance in a timely manner and eliminate any threats due to noncompliance.
- To initiate and conclude enforcement activities in a timely manner.
- To provide consistency in responding to violations.

In selecting enforcement options, the City strives to ensure that violations of a similar nature are subjected to similar-types of enforcement remedies. Nonetheless, a more severe enforcement option may be selected when a violator has either a history of noncompliance or has failed to take good faith actions to eliminate continuing violations or to meet a previously imposed compliance schedule. Authorized Inspectors should review enforcement options with the Enforcing Attorney to insure that evidence is collected and delivered in a timely fashion.

The City typically employs a tiered, escalating enforcement system. However, the City reserves the right to use whatever tools it deems most appropriate for a given situation, as dictated by the specifics of each case. The use of a progressively more severe enforcement option is referred to in this ERP as “Escalated Enforcement.” Whether a particular method of enforcement constitutes “Escalated Enforcement” is specified below.

#### **A. Criteria for Determining Appropriate Response to Noncompliance**

The enforcement approach taken by the City in response to a specific incident of noncompliance is determined on a case-by-case basis and depends on a variety of factors, including the severity of the violation and the knowledge or intent, level of cooperation, and compliance history of the responsible party.

##### **1. Severity of the Violation**

Violations are evaluated against the severity of the noncompliance and the potential or actual threat to public health or the environment created by the noncompliance. The severity of a violation is generally the most important factor in determining the appropriate level of enforcement response. The severity of a violation will depend on a number of factors, including the duration and frequency of the event, the type and amount of the pollutants discharged, and the impact on public health and the environment. Violations that do not pose an immediate or significant threat to public health or the environment, are isolated or infrequent, and/or are short in duration will typically be addressed initially through lower level enforcement actions, such as Verbal Warnings, Notices of Violation (also referred as Notices of Noncompliance), or Administrative Compliance Orders. However, higher level Escalated Enforcement responses will be utilized for violations that pose an immediate and significant threat to human health or the environment or which are continuous, frequent, and/or of a long duration.

##### **2. Knowledge or Intent of the Responsible Party**

The responsible party’s knowledge of a violation or regulations being violated are also taken into account when evaluating the appropriate enforcement approach to take. Where a violation is not severe and has occurred unknowingly, the initial enforcement response will typically consist of

an Education Letter, Verbal Warning, or Notice of Noncompliance. However, negligent or willful noncompliance will warrant higher level administrative or civil Escalated Enforcement action or Criminal Enforcement.

### **3. Level of Cooperation**

A responsible party's willingness to cooperate and to undertake good faith efforts to maintain compliance or eliminate noncompliance may also be considered when determining the appropriate enforcement response. "Good faith" means that the responsible party has an honest intention to remedy its noncompliance, coupled with actions that give support to this intention. While a responsible party's good faith and willingness to cooperate may be taken into account in determining the appropriate type of enforcement response, it does not eliminate the need for enforcement action, and should not be used to mitigate an enforcement response to such an extent as to permit actual or threatened harm to public health or the environment.

### **4. Compliance History**

When evaluating the level of enforcement action to be taken for a violation, the City reviews and considers the compliance history of the responsible party. If a pattern of recurring violations is observed, or if a responsible party has failed to correct violations noted in a prior enforcement action, the City will use Escalated Enforcement.

## **B. Initial Methods of Achieving Voluntary Compliance**

### **1. Education Letters**

In certain limited circumstances, the City will issue an Educational Letter advising a property owner, business, or resident of their legal obligations prior to, or in lieu of, pursuing administrative, civil, or criminal enforcement. An Educational Letter provides information regarding the requirements of City's Ordinances and the steps that need to be taken to comply with them. An Educational Letter may be appropriate under the following circumstances:

- Where an Authorized Inspector receives a complaint or information concerning noncompliance that the Authorized inspector believes to be valid, but the Authorized Inspector does not have sufficient evidence to substantiate that a violation of the City's Ordinances has occurred.
- Where a violation has been caused by a contractor hired by a property owner, business, or resident without the knowledge or consent of the property owner, business, or resident, and the City may pursue enforcement against the contractor.

In these circumstances, the Authorized Inspector will document that the Educational Letter has been provided, and this documentation can be used as evidence to support enforcement action in the event of continued or future similar violations at the same site.

### **2. Verbal Warnings**

A Verbal Warning is often the initial method used by the City to request corrective action and enforce compliance with the City's Ordinances. A Verbal Warning may be utilized where there is no history of noncompliance and the violation or noncompliance is relatively minor and can be quickly and easily corrected. In such cases, a Verbal Warning may be sufficient to achieve immediate correction of a violation. Where an Authorized Inspector issues a Verbal Warning, he/she will document the violation and the name and position of the person(s) notified in the inspection file. A specific time frame for correcting the problem and a follow-up inspection date will also be documented by the Authorized Inspector. In cases, where the issue is immediately abated while the Authorized Inspector is present on site, a case may not be created as no follow-up will be necessary. In other instances, where the issue was observed as part of a designated inspection, and the issue was immediately addressed, the issue and abatement actions will be noted as part of the inspection, and a separate case will not be created.

### **C. Administrative Enforcement Responses**

#### **1. Notice of Noncompliance**

After a verbal warning, the Notice of Noncompliance is the least severe administrative enforcement response utilized by the City for violations of the Water Quality Ordinance. A Notice of Noncompliance constitutes a basic written request that a contractor, facility operator, property owner, or resident rectify a condition causing or threatening to cause noncompliance with the City's Ordinances. A Notice of Noncompliance is the appropriate enforcement tool in the following circumstances:

- The violation or threat is insignificant and short in duration.
- The violation or threat is an isolated incident.
- The violation or threat does not affect and will not harm human health or the environment.
- The responsible party is cooperative and has indicated a willingness to readily correct the violation.
- The violation occurred unknowingly.
- A prior Verbal Warning was given, but the deficiency that was noted in a prior Verbal Warning has not been corrected within the specified timeframe or by the next inspection.

A Notice of Noncompliance (a) identifies the provision(s) of the City's Ordinances and/or relevant permit that has been violated, (b) describes the violation/deficiency to be corrected and corrective action(s) required, (c) includes a compliance date by which the violation must be corrected, (d) sets a date for a follow-up inspection (if applicable), and (e) states that continued noncompliance may result in additional enforcement actions.

A responsible party may appeal a Notice of Noncompliance and request an administrative hearing before a hearing officer in accordance with the procedures set forth in the Water Quality Ordinance.

Generally, a Notice of Noncompliance will be given to a responsible party prior to the use of other progressively severe enforcement options. However, a Notice of Noncompliance will not be the first enforcement method used if egregious or unusual circumstances indicate that a stronger enforcement tool is needed.

## **2. Administrative Compliance Order**

An Administrative Compliance Order is a progressively more severe enforcement response than a Notice of Noncompliance. The Administrative Compliance Order is an appropriate enforcement tool in the following circumstances:

- The violation or threat is not significant and short in duration.
- The violation or threat is infrequent.
- The violation does not pose an immediate threat to human health or the environment.
- An actual condition of noncompliance exists, but the condition cannot be remedied within a relatively short period of time.
- The responsible party has indicated willingness to come into compliance by meeting milestones established in a reasonable schedule.
- The violation is not willful.
- A prior Verbal Warning and/or Notice of Noncompliance has been insufficient to achieve compliance.

An Administrative Compliance Order may include the following terms and requirements:

- Specific steps and time schedules for compliance as reasonably necessary to eliminate an existing prohibited discharge or prevent the imminent threat of a prohibited discharge;
- Specific steps and time schedules for compliance as reasonably necessary to discontinue any illicit connection;
- Specific requirements for containment, cleanup, removal, storage, installation of overhead covering, or proper disposal of any pollutant having the potential to contact stormwater runoff; and
- Any other terms or requirements reasonable to prevent imminent threat of or continuing violations, including, but not limited to, requirements for implementation of, and compliance with, appropriate BMPs.

An Administrative Compliance Order may constitute Escalated Enforcement in those instances where a previously issued Verbal Warning or Notice of Noncompliance has failed to achieve compliance.

### **3. Cease and Desist Order**

A Cease and Desist Order may be issued to obtain immediate compliance with the Water Quality Ordinance and may order immediate cessation of any Illegal Discharge, Illicit Connection, or other violation; immediate containment or diversion of any impermissible flow of water off the property; and/or immediate cleanup of any area affected by a violation. The Cease and Desist order may also be appropriately issued as a first step in ordering the removal of nuisance conditions that threaten to cause an unauthorized discharge of Pollutants if exposed to rain or surface water runoff. The Cease and Desist Order is an appropriate enforcement tool in the following circumstances:

- The violation or threat is immediate in nature and may require an emergency spill response or immediate nuisance abatement if left unattended.
- The violation or threat exhibits a potential situation that may harm human health or the environment.
- The Authorized Inspector's contacts with the responsible party indicate that further authority of the City may need to be demonstrated before remedial action is forthcoming.
- The Authorized Inspector's prior enforcement actions have not obtained a favorable response.

A person issued a Cease and Desist Order is entitled to an administrative hearing before a hearing officer within 5 business days following the issuance of the order in accordance with the procedures set forth in the Water Quality Ordinance.

A Cease and Desist Order constitutes Escalated Enforcement in those instances where a previously issued Notice of Noncompliance and/or Administrative Compliance Order has failed to achieve compliance.

### **4. Administrative Nuisance Abatement**

In instances where Escalated Enforcement actions fail to achieve compliance and there is a continuing threat to water quality, the City may itself enter the property, abate the condition(s) causing the violation, and restore the area. Before pursuing Administrative Nuisance Abatement, the City will notify the property owner and/or occupant and seek their consent. Where consent is not given or cannot be obtained, the City generally must obtain an inspection / abatement warrant from a court in accordance with State law before entering private property. However, where a nuisance condition on private property constitutes imminent danger to public safety or the environment and deemed a nuisance pursuant to Government Code Section 38771, the City is authorized to take any and all enforcement action to abate said nuisance.

Administrative Nuisance Abatement constitutes Escalated Enforcement.

## **5. Invoice for Costs**

The Water Quality Ordinance authorizes an Authorized Inspector to deliver an Invoice for Costs to any responsible party for the actual costs incurred by the City in issuing and enforcing any Notice of Noncompliance, Administrative Compliance Order, Cease and Desist Order, or Administrative Abatement order. A responsible party may appeal an Invoice for Costs and request an administrative hearing before a hearing officer in accordance with the procedures set forth in the Water Quality Ordinance. If the responsible party fails to either pay or successfully appeal the Invoice for Costs, then the Enforcing Attorney may institute collection proceedings in accordance with State law.

Delivery of an Invoice for Costs does not constitute Escalated Enforcement.

## **6. Stop Work Orders**

A Stop Work Order is an Escalated Enforcement tool for active land development projects. A Stop Work Order is a written order prohibiting further construction or site development activity until compliance has been achieved. The Stop Work Order is an appropriate enforcement tool in any of the following circumstances:

- If prior written notices or orders have failed to result in compliance or correction of identified violations.
- If the developer/contractor has not complied with the requirements of their building and/or grading permit.
- If an observed violation poses a significant threat to water quality (such as a failure of BMPs resulting in a significant release of sediment or other pollutants off site).

A Stop Work Order will be issued by the inspector or the appropriate official. Stop work orders prohibit further construction activity until the problem is resolved and provide a time frame for correcting the problem.

The Stop Work Order will describe the violation and specify what corrective action must be taken. A copy of the Stop Work Order will be given to the contractor's project supervisor and placed in the active inspection file. For a private construction project, a copy of the Stop Work Order will also be sent to the owner/developer. To restart work once a Stop Work Order has been issued, the contractor's project supervisor must request the City's inspector to re-inspect the project and verify that the deficiencies have been satisfactorily corrected. If the City inspector is satisfied with the corrections, the inspector may sign off on that phase of the project, and work may proceed.

A Stop Work Order constitutes Escalated Enforcement.

## **7. Permit Revocation or Denial**



Violations of the City's Ordinances may be grounds for the suspension or revocation of City issued permits, licenses or other approvals after notice and an opportunity for hearing. For instance, in severe cases of noncompliance, or significant discharges relating to development and/or construction activities, the City may revoke grading and/or building permits or other approvals for a development project that a contractor/developer is working under for the project or deny future permits on the project. The responsible party would then have to re-apply for permits and meet any requirements that the City may place on the project. Suspension or revocation of permits or other approvals must be conducted in accordance with the procedures described in the City's Municipal Code. City Staff should consult with the Enforcing Attorney before proceeding with the suspension, revocation or denial of a permit or development approval.

Suspension or revocation of a permit constitutes Escalated Enforcement.

## **8. Enforcement of Contracts**

If a contractor is performing work for the City, then the City may use the provisions within the contract for enforcement of noncompliance. Such contract provisions may allow the City to withhold payment(s), require bonds, apply monetary penalties, order work stopped (without time penalties), or terminate the contract if the contractor performing the work does not comply with all appropriate permits, laws, regulations and ordinances.

Enforcement of Contracts constitutes Escalated Enforcement.

## **9. Administrative Citations**

The City's authorized enforcement staff may issue administrative citations imposing administrative fines for specified violations of the City's Water Quality Ordinance through the Administrative Citation Program set forth in Chapter 1.20 of the City of San Clemente Municipal Code. The current schedule of monetary penalties are one hundred dollars (\$100.00) for a first violation, two hundred dollars (\$200.00) for a second violation of the same municipal ordinance violation within one (1) year, and five hundred dollars (\$500.00) for each additional violation of the same municipal ordinance violation within one (1) year of the most recent violation. When an Administrative Citation is issued, the responsible party may request a hearing within 10 days of issuance to contest the determination that a violation has occurred in accordance with Section 1.20.060 of the City of San Clemente Municipal Code.

## **D. Criminal Enforcement**

In addition to the administrative enforcement actions described above, the Enforcing Attorney is authorized to file criminal actions to enforce the City's Ordinances. Criminal prosecution is generally the last step taken to stop a condition of noncompliance; however, in some limited cases, criminal enforcement may be appropriate as a first step in enforcement if the facts indicate that the violation is severe, willful and egregious. Criminal prosecution will be appropriate if information or events indicate that noncompliance is (i) willful, (ii) fails to comply with the best management practices imposed on a New Development or Significant Redevelopment project, (iii) continues after notice of noncompliance is received, or (iv) is a direct attempt to conceal a

violation of the City's Ordinances. Criminal prosecution may also be utilized for egregious violations which are the result of negligent rather than willful conduct.

Circumstances indicating that criminal, rather than administrative, enforcement measures should be considered include the following:

- There is strong evidence that the responsible party has willfully violated the City's Ordinances and/or has intentionally disregarded legal requirements.
- There is a significant threat of environmental harm as a result of the violation.
- There is actual sustained environmental harm as a result of the violation.
- The discharge or event of noncompliance is continuing or has been long in duration.
- No immediate remedy for the violation is available.
- There have been numerous previous violations by the same responsible party.

Where it is determined that the available facts warrant criminal enforcement in a particular case, additional evidence will often need to be collected to support a criminal prosecution, and the City may need to obtain a criminal inspection warrant from a court. City staff should consult with the Enforcing Attorney early in the process to ensure proper procedures are followed. Where criminal enforcement is indicated, authorized City personnel may cause issuance of a criminal citation to the offending party pursuant to Penal Code §853.5, §853.6, and §853.9. The citation shall include: (i) the name and address of the violator; (ii) the provisions of the City's Ordinances violated; and (iii) the time and place of required appearance before a magistrate. The responsible party must sign the citation thereby promising to appear. If the cited party refuses to sign the citation, the enforcement official may cause the arrest of the discharger with the assistance of law enforcement personnel, or may refer the matter to the Enforcing Attorney for issuance of a warrant for arrest.

At the discretion of the Enforcing Attorney, criminal violations of the City's Ordinances may be charged as either misdemeanors or infractions. Factors that the Enforcing Attorney may use in determining whether the misdemeanor is more appropriately treated as an infraction, rather than a misdemeanor, may include:

- The duration of the violation or threatened violation.
- The compliance history of the person, business or entity.
- The effort made to comply with an established compliance schedule.
- The existence of prior enforcement actions.
- The actual harm to human health or the environment from the violation.

Criminal Enforcement constitutes Escalated Enforcement.

## **E. Civil Judicial Enforcement**

In addition to the administrative and criminal enforcement options discussed above, the City may also pursue civil judicial enforcement of violations where appropriate.

### **1. Civil Injunction/Nuisance Abatement Action**

Violations of the City's Ordinances that constitute a threat to the public health, safety and welfare are deemed a public nuisance, and the Enforcing Attorney may file a civil judicial action seeking preliminary or permanent injunctive relief to enjoin and/or abate a nuisance or other threatened or continuing noncompliance. Such an action may be appropriate where a continuing or emergency nuisance exists, and administrative and/or criminal enforcement options are insufficient to remedy the nuisance condition. In any such action, the City may seek recovery of its actual enforcement and abatement costs.

A Civil Injunction / Nuisance Abatement Action constitutes Escalated Enforcement.

### **2. Civil Damages Action**

Pursuant to the Water Quality Ordinance, the City may bring an action for civil damages against a responsible party to recover (i) enforcement costs incurred by the City; (ii) costs incurred by the City in mitigating harm to the environment or reducing the threat to human health; (iii) damages for irreparable harm to the environment; and/or (iv) damages resulting from any trespass or nuisance occurring on public land or to the Stormwater Drainage System as a result of a violation of the Water Quality Ordinance.

## **III. Illicit Discharge Detection and Elimination Enforcement Component**

This Section of the ERP describes the City's approaches to investigating, responding to, and enforcing noncompliance with the City's Ordinances related to Illegal Discharges and Illicit Connections.

### **A. Overview**

The City's Water Quality Ordinance expressly prohibits Illegal Discharges and Illicit Connections (ID/ICs), and the City implements a comprehensive program for actively detecting, responding to, investigating and eliminating ID/ICs in an efficient and timely manner (ID/IC Program). The City's ID/IC Program is described in more detail in JRMP Section 10.

An Illicit Connection is an undocumented and/or unpermitted physical connection from a facility to the Stormwater Drainage System. Illicit Connections are often associated with Illegal Discharges. Constructed (i.e., man-made) Illicit Connections include pipelines, conduits, inlets or outlets, connected impervious areas, channels or swales. Practical examples of constructed Illicit Connections include: (i) pipes that discharge onto adjacent property or into a water runoff area; (ii) facilities constructed adjacent to construction areas that allow unpermitted dewatering runoff to flow to the storm water drainage system; or (iii) storm drain inlets that drain from outside wash areas directly into the Stormwater Drainage System.

An Illegal Discharge (or “Prohibited Discharge”) is any discharge to the Stormwater Drainage System that is not composed entirely of stormwater and that is not covered by an NPDES permit. An Illegal Discharge refers to the disposal of non-stormwater materials such as paint or waste oil into the storm drain or the discharge of waste streams containing pollutants to the storm drain. Illegal Discharges typically are generated from poorly managed on-site operations, illegal dumping, contaminated stormwater discharges, and/or sewage or other materials spills.

Various site operations may produce Illegal Discharges, including releases of (i) process waters such as boiler blow down, rinse water, or chlorinated pool discharges; (ii) waste materials such as manufactured floatable materials, animal wastes from kennels or riding stables, or vehicle fluids (oils, coolants, etc.); and (iii) sand/gravel, cement, fertilizers, or pesticides from raw materials unloading and storage areas. Practical examples of problematic site operations include: (i) pressurized washing and steam cleaning areas; (ii) auto repair shops where operations occur out of doors in unprotected areas and no provision is made for preventing contamination from leaving the site; (iii) non-retail fueling areas where vehicle washing also occurs and runoff flows to storm drain areas; (iv) manufacturing storage yards for concrete materials where materials are uncovered and wash off flows directly to the storm drain; (v) construction locations where debris, materials, and silt flows off the construction site; and (vi) trauma scene clean-up.

Illegal dumping activities include intentional dumping of: (i) household wastes such as home, garden or yard debris, trash or rubbish, or household hazardous wastes; (ii) commercial wastes such as landscape debris or soil, trash or rubbish, or hazardous wastes in drums or canisters; and (iii) animal or agricultural wastes such as manure, stock wastes, fruit and vegetable materials and animal carcasses. Practical Examples of illegal dumping activities could include: (i) home/yard debris dumped near a curb inlet to the stormwater drainage system; (ii) trash, drums or discarded materials left on creek or wash area banks; (iii) used oil dumped on the ground or into storm drains; and (iv) paint waste dumped on the ground or into storm drains.

Stormwater pollution can also occur as rain water is contaminated running off of impervious surfaces. Though the runoff is due to storm events, Illegal Discharges can occur from the following:

- Construction work on an exposed site where soils are being tracked onto the street and washed down the gutter.
- Construction or work on an exposed site where materials, such as sand, are migrating into the street gutter area either through non-concentrated exposure to water, such as sprinkler systems, or by actual contact with other runoff water.
- Petroleum contaminated soils in equipment servicing areas, which are exposed to gutter areas through tracking.
- Uncovered areas of stockpiled construction demolition materials.
- Outside storage of unsealed paint and solvent containers.
- Exposed truck loading docks with uncovered materials.

- Equipment storage yards without runoff controls.

Sewage spills may be the result of an accidental or irregular discharges of sewage from a sanitary sewer system or from private property tributary to a public sewerage system. Pursuant to the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (State Water Resources Control Board, Order No. 2006-0003) and San Diego Regional Board Order No. R9-2007-0005, the City Utilities Division is responsible for responding to, containing, and cleaning up sewage spills/incidents originating from their wastewater and sanitary systems, including systems that collect and convey wastewater to publicly owned treatment facilities. It is the City's standard operating policy to respond to all sewage spills/incidents from private systems as well. The City has implemented an overflow emergency response plan that is used during sewage spills/incidents.

In addition, the City's Plumbing and Building Codes and Ordinances require that private sewer laterals and septic systems be designed and operated in accordance with industry standards and require the proper maintenance of these facilities in order to minimize possible spills, breakages, and failures. The City enforces these requirements if a sewage spill from private property or another private source is, or cannot be, effectively remedied by the owner or other responsible party. The City may also issue enforcement actions pursuant to this ERP to any party responsible for a prohibited discharge into the City's MS4.

## **B. Investigating and Responding to Noncompliance**

The City may become aware of potential Illegal Discharges or Illicit Connections through field observations, facility or construction site inspections, Water Quality Monitoring Program results, or complaints. The protocols the City follows for investigating, documenting, and responding to Illegal Discharges and Illicit Connections are described in more detail in Section 10 of the JRMP.

If a complaint or information is received that indicates a potential ID/IC, an Authorized Inspector will conduct a field investigation. If evidence of an actual or threatened ID/IC is found as a result of an inspection, every effort is made to identify the responsible party and resolve the situation quickly.

Any Illicit Connection identified by the City during routine inspections is investigated. Appropriate actions are then taken to either approve undocumented connections by permit procedure or to pursue removal of those connections that are determined to be Illicit Connections and not permissible. If evidence of an Illegal Discharge is detected and the source does not appear to be evident, a source investigation may be conducted to determine if the discharge is being conveyed through an Illicit Connection.

Parties found to be responsible for an Illegal Discharge are required to clean up and remove Pollutants to the maximum extent practicable. Where a responsible party is cooperative and responds in a timely manner, lower level enforcement actions may be sufficient to ensure compliance. The failure of a responsible party to cooperate and/or perform required clean-up will result in immediate Escalated Enforcement action.

Sewage spills and spills of other types of harmful Pollutants may require immediate remedial action. In cases where a spill presents an immediate threat to the Stormwater Drainage System or to human health or the environment, and the City knows who the responsible party is, the City will direct the responsible party to immediately contain and commence clean-up of the spill. For all sewer spills, the City will mobilize appropriate staff to respond. For spills other than sewer spills, where the City is unable to identify the responsible party, or the responsible party is able to effectively respond to contain and clean-up the spill immediately, the City will respond to ensure the spill is contained and mitigated, and will conduct a source investigation to identify the responsible party.

### **C. Enforcement Response Approaches**

The nature of the City’s enforcement response approach for ID/ICs is determined on a case-by-case basis and is based on factors such as severity of the violation or threat to human health or the environment, site-specific circumstances, and past compliance history. If the situation is determined to pose an immediate risk to public health or the environment, higher level Escalated Enforcement responses may be used immediately and, if needed, the City will respond itself to ensure the threat is eliminated in a timely and efficient manner.

If a non-sewage spill, illegal dumping, or other Illegal Discharge is determined to pose a threat to human or environmental health, the City will report this information to the Regional Board by phone or e-mail within 24 hours of the discovery followed by a written report within 5 days, as required by the NPDES Permit. The city Utilities Division will do all reporting relating to sewage spills, including to the Orange County Health Care Agency in accordance with California Health and Safety Code Section 5411.5, and reports all sewage spills of 1,000 gallons or more from a public sewer system to the State Office of Emergency Services pursuant to California Water Code Section 13271 and the 23 CCR § 2250.

The City seeks to abate actual Illegal Discharges and hazardous materials spills as soon as reasonably possible. As required by the NPDES Permit, the City seeks to resolve all incidents of observed noncompliance within at least 30 calendar days, or prior to the next rain event, whichever is sooner. In cases where more than 30 days are required to resolve a violation and achieve compliance, the reasons why additional time is needed is documented and kept on file. If Escalated Enforcement is not used when compliance is not achieved within the required compliance period, the rationale for why Escalated Enforcement actions were not used will also be documented.

The following table provides a general overview of the City’s enforcement response approach for ID/ICs. The descriptions in the Table as to when specific enforcement responses are used and appropriate timeframes for compliance are intended to be illustrative in nature and to provide general guidance to City enforcement staff, and are not intended to be exclusive or exhaustive. The City reserves the right to use whatever tools deemed most appropriate for a given situation, as dictated by the specifics of each case, and taking into account the factors described in Section II.A of this ERP.

### Illicit Discharge Detection and Elimination Enforcement Approach

Enforcement Action	Use	Time Schedule to Achieve Compliance
Education Letter	<ul style="list-style-type: none"> <li>• If suspect noncompliance, but lack sufficient evidence to substantiate it.</li> <li>• Use for business/resident where violation is by contractor and there is no history of noncompliance by business/resident.</li> </ul>	Goal is to correct the situation and behavior.
Verbal Warning	<ul style="list-style-type: none"> <li>• Use for threatened Illegal Discharges from poorly managed on-site operations, illegal dumping, contaminated water runoff, or spilled materials where there is no history of noncompliance and the violation is relatively minor and can be quickly and easily corrected.</li> </ul>	Goal is to correct the violation immediately, if possible. If not, the compliance timeframe should be short and will depend on the nature of the potential threat to water quality. At a minimum, violation should be corrected within 30 calendar days or before the follow-up inspection or next predicted rain event, whichever is sooner.

Enforcement Action	Use	Time Schedule to Achieve Compliance
Notice of Noncompliance	<ul style="list-style-type: none"> <li>• Use where a prior Verbal Warning was given, but the deficiency that was noted in a prior Verbal Warning has not been corrected within the specified timeframe or by the next inspection.</li> <li>• Use for threatened Illegal Discharges from Illicit Connections, poorly managed on-site operations, illegal dumping, contaminated water runoff, or spilled materials where the threat level is insignificant, there is no environmental harm, and the responsible party is cooperative and has already corrected, or is willing to readily correct, the condition causing the violation.</li> <li>• Use to order correction of conditions causing or contributing to an actual Illegal Discharge that has already ceased where the discharge occurred unknowingly, was an isolated incident, and was short in duration; the threat level is insignificant; there was no environmental harm; and the responsible party is cooperative and has shown a good faith effort to correct the condition causing the violation and to come into compliance.</li> </ul>	<p>Require immediate containment of spilled materials or Illegal Discharges, with a goal of completion of correction/cleanup within 24 hours.</p> <p>Conditions causing or contributing to an actual or threatened Illegal Discharge should be corrected within 30 calendar days or before the follow-up inspection or next predicted rain event, whichever is sooner. If more than 30 days is required to achieve compliance, then a written rationale must be documented and kept on file.</p>



Enforcement Action	Use	Time Schedule to Achieve Compliance
Administrative Compliance Order	<ul style="list-style-type: none"> <li>• Use where a prior Verbal Warning and/or Notice of Noncompliance has been insufficient to achieve compliance.</li> <li>• Use for threatened Illegal Discharges from Illicit Connections, poorly managed on-site operations, illegal dumping, contaminated water runoff, or spilled materials where the violations are not willful, the threat level is not significant, there is no immediate threat of environmental harm, and the responsible party has shown a good faith willingness to correct the condition causing the violation.</li> <li>• Use to order correction of conditions causing or contributing to an actual Illegal Discharge that has already ceased where there is no immediate threat to human health or the environment; the discharge was not willful, was not significant, and was infrequent or short in duration; the conditions causing or contributing to the Illegal Discharge cannot be remedied within a relatively short period of time; and the responsible party has indicated willingness to come into compliance by meeting milestones established in a reasonable schedule.</li> </ul>	<p>Require immediate containment of spilled materials or Illegal Discharges, with a goal of completion of correction/cleanup within 24 hours.</p> <p>Conditions causing or contributing to an actual or threatened Illegal Discharge should be corrected within 30 calendar days or before the follow-up inspection or next predicted rain event, whichever is sooner. If more than 30 days is required to achieve compliance, then a written rationale must be documented and kept on file.</p>

<b>Enforcement Action</b>	<b>Use</b>	<b>Time Schedule to Achieve Compliance</b>
Cease and Desist Order	<ul style="list-style-type: none"> <li>• Use to order immediate cessation of an Illegal Discharge or Illicit Connection.</li> <li>• Use to order immediate containment or diversion of any impermissible flow of water off of a site that poses a significant and/or immediate threat to water quality.</li> <li>• Use to order immediate cleanup of an area affected by an Illegal Discharge, sewage or materials spill, illegal dumping, or other violation.</li> <li>• Use to order immediate removal of nuisance conditions on property that threaten to cause an Illegal Discharge of Pollutants if exposed to rain or surface water runoff.</li> <li>• Use where lower level enforcement actions have not resulted in compliance and/or available information indicates that further authority of the City may need to be demonstrated before remedial action is forthcoming.</li> <li>• Use for recurring violations.</li> </ul>	<p>Generally, immediate.</p> <p>Where used other than to order immediate cessation of an actual or threatened ID/IC, the time schedule for compliance will vary based on the severity of the violation and will be determined on a case-by-case basis. In these circumstances, noncompliance should be corrected within 30 calendar days or before follow-up inspection or next predicted rain event, whichever is sooner. If more than 30 days is required to achieve compliance, then a written rationale must be documented and kept on file.</p>
Nuisance Abatement / Spill Response	<ul style="list-style-type: none"> <li>• Use for sewage or hazardous materials spills where there is a significant and immediate threat to human health or the environment.</li> <li>• Use where the responsible party has continually failed to comply with a previously issued compliance schedule.</li> </ul>	<p>Goal is immediate containment of spilled materials or Illegal Discharges, with a goal of completion of correction/cleanup within 24 hours.</p>

<b>Enforcement Action</b>	<b>Use</b>	<b>Time Schedule to Achieve Compliance</b>
Administrative Citation	<ul style="list-style-type: none"> <li>• May be used in addition to an Administrative Compliance Order or Cease and Desist Order where monetary sanctions will deter future violations.</li> <li>• May be used in lieu of an Administrative Compliance Order or Cease and Desist Order where a compliance schedule is unnecessary and will help deter future violations.</li> <li>• Use where an actual Illegal Discharge occurred, but ceased prior to other enforcement action.</li> <li>• Use where a prior Verbal Warning, Notice of Noncompliance, and/or Administrative Compliance Order has been insufficient to achieve compliance.</li> <li>• Use for recurring violations.</li> </ul>	<p>Time schedule for compliance will vary based on the severity of the violation and will be determined on a case-by-case basis.</p> <p>Conditions causing or contributing to an actual or threatened Illegal Discharge should be corrected within 30 calendar days or before the follow-up inspection or next predicted rain event, whichever is sooner. If more than 30 days is required to achieve compliance, then a written rationale must be documented and kept on file.</p>
Enforcement of Contracts	<ul style="list-style-type: none"> <li>• Use to address actual or threatened Illegal Discharges or Illicit Connections caused by City contractors.</li> </ul>	<p>Time schedule for compliance will be determined on a case-by-case basis.</p>

Enforcement Action	Use	Time Schedule to Achieve Compliance
Stop Work Order	<ul style="list-style-type: none"> <li>• Use to order immediate cessation of construction or development activities where prior written notices or orders have failed to result in compliance or correction of identified violations.</li> <li>• Use to order immediate cessation of construction or development activities where a developer/contractor has not complied with the requirements of its building and/or grading permit.</li> <li>• Use to order immediate cessation of construction or development activities where if an observed violation at the site poses a significant threat to water quality (such as a failure of BMPs resulting in a significant release of sediment or other pollutants off site).</li> </ul>	Effective immediately, all work, except work to remedy non-compliant situation, must cease.
Permit Revocation / Denial	<ul style="list-style-type: none"> <li>• Use in severe cases of noncompliance or significant Illegal Discharges relating to development and/or construction activities.</li> </ul>	NA
Civil Action	<ul style="list-style-type: none"> <li>• Use for violations that cause significant harm.</li> <li>• Use when response to administrative enforcement actions is inadequate or the responsible party fails to respond.</li> </ul>	Time schedule for compliance will vary based on the severity of the violation and will be determined on a case-by-case basis.

Enforcement Action	Use	Time Schedule to Achieve Compliance
Criminal Action	<ul style="list-style-type: none"> <li>• Use in cases where the actual or threatened environmental harm from the violation is significant and there is strong evidence of willfulness or intentional disregard for legal requirements.</li> <li>• Use in cases where an Illegal Discharge, Illicit Connection, or related violation is frequent, ongoing, or long in duration and the responsible party has failed to respond to administrative enforcement actions.</li> <li>• Use where there is a history of repeated prior violations by the same responsible party.</li> <li>• Use where there has been a direct attempt to conceal an Illegal Discharge, Illicit Connection, or related violation.</li> </ul>	Consult with Enforcing Attorney
Referrals	<ul style="list-style-type: none"> <li>• Sites that fail to obtain state industrial or construction permits.</li> <li>• Sites that fail to comply with City enforcement actions.</li> <li>• Sites that discharge waste or hazardous wastes to receiving waters.</li> </ul>	NA

#### IV. Development Planning Enforcement Component

This Section of the ERP describes the City’s approaches to investigating, responding to, and enforcing noncompliance with permanent BMP implementation, operation and maintenance obligations associated with New Development and Significant Redevelopment.

##### A. Overview

The Water Quality Ordinance requires all New Development and Significant Redevelopment to be undertaken in accordance with the DAMP, the JRMP, the City’s New Development / Significant Redevelopment Program. In conjunction with the New Development / Significant Redevelopment Program, the City has established design standards for new development and

significant redevelopment projects that require installation and implementation of permanent (post-construction) BMPs, including Low Impact Development (LID) techniques, hydromodification controls, source controls and treatment controls, to address the quality and quantity of stormwater runoff. These required BMPs are described in project-specific Water Quality Management Plans (WQMPs) and Non-Priority Project Water Quality Checklists (WQCs), which may be recorded, and which describe long-term BMP operation and maintenance requirements and identify the persons or entities responsible for funding and implementing ongoing BMP operation and maintenance. The New Development / Significant Redevelopment Program is more fully described in Section 7 of the JRMP.

This Development Planning Enforcement Component describes the enforcement response approaches the City takes to ensure that required permanent BMPs are properly installed and implemented during construction and thereafter appropriately operated and maintained.

## **B. Investigating and Responding to Noncompliance**

The City verifies required permanent BMPs are included in project designs through its development review and plan check process. All permanent structural BMPs must be shown on the grading and/or building plans, and building and/or grading permits will not be issued to allow construction to begin before all plans have been approved. In addition, Project WQMPs and WQCs must be approved by City before grading or building permits will be issued.

During a project's construction phase, City inspectors confirm that required structural BMPs are being constructed per plan during their routine inspections. If structural BMP construction or installation varies from approved plans, the City requires in-field corrections be made, or for the project engineer to confirm that revisions continue to comply with project requirements. Any proposed revisions must be approved by applicable City planning or engineering staff. Prior to grading or building permit close-out and/or the issuance of a certificate of use or a certificate of occupancy, the City will verify that all required permanent structural BMPs have been constructed and installed in conformance with approved plans and specifications and that, if applicable, and Operations and Maintenance (O&M) Plan for all structural BMPs has been prepared and approved by the City.

Once a development project has been completed, ongoing operation and maintenance of post-construction BMPs is verified through inspections or through review of submitted maintenance verification certifications. Where operation or maintenance deficiencies are discovered, they are documented and the responsible party is directed to take necessary corrective actions. Minor deficiencies and corrective actions may warrant resolution through Education Letters or documented Verbal Warnings, and if the responsible party performs all necessary corrective actions promptly, the case is closed and the resolution is documented. Where determined appropriate, the City will issue a Notice of Noncompliance or Administrative Compliance Order setting forth required corrective actions as its initial enforcement response. Responsible parties are required to perform corrective actions and demonstrate that all necessary operations and maintenance activities have been completed through re-inspection and/or submittal of appropriate documentation. Where initial enforcement actions fail to result in corrective action,

the City will pursue Escalated Enforcement until compliance is achieved. The City's enforcement response approach for the Development Planning and Enforcement Component is described more fully below.

### **C. Enforcement Response Approaches**

The nature of the City's enforcement response approach to operating and maintenance deficiencies for permanent BMPs is determined on a case-by-case basis and is based on factors such as severity of the violation, site-specific circumstances, and past compliance history. If the situation is determined to pose an immediate risk to public health or the environment, higher level Escalated Enforcement responses may be used initially, and the City will report this information to the Regional Board by phone or e-mail within 24 hours of the discovery followed by a written report within 5 days, as required by the NPDES Permit.

As required by the NPDES Permit, the City seeks to resolve incidents of observed noncompliance within 30 calendar days, or prior to the next rain event, whichever is sooner. In cases where more than 30 days are required to resolve a violation and achieve compliance, the reasons why additional time is needed is documented and kept on file. If Escalated Enforcement is not used when compliance is not achieved within the required compliance period, the rationale for why Escalated Enforcement actions were not used will also be documented.

The following table provides a general overview of the City's enforcement response approach when it discovers that permanent BMPs are not being operated and maintained as required. The enforcement response approaches described in Section III (Illicit Discharge Detection and Elimination Enforcement Component) and Section VI (Existing Development Enforcement Component) of this ERP may also apply. The descriptions in the Table as to when specific enforcement responses are used and appropriate timeframes for compliance are intended to be illustrative in nature and to provide general guidance to City enforcement staff, and are not intended to be exclusive or exhaustive. The City reserves the right to use whatever tools deemed most appropriate for a given situation, as dictated by the specifics of each case, and taking into account the factors described in Section II.A of this ERP.

## Development Planning Enforcement Approach

Enforcement Action	Use	Time Schedule to Achieve Compliance
Education Letter	<ul style="list-style-type: none"> <li>• If suspect noncompliance, but lack sufficient evidence to substantiate it.</li> <li>• May use to advise responsible party of legal obligations where O&amp;M deficiencies are minor and easily correctable and there have been no previous violations.</li> <li>• May be used for first-time administrative violations, such as failure to submit a timely compliance certification.</li> </ul>	<p>Goal is to educate responsible party and remedy O&amp;M deficiency.</p> <p>Noncompliance should be corrected within 30 calendar days or before next inspection or predicted rain event, whichever is sooner.</p>
Verbal Warning	<ul style="list-style-type: none"> <li>• Use to advise responsible party of legal obligations where O&amp;M deficiencies are minor and easily correctable, there is no threat to water quality, there is no history of prior noncompliance, and the responsible party is cooperative and has indicated a willingness to immediately correct the problem.</li> </ul>	<p>Noncompliance should be corrected immediately, if possible, but at least within 30 calendar days or before follow-up inspection or next predicted rain event, whichever is sooner.</p>
Notice of Noncompliance	<ul style="list-style-type: none"> <li>• Use where a prior Verbal Warning was given, but the deficiency that was noted in a prior Verbal Warning has not been corrected within the specified timeframe or by the next inspection.</li> <li>• Use for recurring administrative violation.</li> <li>• Use where the severity of the BMP O&amp;M deficiency calls for an enforcement action stronger than a Verbal Warning, but the violation was unknowing and the responsible party is cooperative and has shown a good faith effort to immediately correct the observed O&amp;M deficiency.</li> </ul>	<p>Noncompliance should be corrected within 30 calendar days or before follow-up inspection or next predicted rain event, whichever is sooner. If more than 30 days is required to achieve compliance, then a written rationale must be documented and kept on file.</p>



Enforcement Action	Use	Time Schedule to Achieve Compliance
Administrative Compliance Order	<ul style="list-style-type: none"> <li>• Use where a prior Verbal Warning and/or Notice of Noncompliance has been insufficient to achieve compliance.</li> <li>• Use for recurring, but not significant, violations involving BMP O&amp;M deficiencies.</li> <li>• Use for BMP O&amp;M deficiencies that are not willful and pose no immediate threat to human health or the environment, but which cannot be remedied within a relatively short period of time.</li> <li>• Use to order implementation of a required BMP.</li> <li>• Use to order repair or replacement of a structural BMP or control device that is defective or has been removed.</li> </ul>	Noncompliance should be corrected within 30 calendar days or before follow-up inspection or next predicted rain event, whichever is sooner. If more than 30 days is required to achieve compliance, then a written rationale must be documented and kept on file.
Cease and Desist Order	<ul style="list-style-type: none"> <li>• Use where BMP O&amp;M deficiencies pose an immediate threat of a significant Illegal Discharge.</li> <li>• Use where lower level enforcement actions have not resulted in compliance and/or available information indicates that further authority of the City may need to be demonstrated before remedial action is forthcoming.</li> <li>• Use for significant recurring violations of BMP O&amp;M requirements.</li> </ul>	Immediate compliance should be required where there is an imminent threat of a significant Illegal Discharge. Otherwise, the time schedule for compliance will vary based on the severity of the violation and will be determined on a case-by-case basis. Where possible, noncompliance should be corrected within 30 calendar days or before follow-up inspection or next predicted rain event, whichever is sooner. If more than 30 days is required to achieve compliance, then a written rationale must be documented and kept on file.
Nuisance Abatement	<ul style="list-style-type: none"> <li>• Use where the responsible party has continually failed to comply with a previously issued compliance schedule.</li> </ul>	Time schedule for compliance will vary based on the severity of the violation and will be determined on a case-by-case basis.

<b>Enforcement Action</b>	<b>Use</b>	<b>Time Schedule to Achieve Compliance</b>
Administrative Citation	<ul style="list-style-type: none"> <li>• May be used in addition to an Administrative Compliance Order or Cease and Desist Order where monetary sanctions will deter future violations.</li> <li>• May be used in lieu of an Administrative Compliance Order or Cease and Desist Order where a compliance schedule is unnecessary and will help deter future violations.</li> <li>• Use where a prior Verbal Warning, Notice of Noncompliance, and/or Administrative Compliance Order has been insufficient to achieve compliance.</li> <li>• Use for recurring violations.</li> </ul>	<p>Time schedule for compliance will vary based on the severity of the violation and will be determined on a case-by-case basis.</p> <p>Generally, noncompliance should be corrected within 30 calendar days or before the follow-up inspection or next predicted rain event, whichever is sooner. If more than 30 days is required to achieve compliance, then a written rationale must be documented and kept on file.</p>
Civil Action	<ul style="list-style-type: none"> <li>• Use when response to administrative enforcement actions is inadequate or the responsible party fails to respond.</li> <li>• Use to obtain a civil injunction requiring restoration or replacement of a required structural BMP that has been improperly removed or is no longer operational.</li> </ul>	<p>Time schedule for compliance will vary based on the severity of the violation and will be determined on a case-by-case basis.</p>
Criminal Action	<ul style="list-style-type: none"> <li>• Use in cases where there is strong evidence of willfulness or intentional disregard for legal requirements, the responsible party has failed to respond to administrative enforcement actions, there is a history of repeated prior violations by the same responsible party, and/or there has been a direct attempt to conceal a violation.</li> </ul>	<p>Consult with Enforcing Attorney</p>

Enforcement Action	Use	Time Schedule to Achieve Compliance
Referrals	<ul style="list-style-type: none"> <li>• Sites that fail to obtain state industrial or construction permits.</li> <li>• Sites that fail to comply with City enforcement actions.</li> <li>• Sites that discharge waste or hazardous wastes to receiving waters.</li> </ul>	NA

## V. Construction Management Enforcement Component

This Section of the ERP describes the City’s approaches to investigating, responding to, and enforcing noncompliance with the City’s Ordinances at public and private construction sites within the City.

### A. Overview

All construction projects in the City, regardless of size, are required to implement BMPs to prevent Illegal Discharges of Pollutants into the Stormwater Drainage System or watercourses. The City has established a minimum set of BMPs and other measures to be implemented at all construction sites year round. All private and public works construction projects are required, at a minimum, to implement and be protected by an effective combination of erosion and sediment controls and waste and materials management BMPs. In addition, the City requires enhanced or additional BMPs should the project site pose an exceptional threat to water quality. The City’s Construction Program and the City departments and staff responsible for overseeing, implementing, and enforcing it, are described in Section 8 of the JRMP.

Construction sites that are subject to the Construction General Permit are required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). Before issuing a grading or building permit, the City will require proof of Construction General Permit coverage. Private construction projects not covered by the General Permit, but covered under a grading permit, are required to develop Erosion and Sediment Control Plans (ESCPs) that show proposed locations of the erosion and sediment control BMPs that will be implemented during the construction project.

### B. Investigating and Responding to Noncompliance

The City performs inspections of construction sites to verify that appropriate BMPs and other requirements for water quality protection are being implemented and maintained, that they appropriately comply with the City’s Ordinances and the Construction General Permit, and that they continue to protect water quality. Construction sites are inspected, according to the established priority, until construction activity is complete. Threats to water quality are assessed by the City’s Authorized Inspectors for construction site runoff that will not be reasonably controlled by the BMPs in place or if a failure of BMPs is resulting in the release of sediments or other Pollutants. Violations observed are documented by the inspectors, and appropriate enforcement actions are taken.

If a significant and/or immediate threat to water quality is observed by an Authorized Inspector, action is taken to require the developer/contractor to immediately cease the discharge and appropriate enforcement action is taken. The City’s enforcement response approaches to violations at constructions sites are also described further in the following Section.

Although the City does not enforce the Construction General Permit, violations of the City’s Ordinances or project permit conditions and plans may also be considered a violation of the General Construction Permit for sites subject to those requirements. When a construction site is subject to the General Construction Permit, City staff may also collaborate with Regional Board staff on enforcement actions.

**C. Enforcement Response Approaches**

The City’s enforcement response approach to construction sites differs based on whether it is a private construction project or a City public works construction project. In either case, however, violations determined to pose an immediate risk to public health or the environment will warrant the use of Escalated Enforcement responses. The following Table outlines the range and progression of enforcement actions that may be taken by the City with respect to both private construction projects and public works construction projects.

**Enforcement Actions for Violations at Construction Sites**

<b>PRIVATE CONSTRUCTION PROJECTS</b>	<b>← ENFORCEMENT PROGRESSION</b>	<b>PUBLIC WORKS CONSTRUCTION PROJECTS</b>
Verbal Warning		Verbal Warning
Written Warning <ul style="list-style-type: none"> <li>▪ Notice of Noncompliance</li> <li>▪ Administrative Compliance Order</li> <li>▪ Administrative Citations or Fines</li> <li>▪ Cease and Desist Order</li> </ul>		Written Warning <ul style="list-style-type: none"> <li>▪ Notice of Noncompliance</li> </ul>
Stop Work Order		Enforcement of Contract <ul style="list-style-type: none"> <li>▪ Stop Work Order</li> <li>▪ Withholding of Payment</li> <li>▪ Bond</li> <li>▪ Fines</li> <li>▪ Revocation of Contract</li> </ul>
Revocation of Permit(s) and/or Denial of Future Permits		Civil and Criminal Court Actions
Civil and Criminal Court Actions		Civil and Criminal Court Actions

As required by the NPDES Permit, the City's NPDES Coordinator will notify the Regional Water Board in writing within five (5) calendar days of issuing Escalated Enforcement to a construction site that poses a significant threat to water quality as a result of violations or other noncompliance. Written notification may be provided to the appropriate Regional Water Board staff member by email. The City's NPDES Coordinator will also notify the Regional Board of any persons required to obtain coverage under the Construction General Permit and failing to do so, within five (5) calendar days from the time the City becomes aware of the circumstances. Written notification may be provided electronically by email to [RB9\\_Nonfilers@waterboards.ca.gov](mailto:RB9_Nonfilers@waterboards.ca.gov).

The City seeks to resolve violations at both private and public works construction sites as quickly as possible, including prior to rain events where feasible. As required by the NPDES Permit, the City seeks to resolve incidents of observed noncompliance within 30 calendar days, or prior to the next rain event, whichever is sooner. In cases where more than 30 days are required to resolve a violation and achieve compliance, the reasons why additional time is needed is documented and kept on file. If Escalated Enforcement is not used when compliance is not achieved within the required compliance period, the rationale for why Escalated Enforcement actions were not used will also be documented.

A general overview of the City's enforcement response approach to violations at private construction sites and public works construction sites is set forth below. For violations at construction sites resulting in actual or threatened Illegal Discharges, refer to the enforcement response approaches described in Section III (Illicit Discharge Detection and Elimination Enforcement Component of this ERP. The overview below is intended to be illustrative in nature and to provide general guidance to City enforcement staff, and is not intended to be exclusive or exhaustive. The City reserves the right to use whatever tools deemed most appropriate for a given situation, as dictated by the specifics of each case, and taking into account the factors described in Section II.A of this ERP.

The nature of the City's enforcement response approach to violations at construction sites is determined on a case-by-case basis and is based on factors such as severity of the violation, site-specific circumstances, and the contractor's past compliance history. If the situation is determined to pose an immediate risk to water quality, higher level Escalated Enforcement responses may be used initially. The following charts depict the range of enforcement options available for violations at private and public works construction sites, respectively, and are intended to provide guidance to Authorized Inspectors in determining what enforcement response is appropriate for a given violation.

## Enforcement of Noncompliance for Private Construction Projects

ENFORCEMENT OPTIONS	ACTIONS			CRIMINAL ACTIONS
	NOTICE OF NONCOMPLIANCE	ADMINISTRATIVE COMPLIANCE ORDER / ADMINISTRATIVE CITATION	CEASE & DESIST STOP WORK ORDER REVOCATION OF PERMIT(S)	INFRACTIONS AND MISDEMEANORS
COMPLIANCE STRATEGY				
Threat Level	Insignificant	No: Significant	May be Significant	Significant
Environmental Harm	None	No: Immediate	Potential/Immediate	Actual Immediate
Event Duration	Short	Short	Long/Continuous	Long/Continuous
Event Frequency	Isolated	Infrequent	Frequent/Ongoing	Frequent/Ongoing
Cooperation	Readily Complies	Working to Comply	Uncooperative/ Slow to Comply	Non-Responsive
Intent	Unknowingly	No: Willful	Possibly Willful	Willful

## Enforcement of Noncompliance for Public Works Construction Projects

ENFORCEMENT OPTIONS	ACTIONS			CRIMINAL ACTIONS
	NOTICE OF NONCOMPLIANCE	CONTRACT REMEDIES		INFRACTIONS AND MISDEMEANORS
COMPLIANCE STRATEGY				
Threat Level	Insignificant	No: Significant	May be Significant	Significant
Environmental Harm	None	No: Immediate	Potential/Immediate	Actual Immediate
Event Duration	Short	Short	Long/Continuous	Long/Continuous
Event Frequency	Isolated	Infrequent	Frequent/Ongoing	Frequent/Ongoing
Cooperation	Readily Complies	Working to Comply	Uncooperative/ Slow to Comply	Non-Responsive
Intent	Unknowingly	No: Willful	Possibly Willful	Willful

### *Verbal Warnings (both private and public works construction projects)*

For insignificant violations that do not pose an immediate threat to water quality, the initial method of requesting corrective action and enforcing compliance will typically be a Verbal Warning from the Authorized Inspector to the contractor. Verbal warnings are often sufficient to

achieve correction of the violation, often while the Authorized Inspector is present at the construction site. The Authorized Inspector will notify the developer/contractor's project supervisor of the violation, and document the violation and the notification to the contractor's project supervisor in the inspection file. A specific time frame for correcting the problem and a follow-up inspection date will be documented by the inspector.

*Written Warnings (both private and public works construction projects)*

If a deficiency that was noted in a prior Verbal Warning is not corrected by the next inspection, or the severity of the violation is such that a Verbal Warning is not strong enough, a written warning will be issued. A written warning will describe the deficiency that is to be corrected, suggested corrective action(s), and the specific time frame for correction and a date for a follow-up inspection. A copy of the written warning will be provided to the contractor's project supervisor and another copy will be provided to the owner/developer. A copy will be placed in the active inspection file. Once the violation has been corrected to the satisfaction of the inspector, the inspector will document compliance in the inspection file.

For private construction projects, written warnings may range from a Notice of Noncompliance, Administrative Compliance Order, Administrative Citation, or Cease and Desist Order – depending on the severity of the of the violation or threat to water quality and the responsiveness and compliance history of the contractor. For public works construction projects, a Notice of Noncompliance serves as the only form of written warning given.

*Contract Enforcement Mechanisms (public works construction projects only)*

If a contractor is performing construction of a public works project on behalf of the City, then the City will use the provisions within the contract for enforcement of noncompliance where verbal or written warnings prove insufficient. Such contract provisions may allow the City to withhold payment(s), require bonds, apply monetary penalties, order work stopped (without time penalties), or terminate the contract if the contractor performing the work does not comply with all appropriate permits, laws, regulations and ordinances.

*Stop Work Orders (private construction projects only)*

If a written warning has not been addressed by the next inspection, or if the developer/contractor has not complied with their permit requirements, or if a significant threat to water quality is observed (such as a failure of BMPs resulting in a significant release of sediment or other pollutants off site), a Stop Work Order will be issued by the inspector or the appropriate official. Stop Work Orders prohibit further construction activity until the problem is resolved and provide a time frame for correcting the problem. The Stop Work Order will describe the infraction and specify what corrective action must be taken. A copy of the Stop Work Order will be given to the contractor's project supervisor and placed in the active inspection file. For a private construction project, a copy of the Stop Work Order will also be sent to the owner/developer. To restart work once a Stop Work Order has been issued, the contractor's project supervisor must request the inspector to re-inspect the project and verify that the deficiencies have been satisfactorily corrected. If the inspector is satisfied with the corrections, the inspector may sign off on that phase of the project, and work may proceed.



### *Revocation of Permit(s) and/or Denial of Future Permits (private construction projects only)*

In severe cases of noncompliance or significant discharges at private construction sites, it may be necessary to revoke the grading and/or building permit that a developer/contractor is working under. The developer/contractor would then have to re-apply for permits and meet any requirements that the City may place on the project. Revocation of building or grading permits must be conducted in accordance with the process described in the City's Municipal Code. City Staff should consult with the Enforcing Attorney before proceeding with revocation of permits.

### *Civil and Criminal Court Actions*

In cases of severe and repeated noncompliance, Civil and/or Criminal court actions may be appropriate. Whether to pursue Civil or Criminal enforcement remedies will be determined in consultation with the Enforcing Attorney.

## **VI. Existing Development Enforcement Component**

This Section of the ERP describes the City's approaches to investigating, responding to, and enforcing noncompliance with the City's Ordinances with respect to existing municipal, commercial and industrial, and residential development.

### **A. Overview**

As required by the NPDES Permit, the City has implemented an Existing Development Management Program pursuant to which it inventories and tracks existing municipal, industrial, commercial, and residential development in the City; requires the implementation, operation, and maintenance of pollution prevention BMPs for activities associated with municipal, industrial, commercial, and residential activities; and periodically inspects inventoried existing development to ensure and enforce proper BMP implementation and compliance with the City's Ordinances. The City's Existing Development Management Program, is divided into separate Municipal, Industrial/Commercial, and Residential Programs. The Existing Development Management Program overlaps with the City's ID/IC and New Development/Significant Redevelopment Programs, and the problematic activities, types of violations, and enforcement response approaches described in Section III (Illicit Discharge Detection and Elimination Enforcement Component) and Section IV (Development Planning Enforcement Component) of this ERP also generally apply to existing development. In addition, summaries of applicable pollution prevention BMPs municipal facilities, industrial and commercial facilities, residential activities, and homeowners' associations / common interest developments can be found in Sections 5 and 9 of the JRMP.

### **B. Investigating and Responding to Noncompliance**

#### **1. Municipal Facilities and Areas**

The City inspects and implements appropriate BMPs for Municipal facilities and areas in accordance with the requirements of the NPDES Permit. During routine municipal facility inspections, City or contract staff will assess facility areas and activities to ensure all are maintained in accordance with City regulations, ordinances and BMP requirements. If BMPs are

found to be deficient or otherwise ineffective, the responsible party or department will be provided corrective actions. If the responsible City staff member or department does not perform the necessary corrective actions in response to the direction of their immediate supervisor, escalated enforcement will be taken by involving higher ranking representatives within the responsible department, who may enact internal disciplinary procedures, until the deficiencies are resolved.

If the City determines that specific areas of a leased City facility require additional BMPs, the City often can require the implementation of BMPs in addition to the required minimum BMPs for the specific area/activity. If a leased City facility continues to be out of compliance, the City may choose to discontinue the lease and remove the tenant from the site.

## **2. Industrial and Commercial Development**

### **a. Fixed Facilities**

The City inspects commercial and industrial facilities to determine if they are in compliance with City's Ordinances, to review BMP implementation, to assess BMP effectiveness and to verify inventory information used for facility prioritization. Such inspections include review of: (i) material and waste handling and storage practices; (ii) pollution control BMP implementation and maintenance; and (iii) evidence of past or present unauthorized, non-stormwater discharges. The City will generally conduct one of two types of inspections: compliance inspections and follow-up inspections.

Initial compliance inspections are announced and focus on current facility operations and activities, BMPs currently in use, the effectiveness of those BMPs, and verifying inventory spreadsheet information. All re-occurring compliance inspections cover the same information as an initial compliance inspection, but will typically be unannounced in order to verify compliance and that BMPs are being effectively implemented.

For those facilities deemed to be non-compliant, the City will perform compliance inspections once a month until said facilities are shown to be compliant, and then once every four months for a full calendar year after the facility achieves compliance, depending on the severity of the violation. Generally, these inspections will focus primarily on areas where a facility was deemed to be non-compliant and may be either announced or unannounced, depending on which course of action the Authorized Inspector deems will be most conducive to continued facility compliance.

Appropriate enforcement actions are taken against industrial and commercial facility owners and operators determined to be out of compliance. The Authorized Inspector will document each observed violation. Depending on the severity of the violation, enforcement actions can range from a verbal warning to civil or criminal court actions with monetary fines. Illegal Discharges and Illicit Connections from industrial and commercial facilities are investigated and responded to as described in Section III of this ERP. If an Authorized Inspector observes a significant and/or immediate threat to water quality, enforcement action will be taken to require the facility owner/operator to immediately cease and correct the discharge or activity and the City will coordinate notification of the appropriate agencies. Conditions that would warrant such action

may include observations of runoff from an industrial site that are not reasonably controlled by protective measures or observation of a failure in BMPs resulting in an actual or threatened discharge of Pollutants to the Stormwater Drainage System or a water body. Escalated Enforcement measures will be implemented as needed to achieve compliance. The City may also require industrial/commercial facilities to implement monitoring programs where warranted.

#### **b. Mobile Businesses**

Stormwater violations associated with mobile car wash and surface cleaner businesses include Illegal Discharges and failure to properly implement specific activity-based BMPs required of such businesses. The City may become aware of violations associated with mobile cleaning businesses from complaints, field observations, or inspections. Where violations are observed, they are documented and appropriate enforcement actions are taken against mobile business owners and operators. Depending on the severity of the violation, enforcement actions can range from a verbal warning to civil or criminal court actions with monetary fines. If an Authorized Inspector observes a significant and/or immediate threat to water quality, enforcement action will be taken to require the mobile business owner and/or operator to immediately cease the discharge and/or implement the required BMPs. Illegal Discharges associated with mobile businesses are investigated and responded to as described in Section III of this ERP

### **3. Residential Development**

Enforcement actions may be initiated by the City as a response to hotline reports and complaints, or by observations by City representatives. All enforcement actions will be documented.

Enforcement of BMPs in common interest developments will be conducted using the following mechanisms: public reporting hotline, analysis of dry weather/illicit discharge monitoring results, and municipal employee observations.

The City may become aware of potential violations associated with activities on residential property through public reporting or complaints or through field observations of City personnel or contractors during residential area inspections, during scheduled dry weather water quality monitoring, and/or during routine City activities such as Stormwater Drainage System inspections and maintenance. Additional, focused investigations of areas upstream of outfalls where dry weather runoff or Pollutants are identified during monitoring activities may be conducted. The combination of public reporting, direct observations, targeted investigations, and in-field monitoring provide effective oversight of residential areas and activities.

During investigations of incidents discovered through these mechanisms, the City will continue to use the opportunity to address any other issues of concern and provide education and outreach to residential property owners, occupants, and managers as appropriate to notify and urge them to observe designated BMPs for the high threat activities. When residential BMP deficiencies are observed, follow-up inspections will be performed and violations investigated within a reasonable timeframe.

Illegal Discharges and Illicit Connections from residential properties are investigated and responded to as described in Section III of this ERP. Other violations of the City's Ordinances

will also be investigated and documented, and, depending on the nature and severity of the violation, the enforcement may consist of any of the enforcement measures described in this ERP.

### **C. Enforcement Response Approaches**

The nature of the City's enforcement response approach to violations associated with Existing Development is determined on a case-by-case basis and is based the nature of the violation and on factors such as severity of the violation or threat to human health or the environment, site-specific circumstances, and past compliance history. Except as otherwise described in Subsection B above, the City's enforcement response approaches to violations associated with Existing Development will be the same as the City's enforcement response approaches described in Section III (Illicit Discharge Detection and Elimination Enforcement Component) and Section IV (Development Planning Enforcement Component) of this ERP. As described in other components of this ERP, if a particular violation is determined to pose an immediate risk to public health or the environment, higher level Escalated Enforcement responses may be used immediately and, if needed, the City will respond itself to ensure the threat is eliminated in a timely and efficient manner.

As required by the NPDES Permit, the City seeks to resolve incidents of observed noncompliance within 30 calendar days, or prior to the next rain event, whichever is sooner. In cases where more than 30 days are required to resolve a violation and achieve compliance, the reasons why additional time is needed is documented and kept on file. If Escalated Enforcement is not used when compliance is not achieved within the required compliance period, the rationale for why Escalated Enforcement actions were not used will also be documented.

When a site is subject to the Industrial General Permit, the City may collaborate with Regional Board staff on enforcement actions. In addition, as required by the NPDES Permit, the City's NPDES Coordinator will notify the Regional Board of any persons required to obtain coverage under the Industrial General Permit and failing to do so, within five (5) calendar days from the time the City becomes aware of the circumstances. Written notification may be provided electronically by email to [RB9\\_Nonfilers@waterboards.ca.gov](mailto:RB9_Nonfilers@waterboards.ca.gov).