

City of Del Mar
Jurisdictional
Urban Runoff
Management Program
Annual Report
for
Fiscal Year 2009 - 2010



Submitted to
Regional Water Quality Control Board
San Diego Region

SEPTEMBER 2010



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September 30, 2010

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Table of Contents

List of Tables.....	v
List of Figures	v
List of Appendices	vi
Executive Summary.....	vii
Certification Statement	ix
Section 1 Introduction	1-1
1.1 Background.....	1-1
1.1.1 Overview of the City of Del Mar	1-1
1.1.2 Watershed(s)	1-1
1.2 Purpose and Objectives	1-1
Section 2 Development Planning Component	2-1
2.1 Introduction.....	2-1
2.2 Land Use Planning.....	2-1
2.3 Environmental Review Process.....	2-1
2.4 Development Project Approval and Verification Process.....	2-1
2.4.1 Program Implementation	2-1
2.4.2 Notable Activities	2-5
2.5 Development Planning Component Effectiveness Assessment.....	2-5
2.6 Program Review and Modification.....	2-5
Section 3 Construction Component.....	3-1
3.1 Introduction.....	3-1
3.2 Source Characterization	3-1
3.3 Updates to Ordinances and Approval Processes	3-1

3.4	Best Management Practice Requirements	3-1
3.5	Program Implementation.....	3-2
3.5.1	Maximum Disturbed Area for Erosion Controls.....	3-2
3.5.2	Advanced Treatment Methods	3-2
3.5.3	Inspection and Enforcement Measures for Construction Sites	3-2
3.5.4	Notable Activities	3-5
3.6	Construction Activities Effectiveness Assessment.....	3-5
3.7	Program Review and Modification.....	3-5
Section 4	Municipal Component	4-1
4.1	Introduction.....	4-1
4.2	Municipal Activities.....	4-1
4.2.1	Source Characterization.....	4-1
4.2.2	Best Management Practice Requirements	4-1
4.2.3	Program Implementation	4-1
4.3	Municipal Facilities	4-10
4.3.1	Source Characterization	4-10
4.3.2	Best Management Practice Requirements	4-10
4.3.3	Inspections	4-10
4.4	Enforcement	4-11
4.5	Notable Activities.....	4-11
4.6	Program Review and Modification.....	4-11
Section 5	Industrial/Commercial Component.....	5-1
5.1	Introduction.....	5-1
5.2	Stationary Industrial and Commercial Sites/Sources Element.....	5-1
5.2.1	Background.....	5-1
5.2.2	Source Characterization.....	5-1
5.2.3	Best Management Practice Requirements	5-1
5.2.4	Program Implementation	5-1

5.3	Mobile Sources Element.....	5-3
5.3.1	Background.....	5-3
5.3.2	Source Characterization.....	5-3
5.3.3	Best Management Practice Requirements	5-4
5.3.4	Program Implementation	5-4
Section 6	Residential Component	6-1
6.1	Introduction.....	6-1
6.2	Source Characterization	6-1
6.3	Best Management Practice Requirements	6-1
6.4	Program Implementation.....	6-1
6.5	Oversight of Residential Areas and Activities.....	6-2
6.6	Enforcement Measures for Residential Areas and Activities	6-2
6.7	Notable Activities.....	6-3
6.8	Residential Component Effectiveness Assessment.....	6-3
6.9	Program Review and Modification.....	6-3
Section 7	Illicit Discharge Detection and Elimination Component.....	7-1
Section 8	Education Component	8-1
8.1	Introduction.....	8-1
8.2	Staff Training Element	8-1
8.3	Educational Outreach Element	8-2
8.3.1	Media Use in Outreach Activities	8-2
8.3.2	Additional Educational Outreach by Target Audience	8-10
8.4	Outreach Component Effectiveness Assessment.....	8-11
8.5	Program Review and Modification.....	8-11
Section 9	Public Participation Component	9-1
9.1	Local Participation Element	9-1

9.1.1	General Public Feedback Mechanisms	9-1
9.1.2	Formal Public Hearings and Workshops	9-1
9.1.3	Staff as Feedback Mechanism.....	9-3
9.2	Regional Participation Element	9-3
9.3	Program Review and Modification.....	9-3
Section 10	Fiscal Analysis Component.....	10-1
10.1	General Budget Information	10-1
10.1.1	Clean Water Program Budget	10-1
10.2	Fiscal Analysis Methods	10-3
10.3	Fiscal Analysis Results.....	10-3
10.3.1	JURMP Expenditures	10-3
10.3.2	WURMP Expenditures.....	10-5
10.3.3	RURMP Expenditures.....	10-5
10.4	Funding Sources	10-5
10.4.1	Clean Water Service Charge.....	10-5
10.4.2	General Fund Monies.....	10-6
10.4.3	Grant Monies and Community Partnerships	10-6
Section 11	Effectiveness Assessment	11-1
11.1	Introduction.....	11-1
11.2	Effectiveness Assessment Results	11-2
11.2.1	Compliance with Activity-Based Permit Requirements (Level 1)	11-2
11.2.2	Changes in Knowledge/Awareness and Behavioral Changes (Levels 2 & 3)	11-2
11.2.3	Load Reductions (Level 4)	11-2
11.2.4	Significant Activities Assessment	11-3
Section 12	Special Projects	12-1
12.1	Lagoon TMDL Studies: Los Peñasquitos Lagoon Sediment TMDL	12-1
12.2	Regional Source Identification Monitoring Residential Area Runoff Assessment	12-1

12.3	Other Special Investigations or Studies	12-2
Section 13	Non-Emergency Fire Fighting Flows	13-1
Section 14	JURMP Revisions	14-1
Section 15	Conclusions and Recommendations	15-1
15.1	Recommendations and Program Modifications	15-1
15.2	Conclusions.....	15-2

List of Tables

Table 2-1: Priority Development Projects within the City of Del Mar	2-2
Table 3-1: Construction-Related Enforcement Actions for Fiscal Year 2009-2010.....	3-4
Table 4-1: Summary of Inlet Filter Maintenance for Fiscal Year 2009-2010	4-5
Table 4-2: Major Event Summary Table	4-8
Table 5-1: Commercial/Industrial Activity Enforcement Action Summary.....	5-3
Table 5-2: Mobile Business Enforcement Action Summary	5-4
Table 6-1: Household Hazardous Waste Program Summary Table	6-2
Table 6-2: Residential Area Enforcement Action Summary.....	6-3
Table 8-1: Staff Education and Training Summary	8-2
Table 8-2: Clean Water Video Webcast Summary	8-3
Table 8-3: Fiscal Year 2009-2010 Public Workshop & Hearing Broadcast Summary	8-4
Table 8-4: Fiscal Year 2009-2010 Clean Water PSA Summary	8-10
Table 8-5: Educational and Outreach Efforts by Target Audience.....	8-11
Table 8-6: Focused Outreach by Target Audience for Fiscal Year 2010-2011.....	8-11
Table 9-1: Fiscal Year 2009-2010 Del Mar City Council Agenda Items Relating to the Clean Water Program	9-2
Table 10-1: Budget Summary – Clean Water Fund 55.....	10-2
Table 10-2: Fiscal Year 2009-2010 Expenditure Summary by Program Component	10-4
Table 11-1: Effectiveness Assessment – Significant Activities, Methods, Measures and Targeted Outcomes.....	11-4

List of Figures

Figure 1-1: The City of Del Mar and its location relative to its associated watersheds in San Diego County.	1-2
Figure 4-1: MS4 Drainage System Map.....	4-3

List of Appendices

Appendix 2-A: List of Permit Applications Reviewed by Planning & Community Development Department during Fiscal Year 2009-2010

Appendix 2-B: January 22, 2010 Department Policy Email on PDP Definition and April 19, 2010 City Council Staff Report

Appendix 2-C: City of Del Mar SUSMP

Appendix 2-D: Priority Treatment Control BMP Inventory - Tracking and Maintenance

Appendix 3-A: Fiscal Year 2009-2010 Watershed-based Construction Inventory including Priority Classifications for Each Site

Appendix 3-B: Monthly GIS Construction Site Inventory Maps for Fiscal Year 2009-2010

Appendix 3-C: Fiscal Year 2009-2010 Construction Inspection Inventory

Appendix 4-A: Fiscal Year 2009-2010 City of Del Mar Municipal Facilities Inventory

Appendix 4-B: Summary of Fiscal Year 2009-2010 Municipal Facility Inspections

Appendix 5-A: Fiscal Year 2009-2010 Industrial and Commercial Facility Inventory for the City of Del Mar

Appendix 5-B: Summary of Fiscal Year 2009-2010 Commercial/Industrial Facility Inspections

Appendix 10-A: Final Adopted Budget for Fiscal Years 2009-2010 & 2010-2011 City of Del Mar Clean Water Fund (Fund 55)

Appendix 10-B: Budget and Expenditures for Fiscal Year 2009-2010 City of Del Mar Clean Water Fund (Fund 55)

Appendix 11-A: Fiscal Year 2009-2010 Permit Component Compliance Table



Executive Summary

The City of Del Mar (City) developed its Jurisdictional Urban Runoff Management Program (JURMP) in 2008 to meet the requirements of the Municipal Separate Storm Sewer System (MS4) Urban Runoff Discharge Permit (Order No. R9-2007-0001) (Permit) issued to the City and the Regional Copermittees by the California Regional Water Quality Control Board, San Diego Region (Regional Board). The Permit requires the Copermittees individually, but collaboratively, to develop and implement comprehensive programs to reduce and eliminate urban runoff pollutants that are discharged from their storm drain systems to the receiving waters. The City's program and activities, designed to meet these requirements, are described in detail in the City's 2008 JURMP.

The City has prepared this JURMP Annual Report to provide a comprehensive description of all the activities conducted by the City to comply with all the requirements of Section D of the Permit, as described in the 2008 City of Del Mar JURMP. This Annual Report covers the implementation of jurisdictional activities during the period from July 1, 2009 through June 30, 2010 (Reporting Period), and follows the standardized format developed by the Regional Copermittees and adapted as appropriate for the City.

During the Reporting Period, the City continued implementation its 2008 JURMP, including all baseline Permit requirements. The City believes that the core program activities outlined in the Permit: education; inspections; monitoring; and enforcement are the most effective at reducing pollutant generating activities. Within the City's program, the inspections and monitoring programs are not only implemented to identify wrongdoers, but provide the City with opportunities to educate the community. It is through the outreach and education of the general population that awareness and behaviors will change for the betterment of water quality. On the occasion where outreach is not effective at changing behaviors, the City uses its enforcement authorities to obtain compliance.

The City's diligent efforts towards best management practice (BMP) implementation are, once again, a key element for this year's report. City staff has been active and consistent in activity/area specific BMP implementation as demonstrated through the municipal facility inspection program. Another supporting effort for municipal activities has been data tracking and the ability to report the results of the City's own activities with ease. With each year of program implementation, the City becomes more effective and efficient at tracking meaningful data accurately – and this year was no exception. Staff continues to use and refine the elaborate system for tracking street sweeping, pipe cleaning, and call out activities such as power washing developed by City staff in previous reporting periods.

Some interesting and key numbers associated with the City staffs' efforts to implement the program follow:

43.2 tons – The amount of debris, sediment and trash removed from the City's storm drain system thereby prevented from entering the lagoons and Pacific Ocean;

1,156 miles – The number of miles the street sweeper swept during Fiscal Year 2009-2010;

117.25 tons – The amount of material collected from street sweeping during Fiscal Year 2009-2010, and thereby prevented from entering the lagoons and Pacific Ocean.

Overall, the City's effectiveness in continuing the implementation of the program was high, and there were no substantive modifications to the 2008 JURMP identified as necessary during this Reporting Period.

The City remains an active voice in regional groups and activities as well by co-chairing a regional Copermittee workgroup and actively participating in other workgroups, both permit-mandated workgroups and other workgroups, such as the Los Peñasquitos Lagoon TMDL Workgroup, whose impact on the City's program is recognized. In addition, the City continues to be involved in other workgroups that, while not directly related to Municipal Permit requirements, work toward water quality protection and water conservation goals of the City's program. This includes the San Dieguito Lagoon Joint Powers Authority (JPA), the San Dieguito Lagoon Restoration Project, the County Water Authority Water Conservation Committee, and the City's own San Dieguito Lagoon Committee.

Funding of municipal programs, including stormwater programs, continues to be an issue for all of the cities in San Diego County. The City of Del Mar is no exception. Given its economic ties to the beach and ocean, the City of Del Mar recognizes the importance of clean water and its NPDES program. During Fiscal Year 2008-2009, the City took steps to ensure that adequate funding is available on a more permanent basis through voter-approved passage of the Clean Water Service Charge. This fee continues to fund a substantial portion of the program. In addition the City continues to seek other sources of funding, including State and Federal grants, for special projects and to make up the deficit between the cost of implementing the program and the portion covered by the Clean Water Service Charge.

By and large, the City continues to be very successful at implementing its Clean Water Program. Residents, local businesses, and City staff are working diligently to protect the waterways and improve water quality at the beaches and lagoons, and will continue to carry out these efforts in the future.

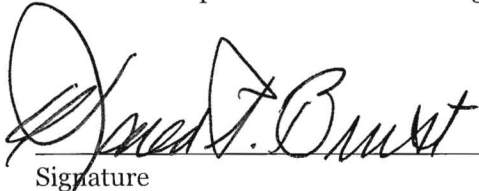


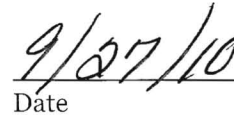
Certification Statement

FISCAL YEAR 2009-2010 JURMP ANNUAL REPORT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


Signature


Date

Karen P. Brust, City Manager
City of Del Mar

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Section 1

Introduction



This document is the third annual report for the City of Del Mar's 2008 Jurisdictional Urban Runoff Management Plan (2008 JURMP) which went into effect March 25, 2008 in accordance with NPDES Order No. R9-2007-0001 (Permit), and subsequent amendments. The JURMP Annual Report generally follows the standardized format prepared and submitted to the San Diego Regional Water Quality Control Board (Regional Board) by the Copermittees in June 2007, and any deviations are minor and correspond to the format of the 2008 JURMP. The Reporting Period covered by this document is from July 1, 2009 through June 30, 2010.

1.1 Background

This section provides background information, including a brief overview, of the City of Del Mar Clean Water Program which implements its JURMP.

1.1.1 Overview of the City of Del Mar

The name Del Mar means "of the sea," and highlights the symbiotic relationship between the City and Pacific Ocean. The City of Del Mar is a coastal, primarily residential community in the northern section of San Diego County. Del Mar is bounded by Solana Beach to the north, San Diego to the south and east, and the Pacific Ocean to the west (see Figure 1-1). The City covers an area of approximately two square miles, with a population of approximately 4,500 residents. The main attraction of visitors is the beach and sunny weather. The annual San Diego County Fair, horse racing, and other events held at the Del Mar Fairgrounds bring in people from the surrounding area and beyond.

The Clean Water Program is a multi-departmental program coordinated by the City's Clean Water Manager and is an integral part of making the City of Del Mar a beautiful place to live, work and visit. Day-to-day compliance activities are conducted by staff from the Planning & Community Development Department, the Department of Public Works, the City Engineering Department, and the Department of Community Services. The Program is committed to ensuring city-wide compliance with the San Diego Regional Water Quality Control Board's Regional Municipal Stormwater Permit.

1.1.2 Watershed(s)

The City of Del Mar is part of the San Dieguito Hydrologic Unit and the Los Peñasquitos Hydrologic Unit, as shown in Figure 1-1, below.

1.2 Purpose and Objectives

The Annual Report is a comprehensive description of all the jurisdictional activities conducted by the City of Del Mar to comply with all the requirements of Section D of Order No. R9-2007-0001, as described in the 2008 JURMP, and covers the period from July 1, 2009 through June 30, 2010.

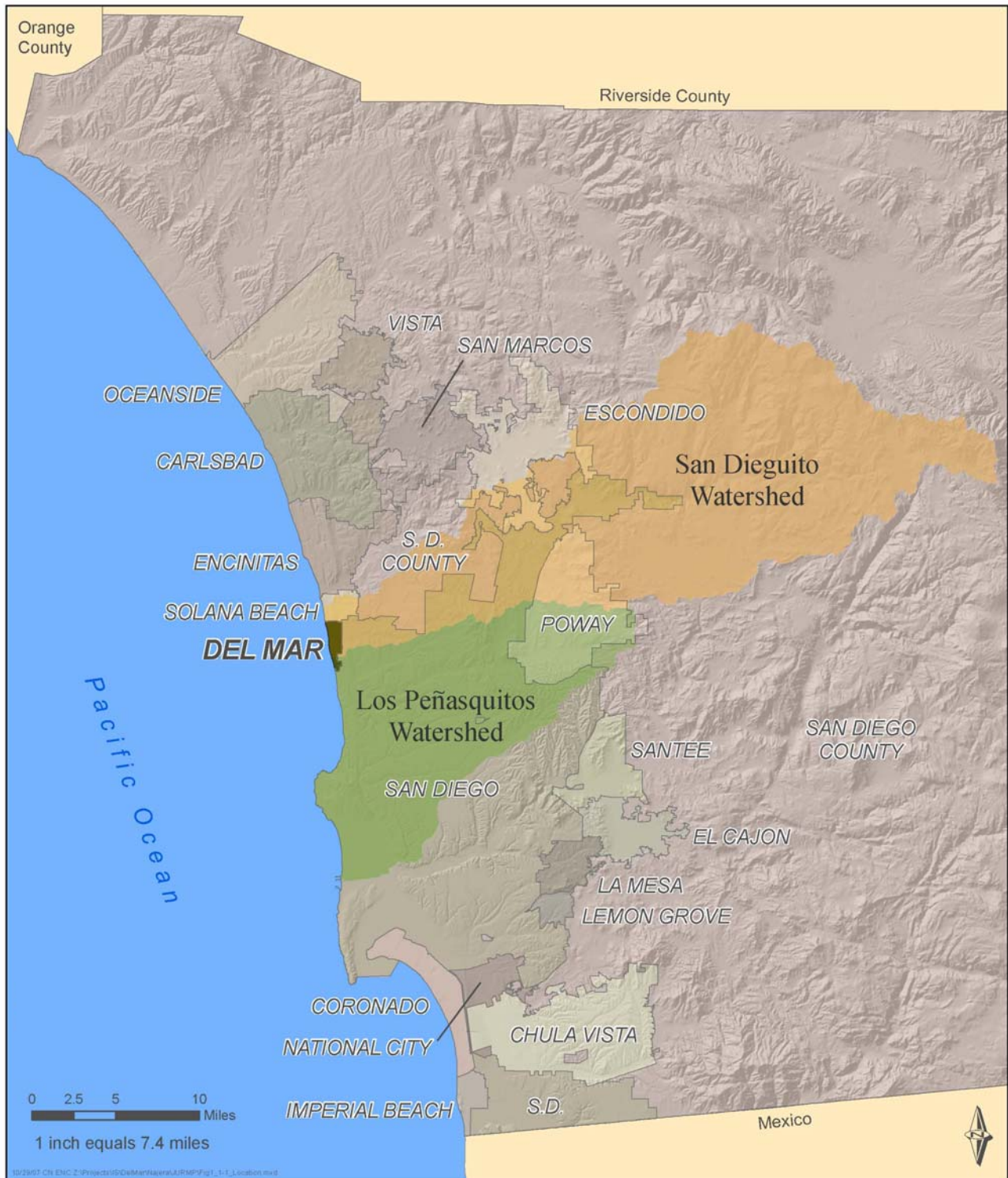


Figure 1-1: The City of Del Mar and its location relative to its associated watersheds in San Diego County.

Section 2

Development Planning Component



2.1 Introduction

Section 4 of the 2008 JURMP provides information on the implementation of the Development Planning Component of the Municipal Permit within the City of Del Mar, and was developed pursuant to Section D.1 of the Permit. This section of the JURMP Annual Report provides information relevant to the implementation of the Development Planning Component of the 2008 JURMP for the Fiscal Year 2009-2010 Reporting Period.

2.2 Land Use Planning

Section D.1.a of the Municipal Permit requires each Copermittee "revise as needed its General Plan or equivalent plan (e.g., Comprehensive, Master, or Community Plan) for the purpose of providing effective water quality and watershed protection principles and policies that direct land-use decisions and require implementation of consistent water quality protection measures for Development Projects." Appropriate modifications to the Del Mar Community Plan were adopted during Fiscal Year 2007-2008, and no further modifications were made during this Reporting Period.

Chapter 11.30 of the Del Mar Municipal Code (DMMC), entitled "Stormwater Management and Discharge Control," was rewritten in its entirety to implement the requirements of the Municipal Permit, and adopted on March 17, 2008 by the Del Mar City Council. No further modifications were made during this Reporting Period.

2.3 Environmental Review Process

The City of Del Mar Environmental Review process is aimed at accurately evaluating water quality and cumulative impacts and identifying appropriate measures to avoid, minimize and mitigate development project impacts to water quality. There were no modifications to the environmental review process made during the reporting period.

2.4 Development Project Approval and Verification Process

This section provides a general description of the various activities conducted as part of the City's development project approval and verification processes.

2.4.1 Program Implementation

During the Reporting Period, all development projects were required to undergo review under the City's urban runoff approval process and meet applicable project requirements. However, given the City of Del Mar's relatively limited land development potential, a majority of the projects reviewed are redevelopment projects that are often small in size and scope. A description of the City's efforts toward conditioning development projects and verifying compliance with established conditions and minimum BMP requirements is described below.

2.4.1.1 Development Project Approval Process and Project Requirements

During this Reporting Period, a total of 122 permit applications were reviewed by the Planning and Community Development Department. Appendix 2-A contains a complete list of the permit applications reviewed by the Department during this Reporting Period.

During the Reporting Period, no new projects meeting the definition of a “Priority Development Project” (PDP) under the Permit were proposed. During previous reporting periods, a total of four (4) PDP projects were either proposed or approved. These projects and their current status are found in Table 2-1 below. For an example of how the City of Del Mar applies SUSMP requirements to Priority Development Projects, please see Appendix 2-B of the Fiscal Year 2008-2009 JURMP Annual Report.

During this Reporting Period, no priority development projects were allowed to implement treatment control BMPs with low removal efficiency rankings, and as such no feasibility analyses were conducted to exhibit that more effective BMPs were infeasible.

Table 2-1: Priority Development Projects within the City of Del Mar

Project Name	Description	Status During Fiscal Year 2009-2010
PDP Projects with Permit Approval		
Garden Del Mar Specific Plan (SP-07-01; LCPA-08-02; CDP-08-17)	The proposed project is a mixed-use commercial development with restaurant, retail, and office uses situated in six two-story structures (totaling 19,600 square feet) built over a two-level subterranean parking garage.	Project was approved during the Fiscal Year 2008-2009 Reporting Period. However, due to funding issues, the project proponents have not moved forward with the project, and the property remains vacant and is currently for sale.
Riverview Project (CUP-08-01; CDP-08-19; FDP-08-02)	The project proposed to construct two, two-story, commercial office buildings totaling 23,293 square feet, with 83 parking spaces on two vacant parcels of land. The proposed project includes grading, hardscaping, and landscaping, and lies within 200 feet of the San Dieguito Lagoon.	Project was approved during the Fiscal Year 2008-2009 Reporting Period. However, the project proponents have not moved forward with the project, and the property remains vacant and undeveloped. It should be noted that during the RWQCB site visit in November 2009, this site was identified as a concern by RWQCB Staff as it was being used as an unimproved parking lot by local businesses. This use was resulting in minor sediment discharges to the City’s MS4. City staff worked with the property owner, the site has been secured eliminating this potential discharge.
Pacifica Stratford (DRB-05-27, 28, 29, 30, 31)	The project proposes approval of a Final Subdivision Map which subdivides two existing legal lots into five two-unit condominium lots with required public improvements	The project received project approval in April 2006. During Fiscal Year 2009-2010, two of the five proposed two-unit condominiums were completed. Staff will begin inspection of the limited treatment control BMPs implemented for these units during Fiscal Year 2010-2011. The remaining portions of the project are unbuilt, and construction activity has been suspended on-site due to economic considerations. Staff continues to monitor the project site on a regular basis.
Completed Project(s)		
Morotta/James Single Family Residence (DRB-03-37)	This project is a single family residence on a previously vacant lot within 200 feet of an environmentally sensitive area (the San Dieguito Lagoon)	Construction drawings for this project were approved in April 2008. The project incorporates LID to the MEP through the use of minimal hardscape and the incorporation of a vegetated swales and bioretention areas. The structure itself is elevated, allowing for preservation of pervious surface conditions under what would otherwise be the building footprint. Signed certification of BMP implementation by the Project Engineers was submitted to the City in March 2009. As discussed below, City staff conducted their annual inspection of the site on September 30, 2010, and found the site to be well maintained and in conformance with the project conditions of approval.

2.4.1.2 Standard Urban Stormwater Mitigation Plan (SUSMP) Implementation and Development

During the Reporting Period, the City of Del Mar continued to implement the requisite SUSMP requirements outlined in the 2008 JURMP. Pursuant to the requirements of D.1.d.(1)(b) of the Permit, on January 22, 2010 the City implemented modifications to the definition of a Priority Development Project to include “all other pollutant generating Development Projects that result in the disturbance of one acre or more of land.” This modification was implemented by Departmental policy memo, and subsequently adopted as part of modifications to the Del Mar Municipal Code (DMMC), Chapter 11.30 (Stormwater Management and Discharge Control) during the City Council Hearing held on April 19, 2010. Copies of the department policy email and the City Council Staff Report for April 19, 2010 are included as Appendix 2-B of this Annual Report.

During the previous reporting period, the Copermittees, including the City of Del Mar, were notified that the Model SUSMP, submitted to the Regional Board in January 2009, was found adequate on March 25, 2009. Pursuant to the Permit, the City had 365 days from the date of notification to implement the revised Model SUSMP. During the Fiscal Year 2009-2010 Reporting Period, the City revised its local SUSMP to reflect the Regional Model SUSMP. The City’s new SUSMP was implemented on March 24, 2010, as required under the Municipal Permit. A copy of the City’s SUSMP is included as 2-C.

2.4.1.3 Priority Treatment Control BMP Inventory Tracking and Maintenance

The City has developed and is utilizing a watershed-based database to track and inventory approved treatment control BMPs along with maintenance within its jurisdiction. Because of the limited number of approved PDPs within the City of Del Mar, the database is a simple Excel® Spreadsheet which includes the required information on treatment control BMP type, location, watershed, date of construction, party responsible for maintenance, maintenance certifications or verifications, inspections, inspection findings, and corrective actions. No treatment control BMPs were approved during the last permit cycle, since no high priority projects qualified under the previous SUSMP criteria. As of June 30, 2010, only four (4) development applications for projects have triggered the PDP criteria. Appendix 2-D contains the current database (spreadsheet) for approved PDPs.

2.4.1.4 BMP Construction Verification

As of June 30, 2010, the Morotta/James Project, a single family residence, is the only approved PDP under SUSMP provisions which has been fully constructed in the City of Del Mar. As outlined in the 2008 JURMP, prior to occupancy of a Project subject to SUSMP requirements, the Engineer of Record is required to inspect the constructed LID site design, source control, and treatment control BMPs to verify that they were constructed in compliance with all specifications, plans, permits, ordinances, and the Permit. The Engineer of Record conducted this required inspection, and submitted a signed certification to the City in March 2009. No additional PDP projects have been full constructed in the City to date.

2.4.1.5 Annual BMP Operation & Maintenance Verification

As indicated above, as of June 30, 2010, only one (1) project, the Morotta/James Residence, has been approved under SUSMP provisions and constructed. The Engineer of Record conducted the required BMP Construction Verification in March 2009. The first annual BMP O&M Verification was conducted by the City of Del Mar on September 30, 2009, prior to the start of the wet season. During that inspection, it was noted that minor modifications to the BMPs had been made by landscaping crews. In response, the City issued a Notice of Violation (NOV) and Compliance Order on October 1, 2009

requesting that the Treatment Control BMPs be repaired. This was corrected by the owner, and noted during follow-up inspections by the City of Del Mar on October 14, 2009. No further action was required. No other BMP O&M Verifications were required or necessary during the Reporting Period.

2.4.1.6 SUSMP Waiver Mitigation Program

As of June 30, 2010, the City of Del Mar has not granted any SUSMP Waivers, and as such has not needed to implement a SUSMP waiver mitigation program.

2.4.1.7 Enforcement Measures for Development Projects

This section provides the number of violations and enforcement actions (including types) taken for development projects, including information on any necessary follow-up actions taken. The section also exhibits that compliance has been achieved and describes the actions that were being taken to achieve compliance. Section 4.4.4.3 of the 2008 JURMP provides a description of the general process for applying enforcement to urban runoff related violations by development projects. No modifications to this section of the 2008 JURMP were recorded during this Reporting Period.

With the exception of the Notice of Violation and Compliance Order issued for the Morotta/James Residence discussed above, no other enforcement actions for development projects were taken during the Reporting Period. Enforcement actions related to construction activities are listed in Section 3 of this report.

2.4.1.8 Education Efforts Focused on Development and Redevelopment

The City of Del Mar continued to focus on one-on-one education for the municipal staff, planning boards, project applicants, developers, contractors property owners and community planning groups water quality issues. As a full-time staff member of the Planning and Community Development Department, the Clean Water Manager attended weekly Department Meetings where projects were reviewed and discussed by the planning team. This provided the opportunity to discuss both project-specific water quality issues, and provide general updates to the team on changes that may have developed as a result of discussions among the Regional and Watershed Copermittees.

As indicated in the 2008 JURMP the City conducted regular coordination meetings organized by the Planning Department to discuss development review procedures, issues, cases, and other subjects. The meetings, which are attended by the Planning, Engineering, Building and Public Works departments, provided a forum for information exchange and to educate City staff on the federal, state and local water quality laws and regulations applicable to development projects; the nexus between land use decisions and short and long-term water quality impacts; and how impacts to receiving water quality resulting from development can be minimized. In addition, the Clean Water Manager regularly attended the City's weekly Executive Team/Department Head meetings to ensure that upper management is kept abreast of requirements.

Lastly, the Clean Water Manager also continued to meet one-on-one with developers and project proponents on an as-needed basis to assist them in understanding the requirements under both the Permit and the City's SUSMP.

2.4.1.9 Hydromodification

The City of Del Mar revised its local SUSMP to accommodate LID and source control measures as required to meet the principles of hydromodification during a previous Reporting Period. The City has also participated in the development of the draft Hydromodification Management Plan (HMP). Staff from

the Department of Engineering and the Department of Planning participated in the Regional Copermittee Workgroup, attending meetings on a regular basis, and providing substantive comments on the interim drafts of the Model HMP, including submittal of comments to the Regional Board during Hearings on the final iteration of the HMP. The final iteration of the HMP was heard by the Regional Board during their July 2010 hearing. The City of Del Mar will revise its local SUSMP to address any additional requirements under the adopted HMP during the Fiscal Year 2010-2011 reporting period.

Of the four (4) identified Priority Development Projects listed in Table 2.4-1 above, none of them disturb 50 acres or more, and as such Interim HMP requirements were not applied.

2.4.2 Notable Activities

No notable activities other than those identified above were conducted during this Reporting Period.

2.5 Development Planning Component Effectiveness Assessment

A complete assessment of the effectiveness of the City's implantation of its 2008 JURMP, including the Development Component, is included as Chapter 11 of this Annual Report.

2.6 Program Review and Modification

No modifications were made to the Development Planning Component of the 2008 JURMP during this Reporting Period.

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Appendix 2-A
List of Permit Applications Reviewed by Planning & Community
Development Department during Fiscal Year 2009-2010

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Appendix 2-B
January 22, 2010 Department Policy Email on PDP Definition
and April 19, 2010 City Council Staff Report

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Joseph DeStefano

From: Joseph DeStefano
Sent: Tuesday, January 12, 2010 12:41 PM
To: [Planning; Tim Thiele; Richard Lucera; 'SCARTWRIGHT@rbf.com']
Cc: 'Mikhail Ogawa'
Subject: IMPORTANT CHANGE IN SUSMP IMPLEMENTATION - EFFECTIVE FRIDAY, JANUARY 22, 2010

Importance: High

EFFECTIVE FRIDAY, JANUARY 22, 2010

In addition to the Project Categories described in the City's Interim Standard Urban Stormwater Mitigation Plan (SUSMP) which are identified as Priority Development Projects (PDPs), the City now considers ANY development that disturbs one acre or more of land to be a PDP. PDP projects are required to implement incorporate post-construction BMPs into their project, including LID Site Design, Source Control and Treatment Control BMPs.

Appropriate revisions to the City's Code, Documents and Forms will be completed to include the new PDP category as soon as possible. This change is being made in preparation for the adoption of the new Model SUSMP approved by the Regional Board, and in accordance with requirements in the Municipal Permit.

If you should have any questions, please contact me.

Thanks,

Joe

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Clean Water Manager
City of Del Mar
1050 Camino del Mar
Del Mar, CA 92014
Tel: (858)755-9313 x172
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City of Del Mar Staff Report

TO: Honorable Mayor and City Council Members

FROM: Joseph M. DeStefano II, Clean Water Manager
Via Karen P. Brust, City Manager

DATE: April 19, 2010

SUBJECT: An ordinance amending Del Mar Municipal Code (DMMC) Chapter 11.30 relating to Stormwater Management and Discharge Control to comply with the requirements of the San Diego Regional Water Quality Control Board Order R9-2007-0001.

ISSUE:

Whether to approve the recommended revisions to DMMC Chapter 11.30, and introduce an ordinance amending the Chapter.

FISCAL IMPACT:

The City's Clean Water Program is supported by the Clean Water Service Fee, which is paid by all users connected to the City's water distribution system. The funds are collected and deposited in the Clean Water Fund. Funding for the Clean Water Program was included in the approved budget. The recommended ordinance revisions do not result in any changes to the approved budget.

ENVIRONMENTAL IMPACT:

The activity is not a "Project" as defined under Section 15378 of the State CEQA Guidelines. Moreover, adoption of these proposed revisions to the DMMC constitute an action for the protection of the environment and, as such, the action is exempt from environmental review pursuant to Section 15308 of the State CEQA Guidelines.

City Council Action:

APR 19 2010 ITEM 12



RECOMMENDATION:

Conduct a public hearing; introduce the proposed ordinance amending DMMC Chapter 11.30 (Stormwater Management & Discharge Control) included in Attachment "A."

BACKGROUND:

The San Diego Regional Water Quality Control Board (Regional Board) adopted new National Pollutant Discharge Elimination System Permit requirements on January 24, 2007 under Regional Board Order R9-2007-0001 (Order), which increased the requirements for the City's regulation of urban runoff discharges. All of the Cities in San Diego County, including the City of Del Mar are listed in the Order as Copermittees and are required to update and implement a program of stormwater management that is even more rigorous than previously adopted. The permit requirements are very prescriptive and do not offer much flexibility for local interpretation.

DISCUSSION:

On March 3, 2008, the City Council adopted Ordinance 802 which implemented the initial requirements of the Order. However, the Order also provided for staged implementation of certain requirements including changes in classification of projects as Priority Development Projects, and inclusion of hydromodification requirements. In accordance with the requirements of the Section D.1.d.(1)(b) of the Order, as of January 24, 2010, all jurisdictions were required to consider any "pollutant generating project" that results in "a disturbance of one acre or more of land" as a Priority Development Project. This requirement was incorporated as an official policy change by the Planning and Community Development Department on January 23, 2010. The major change to the existing Ordinance being made at this time reflects the codification of this policy change.

In addition, the Proposed Ordinance includes definitions that have been added to reflect new terminology from the Order not included in Ordinance 802, and corrects minor typographical errors. Staff has also included an underline/strikethrough version of the relevant sections of DMMC Chapter 11.30 to clearly mark the revisions included in this Ordinance.

CONCLUSION:

Staff recommends that Council conduct the public hearing, and introduce the Ordinance approving the proposed revisions in DMMC Chapter 11.30 (Stormwater Management & Discharge Control).

City Council Staff Report
Revisions to DMMC Chapter 11.30
April 19, 2010
Page 3 of 3

Attachment A: Proposed Ordinance No. XXXX amending DMMC Chapter 11.30
(Stormwater Management & Discharge Control)

Attachment B: Underline/strike-out version of the relevant sections of
DMMC Chapter 11.30 reflecting the proposed revisions

3

APR 19 2010 ITEM 12

ATTACHMENT A

For City Council Report dated April 19, 2010

4

APR 19 2010 ITEM 12

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF DEL MAR, CALIFORNIA AMENDING CHAPTER 11.30 OF THE DEL MAR MUNICIPAL CODE RELATING TO STORMWATER MANAGEMENT AND DISCHARGE CONTROL.

WHEREAS, the City of Del Mar intends to ensure the future health, safety, and general welfare of the citizens of the City of Del Mar by: 1) controlling non-stormwater discharges to the stormwater conveyance system; 2) eliminating discharges to the stormwater conveyance system from spills, dumping or disposal of materials other than stormwater; 3) reducing pollutants in stormwater discharges, including those pollutants taken up by stormwater as it flows over urban areas (Urban Runoff), to the maximum extent practicable; and 4) reducing pollutants in stormwater discharges in order to achieve applicable water quality objectives for surface waters in San Diego County; and

WHEREAS, the City of Del Mar intends to protect and enhance the water quality of its watercourses, water bodies, and wetlands in a manner pursuant to and consistent with the Clean Water Act and the San Diego Regional Water Quality Control Board Order Number No. R9-2007-0001 (NPDES Permit Number CAS0108758); and

WHEREAS, DMMC Chapter 11.30, Stormwater Management and Discharge Control, regulates and controls the discharge of non-stormwater discharges and quality of stormwater discharges.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF DEL MAR DOES HEREBY ORDAIN AS FOLLOWS:

SECTION ONE:

That Section 11.30.030 of the Municipal Code is amended to add the following new definitions, with the remaining subsections re-alphabetized accordingly:

Hydromodification: The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive streambank and

5

APR 19 2010 ITEM 12

shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Hydromodification Management Plan (HMP): A plan to manage increases in runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channelbeds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

Low Impact Development (LID): A storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

Source Control BMP: Land use or site planning practices, or structural or nonstructural measures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.

Treatment Control BMP: Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

SECTION TWO:

That definition of "Priority Development Project" in Section 11.30.030 of the Municipal Code is amended to add a new category to read as follows:

(12) *Projects that disturb one (1) acre or more. All other pollutant generating Development Projects that result in the disturbance of one acre or more of land.*

6

SECTION THREE:

That Section 11.30.080 of the Municipal Code is amended to read as follows:

11.30.080 Additional Minimum Best Management Practice Requirements for Residential Activities and Facilities

A. Applicable Requirements. The requirements in this section apply to all Residential Dischargers and any Regulated Commercial Business conducting residential activities on behalf of a Residential Discharger. All Residential Dischargers conducting activities must install, implement and maintain the BMPs identified in Subsection B of Section 11.30.070 for all Dischargers, and at least the additional minimum BMPs specified in the City's Stormwater Standards Manuals for the category of activities conducted by that Discharger including but not limited to:

- (1) vehicle maintenance;
- (2) vehicle washing;
- (3) irrigation practices and management;
- (4) irrigation system testing;
- (5) landscape maintenance;
- (6) fertilizer application;
- (7) pesticide application;
- (8) pet waste disposal;
- (9) power washing;
- (10) septic system maintenance;
- (11) sanitary sewer system maintenance;
- (12) minor home maintenance, repair and upgrades.

SECTION FOUR:

That Sub-subsection 1 of subsection B of Section 11.30.070 of the Municipal Code is amended to read as follows:

- (1) Soil Erosion. Dischargers shall install BMPs to prevent erosion, and significant accumulations of eroded soils from slopes, previously disturbed by clearing or grading, to prevent sediment from entering the Stormwater Conveyance System or Receiving Waters.

7

SECTION FIVE:

This Ordinance was introduced on April 19, 2010.

SECTION SIX:

PASSED, APPROVED AND ADOPTED at a regular meeting of the City Council held on the _____ day of _____ 2010.

RICHARD EARNEST, Mayor
City of Del Mar

APPROVED AS TO FORM:

Leslie E. Devaney, City Attorney
City of Del Mar

ATTEST AND CERTIFICATION:

STATE OF CALIFORNIA
COUNTY OF SAN DIEGO
CITY OF DEL MAR

I, MERCEDES MARTIN, City Clerk of the City of Del Mar, California, DO HEREBY CERTIFY, that the foregoing is a true and correct copy of Ordinance No. _____, which has been published pursuant to law, and adopted by the City Council of the City of Del Mar, California, at a Regular Meeting held the _____ day of _____, 2010, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

Mercedes Martin, City Clerk
City of Del Mar

8

APR 19 2010 ITEM 12

ATTACHMENT B

For City Council Report dated April 19, 2010

APR 19 2010 ITEM 12

9

Proposed Language Revisions to DMMC Chapter 11.30
Stormwater Management and Discharge Control

Please Note: For clarity, all proposed language inserted is shown as double-underlined text, while proposed deletions are shown as ~~strike through text~~. All other existing language in Chapter 11.30 remains unchanged.

11.30.030 Definitions. The following definitions shall be applicable when the following words or phrases are used hereafter in this Ordinance (including use in the City Stormwater Standards Manuals), whether or not these words or phrases are capitalized:

Hydromodification: The change in the natural watershed hydrologic processes and runoff characteristics (i.e., interception, infiltration, overland flow, interflow and groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport. In addition, alteration of stream and river channels, installation of dams and water impoundments, and excessive streambank and shoreline erosion are also considered hydromodification, due to their disruption of natural watershed hydrologic processes.

Hydromodification Management Plan (HMP): A plan to manage increases in runoff discharge rates and durations from all Priority Development Projects, where such increased rates and durations are likely to cause increased erosion of channelbeds and banks, sediment pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

Low Impact Development (LID): A storm water management and land development strategy that emphasizes conservation and the use of on-site natural features integrated with engineered, small-scale hydrologic controls to more closely reflect pre-development hydrologic functions.

Priority Development Project: means a development project that falls within any of the following categories: [Ord. 752]

(1) *Housing subdivisions of 10 or more dwelling units.* This category includes single-family homes, multi-family homes, condominiums, and apartments.

(2) *Commercial developments greater than 1 acre.* This category is defined as any development on private land that is not for heavy industrial or residential uses where the land area for development is greater than 1 acre. The category includes, but is not limited to: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; commercial nurseries; multi-apartment buildings; car wash

10

APR 19 2010 ITEM 12

Revised April 2010 March 2008

facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; commercial airfields; and other light industrial facilities.

(3) *Developments of heavy industry greater than one acre.* This category includes, but is not limited to, manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).

(4) *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.

(5) *Restaurants.* This category is defined as a facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for the structural treatment BMP, numeric sizing criteria, and hydromodification requirements.

(6) *All hillside development greater than 5,000 square feet.* This category is defined as any development which creates 5,000 square feet of impervious surface which is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.

(7) *Water Quality Sensitive Areas: All development and redevelopment located within or directly adjacent to or discharging directly to a water quality sensitive area (where discharges from the development or redevelopment will enter receiving waters within the water quality sensitive area), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. "Directly adjacent" means situated within 200 feet of the water quality sensitive area. "Discharging directly to" means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.*

(8) *Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff.*

Parking lot is defined as a land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.

(9) *Street, roads, highways, and freeways.* This category includes construction of any paved surface which is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles. [Ord. 752]

(10) *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.

(11) *Redevelopment projects.* Projects that create, add or replace at least 5,000 square feet of impervious surfaces on an already developed site that falls under the project categories or locations listed above (in (1) through (10)) where redevelopment results in an increase of less than fifty percent of the impervious surfaces of a previously existing development, and the existing development was not subject to SUSMP requirements, the numeric sizing criteria discussed in the City's SUSMP applies only to the addition, and not to the entire development. Where redevelopment results in an increase of more than fifty percent of the impervious surfaces of a previously existing development, the numeric sizing criteria applies to the entire development. Where a new Development Project feature, such as a parking lot, falls into a Priority Development Project Category, the entire project footprint is subject to SUSMP requirements.

(12) Projects that disturb one (1) acre or more. All other pollutant generating Development Projects that result in the disturbance of one acre or more of land.

Source Control BMP: Land use or site planning practices, or structural or nonstructural measures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.

Treatment Control BMP: Any engineered system designed to remove pollutants by simple gravity settling of particulate pollutants, filtration, biological uptake, media absorption or any other physical, biological, or chemical process.

12

11.30.070 Best Management Practice Requirements and General Requirements of All Dischargers.

B. Minimum Best Management Practices for All Dischargers. All dischargers in the City must install, implement and maintain the minimum BMPs outlined in the City's Stormwater Standard Manuals. General categories of minimum BMPs include:

- (1) Soil Erosion. ~~Prior to a forecast rain event,~~ Dischargers shall install BMPs to prevent erosion, and significant accumulations of eroded soils from slopes, previously disturbed by clearing or grading, to prevent sediment from entering the Stormwater Conveyance System or Receiving Waters.
treatment and disposal.

11.30.080 Additional Minimum Best Management Practice Requirements for Residential Activities and Facilities

A. Applicable Requirements. The requirements in this section apply to all Residential Dischargers and any Regulated Commercial Business conducting residential activities on behalf of a Residential Discharger. All Residential Dischargers conducting activities must install, implement and maintain the BMPs identified in Section 11.30.070 B. for all Dischargers, and at least the additional minimum BMPs specified in the City's Stormwater Standards Manuals for the category of activities conducted by that Discharger including but not limited to:

- (1) vehicle maintenance;
- (2) vehicle washing;
- (3) irrigation practices and management;
- (4) irrigation system testing;
- (5) landscape maintenance;
- (6) fertilizer application;
- (7) pesticide application;
- (8) ~~pest~~-pet waste disposal;
- (9) power washing;
- (10) septic system maintenance;
- (11) sanitary sewer system maintenance;
- (12) minor home maintenance, repair and upgrades.

13

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Appendix 2-C
City of Del Mar Revised Standard Urban
Stormwater Mitigation Plan (SUSMP)

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City of Del Mar



March 25, 2010

Mr. David Gibson, Executive Officer
San Diego Regional Water Quality Control Board (Regional Board)
9174 Sky Park Court, Suite 100
San Diego, California 92123

2010 CITY OF DEL MAR STANDARD URBAN STORMWATER MITIGATION PLAN (SUSMP)

Dear Mr. Gibson:

Enclosed, you will find an electronic copy of the City of Del Mar Standard Urban Stormwater Mitigation Plan (SUSMP) as revised and implemented by the City of Del Mar effective March 24, 2010. It is being submitted to the Regional Board pursuant to the requirements of Section J.2.b. of the San Diego County Municipal Stormwater Permit (Permit).

The updated Del Mar SUSMP incorporates the requirements outlined in the Regional Model SUSMP as approved by the Regional Board, on March 25, 2009, with minor modifications to reflect local conditions, and consistent with the requirements of Section D.1.d.(8)(c) of the Permit.

I certify under penalty of law that this document and all the attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for knowingly submitting false information, including the possibility of fine and imprisonment.

If you have any questions regarding the submittal, or require additional information, please feel free to contact me directly at (858) 755-9313 x172, or by email at jdestefano@delmar.ca.us.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph M. De Stefano II".

JOSEPH M. DE STEFANO II, M.Sc., CPP, CSI, CCIS™
Clean Water Manager

JMD:ns

Enclosure



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City of Del Mar



March 24, 2010

2010 STANDARD URBAN STORMWATER MITIGATION PLAN (SUSMP)

In January 2007, the San Diego Regional Water Quality Control Board reissued a municipal stormwater permit (Municipal Permit) to San Diego area municipal Copermittees, including the City of Del Mar. The reissued permit updated and expanded stormwater requirements for new developments and redevelopments. Stormwater treatment requirements have been made more widely applicable and more stringent; minimum standards for Low Impact Development (LID) have been added, and the Copermittees are required to develop and implement criteria for the control of runoff peaks and durations from development sites.

In 2002, the City of Del Mar implemented a Standard Urban Stormwater Mitigation Plan (SUSMP) document that described the specific requirements and process for meeting the stormwater requirements for new development and redevelopment projects outlined in the 2001 Municipal Permit. The SUSMP was updated in 2008 to meet the requirements of the 2007 Municipal Permit. The City is also required to update the SUSMP to incorporate new requirements and standards.

Effective Thursday, March 25, 2010, the City's revised SUSMP document (attached) shall be implemented for all development projects in the City of Del Mar. As discussed in the SUSMP, certain projects of limited scope and scale are exempt from SUSMP requirements. However, the list of project types not subject to at least a portion of these requirements is limited.

Staff is presently preparing revised implementation tools to assist staff and applicants through the process. In the meantime, the Clean Water Manager will be working with staff to ensure that projects are able to comply with these requirements. Thank you in advance for your cooperation in this matter.

Sincerely,

A handwritten signature in blue ink, appearing to read "Joseph M. De Stefano II".

JOSEPH M. DE STEFANO II, M.Sc., CPP, CSI, CCIS™
Clean Water Manager

JMD:ns

Attachment

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CITY OF DEL MAR SUSMP

Standard Urban Stormwater Mitigation Plan Requirements for Development Applications

March 24, 2010

Visit www.delmar.ca.us for updates.

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Table of Contents

	GLOSSARY	
	HOW TO USE THE MODEL SUSMP.....	1
	▶ Plan Ahead to Avoid the Three Most Common Mistakes.....	2
	A Low Impact Development Design Procedure	3
	Requirements for All Development Projects.....	4
	Priority Development Projects	4
	▶ New Development	4
	▶ Previously Developed Sites.....	4
	▶ Pollutant generating projects which disturb one acre or more of land	6
	Compliance Process at a Glance	6
	Phased Projects	7
	New Subdivisions	7
	Compliance with Flow-Control Requirements	9
CHAPTER 1.	CONCEPTS AND CRITERIA	11
	Water-Quality Regulations	12
	▶ Maximum Extent Practicable.....	13
	▶ Best Management Practices.....	13
	Pollutants of Concern	13
	▶ Grouping of Potential Pollutants of Concern.....	13
	▶ Identifying Pollutants of Concern Based on Land Uses	15
	▶ Watersheds with Special Pollutant Concerns	15
	Selection of Permanent Source Control BMPs	17
	Selection of Stormwater Treatment Facilities	17
	Hydrology for NPDES Compliance	20
	▶ Imperviousness.....	20
	▶ Low Impact Development Requirements	21
	▶ Sizing Requirements for Stormwater Treatment Facilities.....	21
	▶ Flow-Control (Hydromodification Management)	22
	Criteria for Infiltration Devices	23
	▶ Most LID Features and Facilities are Not Infiltration Devices	24
CHAPTER 2.	PREPARING YOUR PROJECT SUBMITTAL.....	25

Step by Step	27
Step 1: Assemble Needed Information.....	27
Step 2: Identify Constraints & Opportunities	28
Step 3: Prepare and Document Your LID Design	29
Step 4. Specify Source Control BMPs	30
▶ Identify Pollutant Sources.....	30
▶ Note Locations on Submittal Drawing.....	30
▶ Prepare a Table and Narrative	30
▶ Identify Operational Source Control BMPs.....	31
Step 5: Stormwater Facility Maintenance	31
Step 6: Complete Your Project Submittal	32
▶ Coordination with Site, Architectural, and Landscaping Plans	32
▶ Construction Plan SUSMP checklist.....	32
▶ Certification	34
▶ EXAMPLE PROJECT SUBMITTALS.....	34
 CHAPTER 3. LOW IMPACT DEVELOPMENT DESIGN GUIDE	 35
Analyze Your Project for LID	36
▶ Optimize the Site Layout.....	38
▶ Use Pervious Surfaces	39
▶ Disperse Runoff to Adjacent Pervious Areas	39
▶ Direct runoff to Integrated Management Practices.....	39
 Develop and Document Your Drainage Design	 41
▶ Step 1: Delineate Drainage Management Areas	41
▶ Step 2: Classify DMAs and determine runoff factors	41
▶ Step 3: Tabulate Drainage Management Areas.....	45
▶ Step 4: Select and Lay Out IMPs on Site Plan.....	46
▶ Step 5: Review Sizing for Each IMP	46
▶ Step 6: Calculate minimum area and Volume of each IMP	46
▶ Step 7: Determine if available space for IMP is adequate.....	48
▶ Step 8: Complete Your Summary Report	48
 Specify Preliminary Design Details	 49
 Alternatives to Integrated LID Design	 50
▶ Design of Alternative treatment Facilities.....	50
▶ Treatment Facilities for Special Circumstances	53
 Self-Treating and Self-Retaining Areas	 54
▶ Criteria	54
▶ Details	55
▶ Applications	55
▶ Design Checklist for Self-Treating Areas	57
▶ Design Checklist for Self-Retaining Areas	57

▶ Design Checklist for Areas draining to Self-Retaining Areas	57
Pervious Pavements	58
▶ Criteria	58
▶ Details	59
▶ Design Checklist for Pervious Pavements	59
Bioretention Facilities	60
▶ Criteria	60
▶ Details	61
▶ Applications	64
Flow-through Planter	70
▶ Criteria	70
▶ Details	71
▶ Applications	71
Dry Wells and Infiltration Basins	76
▶ Criteria	76
▶ Details	76
Cistern with Bioretention Facility	78
▶ Criteria	78
▶ Details	78
▶ Applications	79
CHAPTER 4. OPERATION & MAINTENANCE OF STORMWATER FACILITIES	81
Stage 1: Ownership and Responsibility	82
▶ Private Ownership and Maintenance	82
Stage 2: General Maintenance Requirements	83
Stage 3: Detailed Maintenance Plan	84
▶ Your Detailed Maintenance Plan: Step by Step	84
▶ Step 1: Designate Responsible Individuals	84
▶ Step 2: Summarize Drainage and BMPs	85
▶ Step 3: Document Facilities "As Built"	85
▶ Step 4: Prepare Maintenance Plans for Each Facility	85
▶ Step 5: Compile Maintenance Plan	86
▶ Step 6: Updates	88
Stage 4: Interim Maintenance	88
Stage 5: Transfer Responsibility	88
Stage 6: Operation & Maintenance Verification	88

BIBLIOGRAPHY

APPENDIX: POLLUTANT SOURCES AND SOURCE CONTROL CHECKLIST

Figures

FIGURE 4-1 SELF-TREATING AREAS..... 42
FIGURE 4-2 SELF-RETAINING AREAS42
FIGURE 4-3 RELATIONSHIP OF IMPERVIOUS TO PERVIOUS AREA.....43
FIGURE 4-4 MORE THAN ONE DMA CAN DRAIN TO ONE IMP45
FIGURE 4-5 ONE DMA CANNOT DRAIN TO MORE THAN ONE IMP45

Tables

TABLE 1-1 PRIORITY DEVELOPMENT PROJECTS 4
TABLE 2-1 ANTICIPATED AND POTENTIAL POLLUTANTS BY LAND USE.....16
TABLE 2-2 GROUPING OF POTENTIAL POLLUTANTS OF CONCERN..... 17
TABLE 2-3 GROUPS OF POLLUTANTS AND RELATIVE EFFECTIVENESS OF FACILITIES .18
TABLE 3-1 FORMAT FOR TABLE OF SOURCE CONTROL MEASURES..... 31
TABLE 3-2 CONSTRUCTION PLAN CHECKLIST 26
TABLE 4-1 IDEAS FOR RUNOFF MANAGEMENT 39
TABLE 4-2 RUNOFF FACTORS44
TABLE 4-3 FORMAT FOR TABULATING SELF-TREATING AREAS 45
TABLE 4-4 FORMAT FOR TABULATING SELF-RETAINING AREAS..... 46
TABLE 4-5 FORMAT FOR TABULATING AREAS DRAINING TO SELF-RETAINING AREAS .46
TABLE 4-6 SIZING FACTORS46
TABLE 4-7 FORMAT FOR PRESENTING CALCULATIONS OF IMP AREAS AND VOLUMES .47
TABLE 5-1 SCHEDULE FOR PLANNING BMP OPERATION AND MAINTENANCE..... 82

Checklists

SUBMITTAL CHECKLIST 26
SOURCES AND SOURCE CONTROL BMP CHECKLIST APPENDIX

Glossary

Best Management Practice (BMP)	Any procedure or device designed to minimize the quantity of pollutants that enter the storm drain system.
California Association of Stormwater Quality Agencies (CASQA)	Publisher of the California Stormwater Best Management Practices Handbooks, available at www.cabmphandbooks.com . Successor to the Storm Water Quality Task Force (SWQTF).
California BMP Method	A method for determining the required volume of stormwater treatment facilities. Described in Section 5.5.1 of the California Stormwater Best Management Practice Manual (New Development) (CASQA, 2003).
Conditions of Approval (COAs)	Requirements a municipality may adopt for a project in connection with a discretionary action (e.g., adoption of an EIR or negative declaration or issuance of a use permit). COAs may include features to be incorporated into the final plans for the project and may also specify uses, activities, and operational measures that must be observed over the life of the project.
Continuous Simulation Modeling	A method of hydrological analysis in which a set of rainfall data (typically hourly for 30 years or more) is used as input, and runoff rates are calculated on the same time step. The output is then analyzed statistically for the purposes of comparing runoff patterns under different conditions (for example, pre- and post-development-project).
Copermittee	See Dischargers.
Detention	The practice of holding stormwater runoff in ponds, vaults, within berms, or in depressed areas and letting it discharge slowly to the storm drain system. See definitions of infiltration and retention.
Directly Connected Impervious Area	Any impervious surface which drains into a catch basin, area drain, or other conveyance structure without first allowing flow across pervious areas (e.g. lawns).
Direct Infiltration	Infiltration via methods or devices, such as dry wells or infiltration trenches, designed to bypass unsaturated surface soils and transmit runoff directly to groundwater.
Dischargers	The agencies named in the stormwater NPDES permit (see definition): the County of San Diego; the Cities of Carlsbad, El Cajon, La Mesa, Poway, Solana Beach, Chula Vista, Encinitas, Lemon Grove, San Diego, Vista, Coronado, Escondido, National City, San Marcos, Del Mar, Imperial Beach, Oceanside, and Santee; the San Diego Unified Port District, and the San Diego County Regional Airport Authority.
Drainage Management Areas	Areas delineated on a map of the development site showing how drainage is detained, dispersed, or directed to Integrated Management Practices. There are four types of Drainage Management Areas, and specific criteria apply to each type of area. See Chapter 4.

GLOSSARY

Drawdown time	The time required for a stormwater detention or infiltration facility to drain and return to the dry-weather condition. For detention facilities, drawdown time is a function of basin volume and outlet orifice size. For infiltration facilities, drawdown time is a function of basin volume and infiltration rate.
Environmentally Sensitive Areas	Areas that include but are not limited to all Clean Water Act Section 303(d) impaired water bodies; areas designated as Areas of Special Biological Significance by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); water bodies designated with the RARE beneficial use by the State Water Resources Control Board (Water Quality Control Plan for the San Diego Basin (1994) and amendments); areas designated as preserves or their equivalent under the Multi Species Conservation Program within the Cities and County of San Diego; and any other equivalent environmentally sensitive areas which have been identified by the City of Del Mar.
Flow Control	Control of runoff rates and durations as required by the Hydromodification Management Plan.
Head	In hydraulics, energy represented as a difference in elevation. In slow-flowing open systems, the difference in water surface elevation, e.g., between an inlet and outlet.
Higher-Rate Biofilter	A biofilter with a design surface loading rate higher than the 5 inches per hour rate specified in this document for bioretention facilities and planter boxes.
Hydrograph	Runoff flow rate plotted as a function of time.
Hydromodification Management Plan (HMP)	A Regional Plan implemented by the City so that post-project runoff shall not exceed estimated pre-project rates and/or durations, where increased runoff would result in increased potential for erosion or other adverse impacts to beneficial uses. Also see definition for flow control.
Hydrologic Soil Group	Classification of soils by the Natural Resources Conservation Service (NRCS) into A, B, C, and D groups according to infiltration capacity.
Impervious surface	Any material that prevents or substantially reduces infiltration of water into the soil. See discussion of imperviousness in Chapter Two.
Infeasible	As applied to best management practices, impossible to implement because of technical constraints specific to the site.

Infiltration	Seepage of runoff into soils underlying the site. See definition of retention.
Infiltration Device	Any structure, such as a dry well, that is designed to infiltrate stormwater into the subsurface and, as designed, bypasses the natural groundwater protection afforded by surface or near-surface soil. See definition for direct infiltration.
Integrated Management Practice (IMP)	A facility (BMP) that provides small-scale treatment, retention, and/or detention and is integrated into site layout, landscaping and drainage design. See Low Impact Development.
Integrated Pest Management (IPM)	An approach to pest management that relies on information about the life cycles of pests and their interaction with the environment. Pest control methods are applied with the most economical means and with the least possible hazard to people, property, and the environment.
Interim Hydromodification Criteria	Pursuant to NPDES permit Provision D.1.d.g.(6), the Copermittees prepared Interim Hydromodification Management criteria, which apply to projects disturbing 50 acres or more. The criteria are described in Chapter 2 and in memoranda on the Project Clean Water website.
Jurisdictional Urban Runoff Management Plan (JURMP)	A written description of the specific jurisdictional urban runoff management measures and programs that the City implements to comply with the stormwater NPDES permit and ensure pollutant discharges are reduced to the MEP and do not cause or contribute to a violation of water quality standards. See Stormwater Pollution Prevention Program.
Lead Agency	The public agency that has the principal responsibility for carrying out or approving a project. (CEQA Guidelines §15367).
Low Impact Development	An integrated site design methodology that uses small-scale detention and retention (Integrated Management Practices, or IMPs) to mimic pre-existing site hydrological conditions.
Maximum Extent Practicable (MEP)	Standard, established by the 1987 amendments to the Clean Water Act, for the implementation of municipal stormwater pollution prevention programs (see definition). According to the Act, municipal stormwater NPDES permits “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”
National Pollutant Discharge Elimination System (NPDES)	As part of the 1972 Clean Water Act, Congress established the NPDES permitting system to regulate the discharge of pollutants from municipal sanitary sewers and industries. The NPDES was expanded in 1987 to incorporate permits for stormwater discharges as well.
Numeric Criteria	Sizing requirements for stormwater treatment facilities established in Provision D.1.d.(6)(c) of the San Diego RWQCB’s stormwater NPDES permit.

GLOSSARY

Operation and Maintenance (O&M)	Refers to requirements in the Stormwater NPDES Permit to inspect treatment BMPs and implement preventative and corrective maintenance in perpetuity. See Chapter Five.
Parking Lot	A land area or facility for the temporary parking or storage of motor vehicles used personally, for business, or for commerce.
Permeable Pavements	Pavements for roadways, sidewalks, or plazas that are designed to infiltrate a portion of rainfall, including pervious concrete, pervious asphalt, unit-pavers-on-sand, and crushed gravel.
Priority Development Project	A project subject to SUSMP requirements. Defined in Stormwater NPDES Permit Provision D.1.d.(1). See Chapter One.
Project Area	The entire project area comprises all areas to be altered or developed by the project, plus any additional areas that drain on to areas to be altered or developed.
Project Submittal	Documents submitted to a municipality in connection with an application for development approval and demonstrating compliance with Stormwater NPDES Permit requirements for the project. Specific requirements vary from municipality to municipality.
Proprietary	A proprietary device is one marketed under legal right of the manufacturer.
Redevelopment	<p>The creation, addition, and or replacement of impervious surface on an already developed site. Examples include the expansion of a building footprint, road widening, the addition to or replacement of a structure, and creation or addition of impervious surfaces.</p> <p>Replacement of impervious surfaces includes any activity that is not part of a routine maintenance activity where impervious material(s) are removed, exposing underlying soil during construction. Redevelopment does not include trenching and resurfacing associated with utility work; resurfacing and reconfiguring surface parking lots and existing roadways; new sidewalk construction, pedestrian ramps, or bikelane on existing roads; and routine replacement of damaged pavement, such as pothole repair.</p>
Rational Method	A method of calculating runoff flows based on rainfall intensity, tributary area, and a factor representing the proportion of rainfall that runs off.
Regional (or Watershed) Stormwater Treatment Facility	A facility that treats runoff from more than one project or parcel.
Regional Water Quality Control Board (Regional Water Board or RWQCB)	California RWQCBs are responsible for implementing pollution control provisions of the Clean Water Act and California Water Code within their jurisdiction. There are nine California RWQCBs.
Retention	The practice of holding stormwater in ponds or basins, or within berms or depressed areas, and allowing it to slowly infiltrate into underlying soils. Some portion will evaporate. See definitions for infiltration and detention.

Self-retaining area	An area designed to retain runoff. Self-retaining areas may include graded depressions with landscaping or pervious pavements and may also include tributary impervious areas up to a 2:1 impervious-to-pervious ratio.
Self-treating area	A natural, landscaped, or turf area drains directly off site or to the public storm drain system.
Source Control	Land use or site planning practices, or structural or nonstructural measures that aim to prevent urban runoff pollution by reducing the potential for contamination at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.
Standard Industrial Classification (SIC)	A Federal government system for classifying industries by 4-digit code. It is being supplanted by the North American Industrial Classification System but SIC codes are still referenced by the Regional Water Board in identifying development sites subject to regulation under the NPDES permit. Information and an SIC search function are available at http://www.bls.gov/bls/NAICS.htm
Stormwater NPDES Permit	A permit issued by a Regional Water Quality Control Board (see definition) to local government agencies (Dischargers) placing provisions on allowable discharges of municipal stormwater to waters of the state.
Storm Water Pollution Prevention Plan (SWPPP)	A plan providing for temporary measures to control sediment and other pollutants during construction as required by the statewide stormwater NPDES permit for construction activities.
Stormwater Pollution Prevention Program	A comprehensive program of activities designed to minimize the quantity of pollutants entering storm drains. See Jurisdictional Urban Runoff Management Plan.
Standard Urban Stormwater Mitigation Plan (SUSMP)	Refers to various documents prepared in connection with implementation of the stormwater NPDES permit mandate to control pollutants from new development and redevelopment. Each discharger will adapt this model countywide SUSMP to create a local SUSMP for their respective jurisdiction. Applicants for development project approvals will use the local SUSMP to prepare a submittal for each Priority Development Project they propose.
Treatment	Removal of pollutants from runoff, typically by filtration or settling.
Water Board	See Regional Water Quality Control Board.
Water Quality Volume (WQV)	For stormwater treatment facilities that depend on detention to work, the volume of water that must be detained to achieve maximum extent practicable pollutant removal. This volume of water must be detained for a specified drawdown time.

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How to Use the SUSMP

Review Chapters 1 and 2 to get a general understanding of the requirements. Then follow step-by-step instructions in Chapter 3 to prepare your Project Submittal.

This *Standard Urban Stormwater Mitigation Plan (SUSMP)* will help you ensure your project complies with the City's requirements. Most applicants will require the assistance of a qualified civil engineer, architect, and/or landscape architect. Because every project is different, you should begin by checking specific requirements with City staff.

To use the *SUSMP*, start by reviewing [Chapter One](#) to find out whether and how stormwater quality requirements apply to your project. Chapter One also provides an overview of the process of planning, design, construction, operation, and maintenance leading to compliance.

If there are terms and issues you find puzzling, try finding answers in the glossary or in [Chapter Two](#). Chapter Two provides background on key stormwater concepts and water quality regulations, including design criteria.

Then proceed to [Chapter Three](#) and follow the step-by-step guidance to prepare a Project Submittal for your site.

[Chapter Four](#), the Low Impact Development Design Guide, includes design procedures, calculation procedures, and instructions for presenting your design and calculations in your Project Submittal.

In [Chapter Five](#) you'll find a detailed description of the process for ensuring operation and maintenance of your stormwater facilities over the life of the project. The chapter includes step-by-step instructions for preparing a Stormwater Facilities Operation and Maintenance Plan.

Throughout each Chapter, you'll find references and resources to help you understand the regulations, complete your Project Submittal, and design stormwater control measures for your project.

► PLAN AHEAD TO AVOID THE THREE MOST COMMON MISTAKES

Construction-Phase Controls

Your Project Submittal for SUSMP compliance is a separate document from the Storm Water Pollution Prevention Plan (SWPPP). A SWPPP provides for temporary measures to control sediment and other pollutants during construction at sites that disturb one acre or more. See the Construction Handbook at www.cabmphandbooks.org for more information on SWPPPs.

The most common (and costly) errors made by applicants for development approvals with respect to stormwater quality compliance are:

1. Not planning for compliance early enough. You should think about your strategy for stormwater quality compliance before completing a conceptual site design or sketching a layout of subdivision lots (Chapter 3).
2. Assuming proprietary stormwater treatment facilities will be adequate for compliance. Most aren't (Chapter 2).
3. Not planning for periodic inspections and maintenance of treatment and flow-control facilities. Consider who will own and who will maintain the facilities in perpetuity and how they will obtain access, and identify which arrangements are acceptable to your municipality (Chapter 5).

Policies and Procedures

Determine if your development project must comply with stormwater quality requirements, and review the steps to compliance.

A Low Impact Development Design Procedure

The San Diego Regional Water Board reissued a municipal stormwater NPDES permit to the municipal Copermittees in January 2007. The permit updates and expands stormwater requirements for new developments and redevelopments. Stormwater treatment requirements have been made more stringent, minimum standards for Low Impact Development (LID) have been added, and the Copermittees are required to develop and implement criteria for the control of runoff peaks and durations from development sites.

To assist the land development community, streamline project reviews, and maximize cost-effective environmental benefits, the Copermittees have developed a unified LID design procedure. This design procedure integrates site planning and design measures with engineered, small-scale Integrated Management Practices (IMPs) such as bioretention. By following the procedure, applicants can develop a single integrated design which complies with the complex and overlapping NPDES permit LID requirements, stormwater treatment requirements, and flow-control (hydromodification management) requirements.

The design approach is detailed in Chapter 4. General instructions for preparing a complete Project Submittal are in Chapter 3, and specific submittal requirements are available from municipal staff.

Applicants may choose not to use this design procedure, in which case they will need to demonstrate, in their submittal, compliance with applicable LID criteria, stormwater treatment criteria, and flow-control criteria. These criteria are described in Chapter 2 and in the NPDES permit.

Requirements for All Development Projects

All development projects must include control measures to reduce the discharge of stormwater pollutants to the maximum extent practicable.

In general, for projects that are not “Priority Development Projects,” this will include:

- Implementation of source control BMPs as listed in the Appendix.
- Inclusion of some LID features that conserve natural features, set back development from natural water bodies, minimize imperviousness, maximize infiltration, and retain and slow runoff.
- Compliance with requirements for construction-phase controls on sediment and other pollutants.

Municipal staff may also require additional controls appropriate to the project, which may include stormwater treatment controls. LID treatment controls such as infiltration or bioretention are preferred. See “Selection of Stormwater Treatment Facilities” on page 17. If treatment facilities are included, provisions must be made to ensure their long-term maintenance.

Priority Development Projects

The NPDES permit requires that more specific runoff treatment controls be incorporated into Priority Development Projects.

► NEW DEVELOPMENT

Projects on previously undeveloped land are Priority Development Projects if they are in one or more of the categories listed in Table 1-1. If a project feature such as a parking lot falls into a Priority Development Project category, then the entire project footprint is subject to Priority Project requirements. To use the table, review each definition A through J. If any of the definitions match, the project is a Priority Development Project. Note some thresholds are defined by square footage of impervious area created; others by the total area of the development.

► PREVIOUSLY DEVELOPED SITES

Projects on previously developed sites (“redevelopment projects”) are Priority Development Projects if they create, add, or replace 5,000 square feet or more of impervious surface and also are in one of the categories listed in Table 1-1.

TABLE 1-1. Priority Development Projects.

Is the project or any element of the project in any of these categories?		
Yes <input type="checkbox"/>	No <input type="checkbox"/>	A Housing subdivisions of 10 or more dwelling units. Examples: single-family homes, multi-family homes, condominiums, and apartments.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	B Commercial—greater than one acre. Any development other than heavy industry or residential. Examples: hospitals; laboratories and other medical facilities; educational institutions; recreational facilities; municipal facilities; commercial nurseries; multi-apartment buildings; car wash facilities; mini-malls and other business complexes; shopping malls; hotels; office buildings; public warehouses; automotive dealerships; airfields; and other light industrial facilities.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	C Heavy industry—greater than one acre. Examples: manufacturing plants, food processing plants, metal working facilities, printing plants, and fleet storage areas (bus, truck, etc.).
Yes <input type="checkbox"/>	No <input type="checkbox"/>	D Automotive repair shops. A facility categorized in any one of Standard Industrial Classification (SIC) codes 5013, 5014, 5541, 7532-7534, or 7536-7539.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	E Restaurants. Any facility that sells prepared foods and drinks for consumption, including stationary lunch counters and refreshment stands selling prepared foods and drinks for immediate consumption (SIC code 5812), where the land area for development [project footprint] is greater than 5,000 square feet. Restaurants where land development is less than 5,000 square feet shall meet all SUSMP requirements except for structural treatment BMP and numeric sizing criteria requirements and hydromodification requirements.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	F Hillside development greater than 5,000 square feet. Any development that creates 5,000 square feet of impervious surface and is located in an area with known erosive soil conditions, where the development will grade on any natural slope that is twenty-five percent or greater.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	G Environmentally Sensitive Areas (ESAs). All development located within or directly adjacent to or discharging directly to an ESA (where discharges from the development or redevelopment will enter receiving waters within the ESA), which either creates 2,500 square feet of impervious surface on a proposed project site or increases the area of imperviousness of a proposed project site to 10% or more of its naturally occurring condition. “Directly adjacent” means situated within 200 feet of the ESA. “Discharging directly to” means outflow from a drainage conveyance system that is composed entirely of flows from the subject development or redevelopment site, and not commingled with flows from adjacent lands.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	H Parking lots 5,000 square feet or more or with 15 or more parking spaces and potentially exposed to urban runoff.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	I Street, roads, highways, and freeways. Any paved surface that is 5,000 square feet or greater used for the transportation of automobiles, trucks, motorcycles, and other vehicles.
Yes <input type="checkbox"/>	No <input type="checkbox"/>	J Retail Gasoline Outlets (RGOs) that are: (a) 5,000 square feet or more or (b) a projected Average Daily Traffic (ADT) of 100 or more vehicles per day.

The “50% Rule” for previously developed projects. Projects on previously developed sites may also need to retrofit drainage of ALL impervious areas of the ENTIRE project site. For projects creating or replacing more than 5,000 square feet of impervious area:

- If the new project results in an increase of, or replacement of, 50% or more of the previously existing impervious surface, and the existing development was not subject to SUSMP requirements, then the entire project must be included in the treatment measure design.
- If less than 50% of the previously impervious surface is to be affected, only that portion must be included in the treatment measure design.

If a Redevelopment project feature such as a parking lot falls into a Priority Development Project category, then the entire project footprint is subject to Priority Project requirements.

Redevelopment projects limited to interior remodels, routine maintenance or repair, roof or exterior surface replacement, resurfacing and reconfiguring surface parking lots and existing roadways, new sidewalk construction, pedestrian ramps, or bike lanes on existing roads, and routine replacement of damaged pavement such as pothole repair are not subject to treatment requirements. However, other requirements, including incorporation of appropriate source controls, still apply. If your project is exempt, the project is still obligated to meet the Requirements for All Development Projects outlined in the previous section.

► POLLUTANT GENERATING PROJECTS WHICH DISTURB ONE ACRE OR MORE OF LAND

Projects that generate pollutants at levels greater than background levels and disturb one acre or more of land are considered Priority Development Projects. In most cases linear pathway projects that are for infrequent vehicle use (such as emergency or maintenance access) or for pedestrian or bicycle use are not considered pollutant generating above background levels if they are built with pervious surfaces or if they allow runoff to sheet flow to surrounding pervious surfaces.

Compliance Process at a Glance

For development project approval, stormwater compliance follows these general steps:

1. Discuss requirements during a pre-application meeting with municipal staff.
2. Review the instructions in this SUSMP before you prepare your tentative map, preliminary site plan, drainage plan, and landscaping plan.
3. Prepare your Project Submittal, which is made with your application for development approvals (entitlements).
4. Create your detailed project design, incorporating the features described in your Project Submittal.
5. In a table on your construction plans, list each stormwater compliance feature and facility and the plan sheet where it appears.

6. Prepare and submit a draft Stormwater Facility Operation and Maintenance (O + M) Plan for approval.
7. Maintain stormwater facilities during construction and following construction in accordance with required warranties.
8. When applicable, following construction, formally transfer responsibility for maintenance to the owner.
9. The owner must maintain the facilities in accordance with the O + M Plan.
10. The owner must periodically verify stormwater facilities are properly maintained.

Preparation of a complete and detailed Project Submittal is the key to cost-effective stormwater compliance and expeditious review of your project. Instructions for preparing your Project Submittal are in Chapter 3.

Phased Projects

When determining whether SUSMP requirements apply, a “project” should be defined consistent with California Environmental Quality Act (CEQA) definitions of “project.” That is, the “project” is the whole of an action which has the potential for adding or replacing or resulting in the addition or replacement of roofs, pavement, or other impervious surfaces and thereby resulting in increased flows and stormwater pollutants. “Whole of an action” means the project may not be segmented or piecemealed into small parts if the effect is to reduce the quantity of impervious area for any part to below the SUSMP thresholds.

CEQA
Preparers of CEQA documents
may wish to visit the Project
Clean Water website for
guidance. Begin with
general project requirements
and program studies and
Environmental Impact Reports.

Municipal staff may require, as part of an application for approval of a phased development project, a conceptual or master Project Submittal which describes and illustrates, in broad outline, how the drainage for the project will comply with the SUSMP requirements. The level of detail in the conceptual or master Project Submittal should be consistent with the scope and level of detail of the development approval being considered. The conceptual or master

Project Submittal should specify that a more detailed Project Submittal for each later phase or portion of the project will be submitted with subsequent applications for discretionary approvals.

New Subdivisions

If a tentative map approval would potentially entitle future owners to construct new or replaced impervious area which, in aggregate, could exceed one of the SUSMP thresholds (Table 1-1), then the applicant must take steps to ensure SUSMP requirements can and will be implemented as the subdivision is built out.

If the tentative map application does not include plans for site improvements, the applicant should nevertheless identify the type, size, location, and final ownership of stormwater treatment and flow-control facilities adequate to serve common private roadways and any other common areas, and to also manage runoff from an expected reasonable estimate of the square footage of future roofs, driveways, and other impervious surfaces on each individual lot. The City may condition approval of the map on implementation of stormwater treatment and other SUSMP measures when construction occurs on the individual lots. At the City's discretion, this condition may be enforced by a grant deed of development rights or by a development agreement.

If the City deems it necessary, the future impervious area of one or more lots may be limited by a deed restriction. This might be necessary when a project is exempted from one or all SUSMP provisions because the total impervious area is below a threshold, or to ensure runoff from impervious areas added after the project is approved does not overload a stormwater treatment and flow-control facility.

The City may require subdivision maps to dedicate an "open space easement, as defined by Government Code Section 51075," to suitably restrict the future building of structures at each stormwater facility location if necessary.

In general, in new subdivisions stormwater treatment, infiltration, or flow-control facilities should not be located on individual single-family residential lots, particularly when those facilities manage runoff from other lots, from streets, or from common areas. A better alternative is to locate stormwater facilities on one or more separate, jointly owned parcels.

After consulting with the Planning Department, applicants for subdivision approvals will propose one of the following four options, depending on project characteristics:

1. Show the number of parcels and the total impervious area to be created on all parcels could not, in the future, exceed any of the thresholds in Table 1-1.
2. Show that, for each and every lot, the intended use can be achieved with a design which disperses runoff from roofs, driveways, streets, and other impervious areas to self-retaining pervious areas, using the criteria in Chapter 4.
3. Prepare improvement plans showing drainage to treatment and/or flow-control facilities designed in accordance with this SUSMP, and commit to constructing the facilities prior to transferring the lots.
4. Prepare improvement plans showing drainage to treatment and/or flow-control facilities designed in accordance with this SUSMP, and provide appropriate legal instruments to ensure the proposed facilities will be constructed and maintained by subsequent owners.

For the option selected, municipal staff will determine the appropriate conditions of approval, easements, deed restrictions, or other legal instruments necessary to assure future compliance.

Compliance with Flow-Control Requirements

Priority Development Projects (Table 1-1) must be designed so that runoff rates and durations are controlled to maintain or reduce downstream erosion conditions and protect stream habitat.

For projects disturbing areas smaller than 50 acres, this can be accomplished by implementing Low Impact Development (LID) design using the design criteria and procedures in Chapter 4. The criteria may be updated following RWQCB approval of the Copermittees' Hydromodification Management Plan.

Project Clean Water has developed a Hydromodification Management Plan (HMP) in compliance with Provision D.1.g of the NPDES Permit. The HMP is pending acceptance by the RWQCB. As required, the City has adopted interim hydromodification criteria which will be superseded after the HMP is accepted by the Regional Water Board.

Priority Development Projects **disturbing 50 acres or more** must meet the following interim hydromodification standard:

“...post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations ... where the increased discharge flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to increased flow rates and durations.”

References and Resources:

- RWQCB Order R9-2007-0001 (Stormwater NPDES Permit)
- Project Clean Water web page

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Concepts and Criteria

Technical background and explanations of policies and design requirements

The Regional Water Board reissued a municipal stormwater NPDES permit to San Diego County, its 18 cities, the San Diego Unified Port District, and the San Diego Regional Airport Authority in January 2007. The permit mandates a comprehensive program to prevent stormwater pollution. That program now includes street sweeping, maintenance of storm drains, business inspections, public outreach, construction site inspections, monitoring and studies of stream and ocean health, and control of runoff pollutants from new developments and redevelopments.

Permit Provision D.1.d. requires Copermittees to regulate projects in specific categories (Table 1-1) to:

1. Reduce discharges of pollutants to the maximum extent practicable.
2. Prevent runoff discharges from causing or contributing to a violation of water quality standards.

The Copermittees have created a Low Impact Development (LID) design procedure (Chapter 4) that ensures consistent and thorough implementation of the Regional Water Board's requirements. This chapter explains the technical background of the LID approach and how it was derived.

The previous permit, issued in 2001, included a requirement to control the post-development peak storm water runoff rates and velocities to maintain or reduce pre-development downstream erosion and protect stream habitat. The 2007 permit includes, in addition to this ongoing requirement, a new requirement to develop a hydromodification management plan (HMP) to identify and define a methodology and performance criteria to ensure flow rates and durations do not exceed pre-project runoff where increased runoff could cause erosion or other significant adverse impacts to beneficial uses.

As required by the NPDES permit, the Copermittees have adopted interim hydromodification criteria. See Chapter One.

Water-Quality Regulations

Provision D.1 requires the Copermittees to condition development approvals on incorporation of specified stormwater controls.

Provision D.1 requires applicable new developments and redevelopments to:

- Design the site to conserve natural areas, existing trees and vegetation and soils, to maintain natural drainage patterns, to minimize imperviousness, to detain runoff, and to infiltrate runoff where feasible
- Cover or control sources of stormwater pollutants
- Treat runoff prior to discharge. Provision E.10 states: “Urban runoff treatment and/or mitigation must occur prior to the discharge of urban runoff into a receiving water. Federal regulations at 40 CFR 131.10(a) state that in no case shall a state adopt waste transport or waste assimilation as a designated use for any waters of the U.S.”
- Ensure runoff does not exceed pre-project peaks and durations where increases could affect downstream habitat or other beneficial uses
- Maintain treatment and flow-control facilities

The municipalities each maintain a database to track approved installations of treatment facilities and to verify facilities are maintained. The Copermittees’ annual report to the Regional Water Board includes a list of development projects subject to SUSMP conditions and descriptions of those projects that:

- Received a waiver from SUSMP criteria;
- Used hydrologic controls used to meet HMP requirements, including a description of the controls;
- Have an area of 50 acres or greater, thus subject to Interim Hydromodification Criteria; and

The Copermittees must also report the number of violations and enforcement actions taken upon development projects. The Copermittees’ programs are subject to audit by the Regional Water Board.

The municipalities—not the Regional Water Board or its staff—are charged with ensuring development projects comply with the D.1 requirements. Regional Water Board staff sometimes review stormwater controls and hydromodification impacts in connection with applications for Clean Water Act Section 401 water-quality certification, which is required for projects that involve work, such as dredging or placement of fill, within streams, creeks, or other waters of the US.

► MAXIMUM EXTENT PRACTICABLE

[Clean Water Act Section 402\(p\)\(3\)\(iii\)](#) sets the standard for stormwater controls as “maximum extent practicable,” but doesn’t define that term. As implemented, “maximum extent practicable” is ever-changing and varies with conditions.

Many stormwater controls, including LID facilities, have proven to be practicable in most site development projects. To achieve fair and effective implementation, criteria and guidance, requirements for controls must be detailed and specific—while also offering the right amount of flexibility or exceptions for special cases. The NPDES permit includes various standards, including hydrologic criteria, which have been found to comprise “maximum extent practicable.” This SUSMP is to be continuously improved and refined based on the experience of municipal planners and engineers, with input from land developers and development professionals. By following the SUSMP, applicants can ensure their project design meets “maximum extent practicable.”

► BEST MANAGEMENT PRACTICES

Clean Water Act Section 402(p) and USEPA regulations (40 CFR 122.26) specify a municipal program of “management practices” to control stormwater pollutants. Best Management Practice (BMP) refers to any kind of procedure, activity or device designed to minimize the quantity of pollutants that enter the storm drain system. BMPs are typically used in place of assigning numeric effluent limits. The criteria for source control BMPs and treatment and flow-control facilities are crafted to fulfill “maximum extent practicable.”

To minimize confusion, this guidebook refers to “facilities,” “features,” or “controls” to be incorporated into development projects. All of these are BMPs.

Pollutants of Concern

NPDES Permit Provision D.1.d.(3) requires each Copermittee to develop and implement a procedure for pollutants of concern to be identified for each Priority Development Project. The Copermittees have considered this requirement jointly and have determined the LID design procedures in Chapters 3 and 4 of this model SUSMP fully address the need to identify pollutants of concern insofar as that identification may affect the selection of source control BMPs and treatment facilities.

Documentation of the approach to identifying pollutants of concern and selecting BMPs and facilities follows.

► GROUPING OF POTENTIAL POLLUTANTS OF CONCERN

Urban runoff from a developed site has the potential to contribute pollutants, including oil and grease, suspended solids, metals, gasoline, pesticides, and pathogens to the storm water conveyance system and receiving waters. For the purposes of identifying pollutants of concern and associated storm water BMPs, pollutants are grouped in nine general categories as follows:

- Sediments are soils or other surficial materials eroded and then transported or deposited by the action of wind, water, ice, or gravity. Sediments can increase turbidity, clog fish gills, reduce spawning habitat, lower young aquatic organisms survival rates, smother bottom dwelling organisms, and suppress aquatic vegetation growth.
- 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.
- Metals are raw material components in non-metal products such as fuels, adhesives, paints, and other coatings. Primary sources of metal pollution in storm water are typically commercially available metals and metal products. Metals of concern include cadmium, chromium, copper, lead, mercury, and zinc. Lead and chromium have been used as corrosion inhibitors in primer coatings and cooling tower systems. At low concentrations naturally occurring in soil, metals are not toxic. However, at higher concentrations, certain metals can be toxic to aquatic life. Humans can be impacted from contaminated groundwater resources, and bioaccumulation of metals in fish and shellfish. Environmental concerns, regarding the potential for release of metals to the environment, have already led to restricted metal usage in certain applications.
- Organic compounds are carbon-based. Commercially available or naturally occurring organic compounds are found in pesticides, solvents, and hydrocarbons. Organic compounds can, at certain concentrations, indirectly or directly constitute a hazard to life or health. When rinsing off objects, toxic levels of solvents and cleaning compounds can be discharged to storm drains. Dirt, grease, and grime retained in the cleaning fluid or rinse water may also adsorb levels of organic compounds that are harmful or hazardous to aquatic life.
- Trash (such as paper, plastic, polystyrene packing foam, and aluminum materials) and biodegradable organic matter (such as leaves, grass cuttings, and food waste) are general waste products on the landscape. The presence of trash & debris may have a significant impact on the recreational value of a water body and aquatic habitat. Excess organic matter can create a high biochemical oxygen demand in a stream and thereby lower its water quality. Also, in areas where stagnant water exists, the presence of excess organic matter can promote septic conditions resulting in the growth of undesirable organisms and the release of odorous and hazardous compounds such as hydrogen sulfide.
- Oxygen-Demanding Substances includes biodegradable organic material as well as chemicals that react with dissolved oxygen in water to form other compounds.

Proteins, carbohydrates, and fats are examples of biodegradable organic compounds. Compounds such as ammonia and hydrogen sulfide are examples of oxygen-demanding compounds. The oxygen demand of a substance can lead to depletion of dissolved oxygen in a water body and possibly the development of septic conditions.

- Primary sources of oil and grease are petroleum hydrocarbon products, motor products from leaking vehicles, esters, oils, fats, waxes, and high molecular-weight fatty acids. Introduction of these pollutants to the water bodies are very possible due to the wide uses and applications of some of these products in municipal, residential, commercial, industrial, and construction areas. Elevated oil and grease content can decrease the aesthetic value of the water body, as well as the water quality.
- 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.
- Pesticides (including herbicides) are chemical compounds commonly used to control nuisance growth or prevalence of organisms. Excessive application of a pesticide may result in runoff containing toxic levels of its active component.

► IDENTIFYING POLLUTANTS OF CONCERN BASED ON LAND USES

Table 2-1 associates pollutants with the categories of Priority Development Projects. Pollutants associated with any hazardous material sites that have been remediated or are not threatened by the proposed project are not considered a pollutant of concern.

► WATERSHEDS WITH SPECIAL POLLUTANT CONCERNS

Local receiving water conditions may require specialized attention. The three local conditions to consider include:

- Ocean waters designated as an “Area of Special Biological Significance” (ASBS)
- 303(d) listed waters;
- Waters with established TMDLs; and
- Environmentally Sensitive Areas.

TABLE 2-1. Anticipated and Potential Pollutants Generated by Land Use Type.

Priority Project Categories	General Pollutant Categories								
	Sediment	Nutrients	Heavy Metals	Organic Compounds	Trash & Debris	Oxygen Demanding Substances	Oil & Grease	Bacteria & Viruses	Pesticides
Detached Residential Development	X	X			X	X	X	X	X
Attached Residential Development	X	X			X	P(1)	P(2)	P	X
Commercial Development >one acre	P(1)	P(1)	X	P(2)	X	P(5)	X	P(3)	P(5)
Heavy Industry	X		X	X	X	X	X		
Automotive Repair Shops			X	X(4)(5)	X		X		
Restaurants					X	X	X	X	P(1)
Hillside Development >5,000 ft ²	X	X			X	X	X		X
Parking Lots	P(1)	P(1)	X		X	P(1)	X		P(1)
Retail Gasoline Outlets			X	X	X	X	X		
Streets, Highways & Freeways	X	P(1)	X	X(4)	X	P(5)	X	X	P(1)

X = anticipated
P = potential
(1) A potential pollutant if landscaping exists on-site.
(2) A potential pollutant if the project includes uncovered parking areas.
(3) A potential pollutant if land use involves food or animal waste products.
(4) Including petroleum hydrocarbons.
(5) Including solvents.

The NPDES Permit identifies several receiving waters as impaired for constituents or water quality effects pursuant to Section 303(d) of the Clean Water Act. Placement of a water onto the list requires the Regional Board to make further analysis of the impairment and development of total maximum daily loads (TMDLs) for addressing the impairment. The 303(d) listing in itself does not demand that a project proponent select BMPs on the basis of the impairment; however, the project proponent should be cognizant of the impairment and the future implications a TMDL might have upon the proposed land use.

Once a TMDL is established it may impose conditions on development either through an implementation plan and schedule for the listed water, or through special conditions required of the municipality affected by the numeric criteria of the TMDL.

The applicant should meet with City staff to determine if any project characteristics or watershed characteristics affect selection and design of BMPs. Except in rare circumstances, the use of the LID Design Guide (Chapter 4) and the Stormwater Pollutant Sources/Source Control Checklist (Appendix) will ensure your project complies with all stormwater requirements.

Selection of Permanent Source Control BMPs

Based on identification of potential pollutants of concern associated with various types of facilities, the applicant shall utilize the Stormwater Pollutant Sources/Source Control Checklist (Appendix) of “maximum extent practicable” source controls associated with each facility type. This approach ensures appropriate BMPs are applied to potential sources of each pollutant of concern.

Selection of Stormwater Treatment Facilities

The SUSMP process groups pollutants of concern by how easily they are removed by various treatment processes (Table 2-2).

Table 2-3 provides a general comparison of how various types of treatment facilities perform for each group of pollutants (Table 2-3).

TABLE 2-2. Grouping of Potential Pollutants of Concern by Fate During Stormwater Treatment.

Pollutant	Coarse Sediment and Trash	Pollutants that tend to associate with fine particles during treatment	Pollutants that tend to be dissolved following treatment
Sediment	X	X	
Nutrients		X	X
Heavy Metals		X	
Organic Compounds		X	
Trash & Debris	X		
Oxygen Demanding		X	
Bacteria		X	
Oil & Grease		X	
Pesticides		X	

TABLE 2-3. Groups of Pollutants and Relative Effectiveness of Treatment Facilities.

Pollutants of Concern	Bioretention Facilities (LID)	Settling Basins (Dry Ponds)	Wet Ponds and Constructed Wetlands	Infiltration Facilities or Practices (LID)	Media Filters	Higher-rate biofilters*	Higher-rate media filters*	Trash Racks & Hydro-dynamic Devices	Vegetated Swales
Coarse Sediment and Trash	High	High	High	High	High	High	High	High	High
Pollutants that tend to associate with fine particles during treatment	High	High	High	High	High	Medium	Medium	Low	Medium
Pollutants that tend to be dissolved following treatment	Medium	Low	Medium	High	Low	Low	Low	Low	Low

*See page 19 for a discussion of selection of treatment facilities in special situations.

Based on this analysis, the following types of facilities are appropriate for treatment of runoff potentially containing most pollutants of concern. These types of facilities can be used for stormwater treatment for all land uses in all watersheds, except where site-specific constraints make them infeasible.

- Infiltration facilities or practices, including dry wells, infiltration trenches, infiltration basins, and other facilities that infiltrate runoff to native soils (sized to detain and infiltrate a volume equivalent to the 85th percentile 24-hour event).
- Bioretention facilities and media filters that detain stormwater and filter it slowly through soil or sand (sized with a surface area at least 0.04 times the effectively impervious tributary area).
- Extended detention basins, wet ponds, and wetlands or other facilities using settling (sized to detain a volume equivalent to runoff from the tributary area generated by the 85th percentile 24-hour event).

The recommended design procedure in Chapter 4 integrates LID practices—optimizing the site design, using pervious surfaces, and dispersing of runoff to adjacent pervious areas—with the use of infiltration facilities and practices and bioretention facilities to meet NPDES permit LID requirements, treatment requirements, and flow-control requirements in a cost-effective, unified design.

Oil/water separators (“water quality inlets”), storm drain inlet filters, and hydrodynamic separators, including vortex separators and continuous deflection separators (“CDS units”), are less effective means of stormwater treatment, although they may be used in series with more effective facilities.

Underground vaults typically lack the detention time required for settling of fine particles associated with stormwater pollutants. They also require frequent maintenance and may retain stagnant water, potentially providing harborage for mosquitoes. Because vaults may be “out of sight, out of mind,” experience shows that the required maintenance may not occur.

Lack of space, in itself, is not a suitable justification for using a less-effective treatment on a development site, because the uses of the site and the site design can be altered as needed to accommodate bioretention facilities or planter boxes. In most cases, these effective facilities can be fit into required landscaping setbacks, easements, or other unbuildable areas.

Where possible, drainage to inlets, and drainage away from overflows and underdrains, should be by gravity. Where site topography makes it infeasible to accommodate gravity-fed facilities in the project design, the design flow may be captured in a vault or sump and pumped via force main to an effective facility.

The following situations sometimes present special challenges:

- Portions of sites which are not being developed or redeveloped, but which must be retrofit to meet treatment requirements in accordance with Provision D.1.d.(1)(a) which states in part: “Where redevelopment results in an increase of, or replacement of, more than fifty percent of the impervious surface of a previously existing development, the numeric sizing criteria applies to the entire development.”
- Sites smaller than one acre approved for development or redevelopment as part of a municipality’s stated objective to preserve or enhance a pedestrian-oriented “smart-growth” type of urban design. Municipalities are encouraged to identify areas where this objective applies, based on General Plans or zoning.
- Roadway widening projects.

In these special situations, the following types of facilities should each be evaluated in priority order (depending on the specific characteristics of the site and as determined by the municipal stormwater coordinator) until a feasible design is found.

1. Bioretention areas or planter boxes fed by gravity.

2. Capture of the design flow in a vault or sump and pumping to bioretention areas or planter boxes.
3. A subsurface sand or media filter with a maximum design surface loading rate of 5 inches per hour and a minimum media depth of 18 inches. The sand surface must be made accessible for periodic inspection and maintenance (for example, via a removable grating).
4. A higher-rate surface biofilter, such as a tree-pit-style unit. The grading and drainage design should minimize the area draining to each unit and maximize the number of discrete drainage areas and units.
5. A higher-rate vault-based filtration unit (for example, vaults with replaceable cartridge filters filled with inorganic media).

Proprietary Devices

Many currently available proprietary devices do not meet municipalities' requirements when used alone for stormwater treatment. Consult with municipal staff before proposing these devices.

Many proprietary stormwater treatment devices are currently marketed, and new brands will be introduced. Applicants and applicants' engineers and design professionals should review with City staff any proposals for using proprietary devices for stormwater treatment before they commence work on preliminary site layout, drainage plans, grading plans, or landscape plans.

Hydrology for NPDES Compliance

► IMPERVIOUSNESS

[Schueler \(1995\)](#) proposed imperviousness as a “unifying theme” for the efforts of planners, engineers, landscape architects, scientists, and local officials concerned with urban watershed protection. Schueler argued (1) that imperviousness is a useful indicator linking urban land development to the degradation of aquatic ecosystems, and (2) imperviousness can be quantified, managed, and controlled during land development.

Imperviousness has long been understood as the key variable in urban hydrology. Peak runoff flow and total runoff volume from small urban catchments is usually calculated as a function of the ratio of impervious area to total area (rational method). The ratio correlates to the runoff factor, usually designated “C”. Increased flows resulting from urban development tend to increase the frequency of small-scale flooding downstream.

Imperviousness links urban land development to degradation of aquatic ecosystems in two ways.

First, the combination of paved surfaces and piped runoff efficiently collects urban pollutants and transports them, in suspended or dissolved form, to surface waters. These pollutants may originate as airborne dust, be washed from the atmosphere during rains, or may be generated by automobiles and outdoor work activities.

Second, increased peak flows and runoff durations typically cause erosion of stream banks and beds, transport of fine sediments, and disruption of aquatic habitat. Measures taken to control

stream erosion, such as hardening banks with riprap or concrete, may permanently eliminate habitat. By reducing infiltration to groundwater, imperviousness may also reduce dry-weather stream flows.

Imperviousness has two major components: rooftops and transportation (including streets, highways, and parking areas). The transportation component is usually larger and is more likely to be directly connected to the storm drain system.

The effects of imperviousness can be mitigated by disconnecting impervious areas from the drainage system and by encouraging detention and retention of runoff near the point where it is generated. Detention and retention reduce peak flows and volumes and allow pollutants to settle out or adhere to soils before they can be transported downstream.

► LOW IMPACT DEVELOPMENT REQUIREMENTS

The NPDES permit requires LID be used on all projects to minimize directly connected impervious area and promote infiltration. For Priority Development Projects, the minimum standards are:

- Drain a portion of impervious areas into pervious areas, if any.
- Design and construct pervious areas, if any, to effectively receive and infiltrate runoff from impervious areas, taking into account soil conditions, slope, and other pertinent factors.
- Construct a portion of paved areas with low traffic and appropriate soil conditions with permeable surfaces.

The LID design procedure in Chapter 4 incorporates these requirements into an integrated design which also meets sizing requirements for stormwater treatment facilities and flow-control (hydromodification management) requirements.

► SIZING REQUIREMENTS FOR STORMWATER TREATMENT FACILITIES

The guidance in Chapter 4 was crafted to ensure LID facilities comply with the NPDES permit's hydraulic sizing requirements for stormwater treatment facilities and flow-control facilities. The technical background follows.

Most runoff is produced by frequent storms of small or moderate intensity and duration. Treatment facilities are designed to treat smaller storms and the first flush of larger storms—approximately 80% of average annual runoff.

The NPDES permit identifies two types of treatment facilities—volume-based and flow-based.

Volume-based facilities must be designed to infiltrate, filter, or treat the volume of runoff produced from a 24-hour 85th percentile storm event as determined from the County of San Diego's 85th Percentile Precipitation Isopluvial Map. As shown on the map, rainfall depths vary from about 0.55" to 1.55".

For flow-based facilities, the NPDES permit specifies the rational method be used to determine flow. The rational method uses the equation

$Q = CiA$, where

Q = flow

C = weighted runoff factor between 0 and 1

i = rainfall intensity

A = area

The permit identifies two alternatives for calculating rainfall intensity:

1. the 85th percentile rainfall intensity times two, or
2. 0.2 inches per hour.

It is typically found that both methods yield similar results. The 0.2 inches per hour rainfall intensity should be used for sizing flow-based treatment facilities within the Copermittees' jurisdiction.

The 0.2 inches per hour criterion is the basis for a consistent countywide sizing factor for bioretention facilities when used for stormwater treatment only (i.e., not for flow control). The factor is based on maintaining a minimum percolation rate of 5 inches per hour through the engineered soil mix. The sizing factor is the ratio of the design intensity of rainfall on tributary impervious surfaces (0.2 inches/hour) to the design percolation rate in the facility (5 inches/hour), or 0.04 (dimensionless).

► FLOW-CONTROL (HYDROMODIFICATION MANAGEMENT)

The NPDES permit specifies for applicable projects:

... post-project runoff flow rates and durations shall not exceed pre-project runoff flow rates and durations where the increased discharge flow rates and durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in flow rates and durations.

Under current Interim Hydromodification Criteria, the requirement applies to projects disturbing 50 acres or more, and applicants may select among three options for compliance: Use a continuous simulation model to compare pre-project and post-project runoff, use LID facilities with sizing factors and design criteria developed by the Copermittees, or identify a specified exemption. See Chapter One.

The technical background for the Interim Hydromodification Criteria is in the memorandum “Development of Interim Hydromodification Criteria” (October 30, 2007) and other technical documents available on the Project Clean Water website.

Criteria for Infiltration Devices

The NPDES permit restricts the design and location of “infiltration devices” that, as designed, may bypass filtration through surface soils before reaching groundwater. These devices include:

- Infiltration basins.
- Infiltration trenches (includes French drains).
- Unlined retention basins (i.e., basins with no outlets).
- Unlined or open-bottomed vaults or boxes installed below grade (dry wells).

Infiltration devices may not be used in:

- Areas west of Camino del Mar and south of 15th Street without geotechnical analysis to determine potential impacts to bluff stability. Infiltration within these areas are subject to approval of the City;
- Areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway);
- Automotive repair shops;
- Car washes;
- Fleet storage areas (bus, truck, etc.);
- Nurseries;
- Other areas with pollutant sources that could pose a threat to groundwater, as designated by each City.

The vertical distance from the base of any infiltration device to the seasonal high groundwater mark shall be at least 10 feet. Infiltration devices shall be located a minimum of 100 feet horizontally from any known water supply wells.

In addition, infiltration devices are not recommended where:

- The infiltration device would receive drainage from areas where chemicals are used or stored, where vehicles or equipment are washed, or where refuse or wastes are handled.

- Surface soils or groundwater are polluted.
- The facility could receive sediment-laden runoff from disturbed areas or unstable slopes.
- Increased soil moisture could affect the stability of slopes of foundations.
- Soils are insufficiently permeable to allow the device to drain within 72 hours.

► MOST LID FEATURES AND FACILITIES ARE NOT INFILTRATION DEVICES

Self-treating and self-retaining areas, pervious pavements, bioretention facilities, and planter boxes are not considered to be infiltration devices.

Bioretention facilities work by percolating runoff through 18 inches or more of engineered soil. This removes most pollutants before the runoff is allowed to seep into native soils below. Further pollutant removal typically occurs in the unsaturated (vadose) zone before moisture reaches groundwater.

Where there is concern about the effects of increased soil moisture on slopes or foundations, an impermeable barrier may be added so the facility is “flow through” and all treated runoff is underdrained away from the facility. See the design sheets for Bioretention Facilities and Flow-Through Planters in Chapter 4.

References and Resources:

- [RWQCB Order R9-2007-0001 \(Stormwater NPDES Permit\)](#)
- [County of San Diego Low Impact Development Handbook](#)
- [Clean Water Act Section 402\(p\)](#)
- [40 CFR 122.26](#)
- [San Diego Regional Water Quality Control Board—TMDLs](#)
- [State Water Resources Control Board—Ocean Standards](#)
- [Site Planning for Urban Stream Protection](#) (Scheuler, 1995).
- [“Application of Water-Quality Engineering Fundamentals to the Assessment of Stormwater Treatment Devices”](#) (Salvia, 2000).

Preparing Your Project Submittal

Step-by-step assistance to demonstrate compliance.

Your Project Submittal will demonstrate your project complies with all applicable requirements in the stormwater NPDES permit—to minimize imperviousness, retain or detain stormwater, slow runoff rates, incorporate required source controls, treat stormwater prior to discharge, control runoff rates and durations, and provide for operation and maintenance of treatment and flow-control facilities.

Typically, your Project Submittal must be coordinated with your application for discretionary approvals and must have sufficient detail to ensure the stormwater design, site plan, and landscaping plan are congruent. A complete and thorough Project Submittal will facilitate quicker review and fewer cycles of review.

Be sure to obtain specific submittal requirements from the jurisdiction in which your project is located. Your Project Submittal consists of a report and an exhibit. City staff uses the following checklist to evaluate your Project Submittal:

PROJECT SUBMITTAL CHECKLIST

CONTENTS OF EXHIBIT

Show all of the following on drawings:

- Existing natural hydrologic features (depressions, watercourses, floodplains, relatively undisturbed areas) and significant natural resources. (Step 1 in the following step-by-step instructions)
- Soil types and depth to groundwater. (Step 1)
- Existing and proposed site drainage network and connections to drainage off-site. (Step 3)
- Proposed design features and surface treatments used to minimize imperviousness. (Step 3)
- Entire site divided into separate drainage areas, with each area identified as self-treating, self-retaining (zero-discharge), draining to a self-retaining area, or draining to an IMP. (Step 3)
- For each drainage area, types of impervious area proposed (roof, plaza/sidewalk, and streets/parking) and area of each. (Step 3)
- Proposed locations and sizes of treatment or flow-control facilities. (Step 3)
- Potential pollutant source areas, including refuse areas, outdoor work and storage areas, etc. listed in the Appendix and corresponding required source controls. (Step 4)

CONTENTS OF REPORT

Include all of the following in a report:

- Narrative analysis or description of site features and conditions that constrain, or provide opportunities for, stormwater control. (Step 2)
- Narrative description of site design characteristics that protect natural resources. (Step 3)
- Narrative description and/or tabulation of site design characteristics, building features, and pavement selections that reduce imperviousness of the site. (Step 3)
- Tabulation of proposed pervious and impervious area, showing self-treating areas, self-retaining areas, and areas tributary to each treatment or flow-control facility. (Step 3)
- Preliminary designs, including calculations, for each infiltration, treatment, or flow-control facility. Elevations should show sufficient hydraulic head for each. (Step 3)
- A table of identified pollutant sources and for each source, the source control measure(s) used to reduce pollutants to the maximum extent practicable. See worksheet in the Appendix. (Step 4)
- General maintenance requirements for infiltration, treatment, and flow-control facilities (Step 5)
- Means by which facility maintenance will be financed and implemented in perpetuity. (Step 5)
- Statement accepting responsibility for interim operation & maintenance of facilities (Step 5).
- Identification of any conflicts with codes or requirements or other anticipated obstacles to implementing the proposed facilities in the submittal (Step 6).
- Construction Plan SUSMP Checklist (Step 6).
- Certification by a civil engineer, architect, and landscape architect (Step 6).

Step by Step

Plan and design your stormwater controls integrally with the site planning and landscaping for your project. It's best to start with general project requirements and preliminary site design concepts, then prepare the detailed site design, landscape design, and stormwater control design simultaneously. This will help ensure that your site plan, landscape plan, and Project Submittal are congruent.

Suggested coordination with site and landscape design



Begin with general project requirements and program.

Sketch conceptual site layout, building locations, and circulation.

Revise site layout, building locations, and circulation to accommodate LID design. Develop landscaping plan.

Submit Site Plan, Landscape Plan, and SUSMP Submittal

The following step-by-step procedure should optimize your design by identifying the best opportunities for stormwater controls early in the design process.

The recommended steps are:

1. Assemble needed information.
2. Identify site opportunities and constraints.
3. Follow the LID design guidance in Chapter 4 to analyze your project for LID and to develop and document your drainage design.
4. Specify source controls using the sources/source control checklist in the Appendix.
5. Plan for ongoing maintenance of treatment and flow-control facilities.
6. Complete the Project Submittal.

City staff may recommend you prepare and submit a preliminary site design prior to formally applying for planning and zoning approvals. Your preliminary site design should incorporate a conceptual plan for site drainage, including self-treating and self-retaining areas and the location and approximate sizes of any treatment facilities. This additional up-front design effort will save time and avoid potential delays later in the review process.

Step 1: Assemble Needed Information

To select types and locations of treatment facilities, the designer needs to know the following site characteristics:

- Existing natural hydrologic features and natural resources, including any contiguous natural areas, wetlands, watercourses, seeps, or springs.

- Existing site topography, including contours of any slopes of 4% or steeper, general direction of surface drainage, local high or low points or depressions, any outcrops or other significant geologic features.
- Zoning, including requirements for setbacks and open space.
- Public Works Standards or other local codes governing minimum street widths, sidewalk construction, allowable pavement types, and drainage. These codes may conflict with Low Impact Development objectives to minimize imperviousness and to maintain or restore natural site hydrology. Municipalities are encouraged to review and revise codes to resolve these conflicts where it is possible to do so.
- Soil types (including hydrologic soil groups) and depth to groundwater, which may determine whether infiltration is a feasible option for managing site runoff. Depending on site location and characteristics, and on the selection of treatment and flow-control facilities, site-specific information (e.g. from boring logs or geotechnical studies) may be required.
- Existing site drainage. For undeveloped sites, this should be obtained by inspecting the site and examining topographic maps and survey data. For previously developed sites, site drainage and connection to the municipal storm drain system can be located from site inspection, municipal storm drain maps, and plans for previous development.
- Existing vegetative cover and impervious areas, if any.

References and Resources

- [*Site Planning for Urban Stream Protection*](#) (Scheuler 1995).
- [*Start at the Source*](#) (BASMAA 1999), p. 36

Step 2: Identify Constraints & Opportunities

Review the information collected in Step 1. Identify the principal constraints on site design and selection of treatment and flow-control facilities as well as opportunities to reduce imperviousness and incorporate facilities into the site and landscape design. For example, constraints might include impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, high-intensity land use, heavy pedestrian or vehicular traffic, restricted right-of-way, or safety concerns. Opportunities might include existing natural areas, low areas, oddly configured or otherwise unbuildable parcels, easements and landscape amenities including open space and buffers (which can double as locations for bioretention facilities), and differences in elevation (which can provide hydraulic head). Note stormwater treatment facilities should not be located within protected riparian areas.

Prepare a brief narrative describing site opportunities and constraints. This narrative will help you as you proceed with LID design and explain your design decisions to others.

Step 3: Prepare and Document Your LID Design

Use the Low Impact Development Design Guide (Chapter 4) to analyze your project for LID, design and document drainage, and specify preliminary design details for integrated management practices. Follow the detailed instructions in Chapter 4 to ensure your project complies with NPDES permit LID requirements (Provision D.1.d.(4)) as well as stormwater treatment requirements in Provision D.1.d.(6)). In future editions of this model SUSMP, the LID Design Guide will be updated so that additional hydromodification management requirements are also met via this unified design procedure. Chapter 4 includes calculation procedures and formats for presenting your calculations.

As shown in the example checklist (page 26), your Project Submittal may need to include a drawing showing:

- The entire site divided into separate drainage management areas (DMAs), with each area identified as one of the following: self-treating, self-retaining, draining to a self-retaining area, or draining to an IMP. Each area should be clearly marked with a unique identifier.
- For each drainage area, the types of impervious area proposed, and the area of each.
- Proposed locations and sizes of treatment facilities. Each facility should be clearly marked with a unique identifier.

Compliance

The design criteria for DMAs in Chapter 4 ensure the required volume of flow from all developed portions of the project, including landscaped areas, is infiltrated, filtered, or treated (Provision D.1.d.(6)(a)).

Your Project Submittal may need to include:

- Tabulation of proposed self-treating areas, self-retaining areas, areas draining to self-retaining areas, and areas draining to IMPs, and the corresponding IMPs identified on the Exhibit.
- Calculations, in the format shown in Chapter 4, showing the minimum square footage required and proposed square footage for each IMP.
- Preliminary designs for each IMP. The design sheets and accompanying drawings in Chapter 4 may be used or adapted for this purpose.

The following may also be required, or may be advisable to assist the reviewer to understand your design:

- A narrative overview of your design and how your design decisions optimize the site layout, use pervious surfaces, disperse runoff from impervious surfaces, and drain impervious surfaces to engineered IMPs. See Chapter 4.
- A narrative briefly describing each drainage management area (DMA), its drainage, and where drainage will be directed.

- A narrative briefly describing each IMP. Include any special characteristics or features distinct from the design sheets in Chapter 4.

References and Resources

- [Chapter 4](#)
- *County of San Diego Low Impact Development Handbook*
- Your municipality's *General Plan*
- Your municipality's Zoning Ordinance and Development Codes
- *Low Impact Development Manual* (Prince George's County, Maryland, 1999).
- *Bioretention Manual* (Prince George's County, Maryland, rev. 2002)
- *Site Planning for Urban Stream Protection* (Schueler, 1995b).
- *Low Impact Development Technical Guidance Manual for Puget Sound* (Puget Sound Action Team, 2005)
- *LID for Big Box Retailers* (Low Impact Development Center, 2006)

Step 4. Specify Source Control BMPs

Some everyday activities – such as trash recycling/disposal and washing vehicles and equipment – generate pollutants that tend to find their way into storm drains. These pollutants can be minimized by applying source control BMPs.

Source control BMPs include permanent, structural features that must be incorporated into your project plans and operational BMPs, such as regular sweeping and “housekeeping,” that must be implemented by the site’s occupant or user. The maximum extent practicable standard typically requires both types of BMPs. In general, operational BMPs cannot be substituted for a feasible and effective permanent BMP.

Use the following procedure to specify source control BMPs for your site:

► IDENTIFY POLLUTANT SOURCES

Review the first column in the Pollutant Sources/Source Control Checklist (Appendix). Check off the potential sources of pollutants that apply to your site.

► NOTE LOCATIONS ON SUBMITTAL DRAWING

Note the corresponding requirements listed in Column 2 of the Pollutant Sources/Source Control Checklist (Appendix). Show the location of each pollutant source and each permanent source control BMP in your submittal drawing.

► PREPARE A TABLE AND NARRATIVE

Check off the corresponding requirements listed in Column 3 in the Pollutant Sources/Source Control Checklist (Appendix). Now, create a table using the format in Table 3-1. In the left column, list each potential source on your site (from Appendix, Column 1). In the middle column, list the corresponding permanent, structural BMPs (from Columns 2 and 3, Appendix) used to prevent pollutants from entering runoff. Accompany this table with a narrative that explains any special features, materials, or methods of construction that will be used to implement these permanent, structural BMPs.

► IDENTIFY OPERATIONAL SOURCE CONTROL BMPs

TABLE 3-1. Format for Table of Permanent and Operational Source Control Measures.

<i>Potential source of runoff pollutants</i>	<i>Permanent source control BMPs</i>	<i>Operational source control BMPs</i>

To complete your table, refer once again to the Pollutant Sources/Source Control Checklist (Appendix, Column 4). List in the right column of your table the operational BMPs that should be implemented as long as the anticipated activities continue at the site. The same BMPs may also be required as a condition of a use permit or other revocable discretionary approval for use of the site.

References and Resources

- [Appendix](#): Stormwater Pollutant Sources/Source Control Checklist
- RWQCB Order R9-2007-0001, Provision D.1.d.(5)
- [Start at the Source](#), Section 6.7: Details, Outdoor Work Areas
- [California Stormwater Industrial/Commercial Best Management Practice Handbook](#)
- [Urban Runoff Quality Management](#) (WEF/ASCE, 1998) Chapter 4: Source Controls

Step 5: Stormwater Facility Maintenance

As required by NPDES Permit Provision D.1.c.(5), the City requires submittal of proof of a mechanism under which ongoing long-term maintenance of stormwater treatment and flow-control facilities will be conducted. The City requires the following items be included in your Project Submittal:

1. A means to finance and implement facility maintenance in perpetuity.
2. Acceptance of responsibility for maintenance from the time the facilities are constructed until responsibility for operation and maintenance is legally transferred. A warranty covering a period following construction may also be required.
3. An outline of general maintenance requirements for the treatment and flow-control facilities you have selected.

The City also requires that you prepare and submit a detailed plan that sets forth a maintenance schedule for each of the treatment and flow-control facilities built on your site.

Details of these requirements, and instructions for preparing a detailed operation and maintenance plan, are in Chapter 5.

References and Resources

- [Chapter 5](#)
- [Operation, Maintenance, and Management of Stormwater Management Systems](#) (Watershed Management Institute, 1997)

Step 6: Complete Your Project Submittal

Local City staff will provide specific instructions for the content and format of your Project Submittal. Your Project Submittal should document the information gathered and decisions made in Steps 1-5. A clear, complete, well-organized Project Submittal will make it possible to confirm your design meets the minimum requirements of the NPDES permit, the municipal stormwater pollution prevention ordinance, and this *SUSMP*.

► COORDINATION WITH SITE, ARCHITECTURAL, AND LANDSCAPING PLANS

Before completing your Project Submittal, ensure your stormwater control design is fully coordinated with the site plan, grading plan, and landscaping plan being proposed for the site.

Submittals must incorporate relevant aspects of the stormwater design. In particular, ensure:

- Curb elevations, elevations, grade breaks, and other features of the drainage design are consistent with the delineation of DMAs.
- The top edge (overflow) of each bioretention facility is level all around its perimeter—this is particularly important in parking lot medians.
- The resulting grading and drainage design is consistent with the design for parking and circulation.
- Bioretention facilities and other IMPs do not create conflicts with pedestrian access between parking and building entrances.
- Vaults and utility boxes can be accommodated outside bioretention facilities and will not be placed within bioretention facilities.
- The visual impact of stormwater facilities, including planter boxes at building foundations and any terracing or retaining walls required for the stormwater control design, is shown in renderings and other architectural drawings.
- Landscaping plans, including planting plans, show locations of bioretention facilities, and the plant requirements are consistent with the engineered soils and conditions in the bioretention facilities.
- Renderings and representation of street views incorporate any stormwater facilities located in street-side buffers and setbacks

► CONSTRUCTION PLAN SUSMP CHECKLIST

When you submit construction plans for City review and approval, the reviewer will compare that submittal with your earlier Project Submittal. By creating a Construction Plan SUSMP Checklist for your project, you can facilitate the reviewer's comparison and speed review of your project.

TABLE 3-2. Format for Construction Plan SUSMP Checklist.

<i>SUSMP Page #</i>	<i>BMP Description</i>	<i>See Plan Sheet #s</i>

Here's how:

1. Create a table similar to Table 3-2. Number and list each measure or BMP you have specified in your Project Submittal in Columns 1 and 2 of the table. Leave Column 3 blank. Incorporate the table into your Project Submittal.
2. When you submit construction plans, duplicate the table (by photocopy or electronically). Now fill in Column 3, identifying the plan sheets where the BMPs are shown. List all plan sheets on which the BMP appears. Submit the updated table with your construction plans.

Note that the updated table—or Construction Plan SUSMP Checklist—is only a reference tool to facilitate comparison of the construction plans to your Project Submittal. Planning Department staff can advise you regarding the process required to propose changes to your approved Project Submittal.

► CERTIFICATION

The City requires that your Final Project Submittal be certified by a registered civil engineer.

The certification should state: “The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan meet the requirements of Regional Water Quality Control Board Order R9-2007-0001 and subsequent amendments.”

► EXAMPLE PROJECT SUBMITTALS

Example Project Submittals and templates will be available from City staff. Your submittal will reflect the unique character of your own project and should meet the requirements identified in this *SUSMP*. City staff can assist you to determine how specific requirements apply to your project.

Low Impact Development Design Guide

Guidance for designing and documenting your LID site drainage, stormwater treatment facilities, and flow-control facilities

Follow the Low Impact Development (LID) design in this SUSMP to achieve compliance with the stormwater treatment requirements as well as the LID requirements in the stormwater NPDES permit.

This will require careful documentation of:

- Pervious and impervious areas in the planned project.
- Drainage from each of these areas.
- Locations, sizes, and types of proposed treatment facilities.

Your Project Submittal must include calculations showing the site drainage and proposed LID treatment facilities meet the criteria in this *SUSMP*.

This Low Impact Development Design Guide will help you:

- Analyze your project and identify and select options for implementing LID techniques to meet runoff treatment requirements—and flow-control requirements, if they apply.
- Design and document drainage for the whole site and document how that design meets this *SUSMP*'s stormwater treatment criteria.
- Specify preliminary design details and integrate your LID drainage design with your paving and landscaping design.

Alternatives to LID design are discussed in the final section of this chapter.

Analyze Your Project for LID

Conceptually, there are four LID strategies for managing runoff from buildings and paving:

1. Optimize the site layout by preserving natural drainage features and designing buildings and circulation to minimize the amount of roofs and paving.
2. Use pervious surfaces such as turf, gravel, or pervious pavement—or use surfaces that retain rainfall, such as vegetated roofs. All drainage from these surfaces is considered to be “self-retained” (a detailed definition corresponding to this concept is on page 42). No further management of runoff is necessary. An emergency overflow should be provided for extreme events.
3. Disperse runoff from impervious surfaces on to adjacent pervious surfaces (e.g., direct a roof downspout to disperse runoff onto a lawn).
4. Drain impervious surfaces to engineered Integrated Management Practices (IMPs), such as bioretention facilities, planter boxes, cisterns, or dry wells. IMPs infiltrate runoff to groundwater and/or percolate runoff through engineered soil and allow it to drain away slowly. Depending on site conditions and local regulations, it may be possible to harvest and reuse rainwater in conjunction with IMPs.

A combination of two or more strategies may work best for your project. With forethought in design, the four strategies can provide multiple, complementary benefits to your development. Pervious surfaces reduce heat island effects and temperature extremes. Landscaping improves air quality, creates a better place to live or work, and upgrades value for rental or sale. Retaining natural hydrology helps preserve and enhance the natural character of the area. LID drainage design can also conserve water and reduce the need for drainage infrastructure.

Table 4-1 includes ideas for applying LID strategies to site conditions and types of development.

TABLE 4-1. Ideas for Runoff Management.

<i>Site Features and Design Objectives</i>	<i>Vegetated Roof</i>	<i>Self-retaining Areas</i>	<i>Pervious Pavement</i>	<i>Bioretention Facility</i>	<i>Flow-through Planter</i>	<i>Dry Well</i>	<i>Cistern with bioretention</i>
Clayey native soils	✓			✓	✓		✓
Permeable native soils	✓		✓	✓	✓	✓	
Very steep slopes	✓				✓		
Shallow groundwater	✓				✓		
Avoid saturating subsurface soils	✓		✓		✓		
Connect to roof downspouts		✓		✓	✓	✓	✓
Parking lots/islands and medians			✓	✓		✓	
Sites with extensive landscaping		✓	✓	✓			
Densely developed sites with limited space/landscape	✓		✓		✓	✓	✓
Fit IMPs into landscape and setback areas				✓			✓
Make drainage a design feature		✓		✓			✓
Convey as well as treat stormwater				✓			

► OPTIMIZE THE SITE LAYOUT

To minimize stormwater-related impacts, apply the following design principles to the layout of newly developed and redeveloped sites.

Conserve natural areas, soils, and vegetation. Define the development envelope and protected areas, identifying areas that are most suitable for development and areas that should be left undisturbed. Use the following guideline to determine the least sensitive areas of the site, in order of increasing sensitivity:

1. Areas devoid of vegetation, including previously graded areas and agricultural fields.
2. Areas of non-native vegetation, disturbed habitats and eucalyptus woodlands where receiving waters are not present.
3. Areas of chamise or mixed chaparral, and non-native grasslands.
4. Areas containing coastal scrub communities.
5. All other upland communities.
6. Occupied habitat of sensitive species and all wetlands (as both are defined by the local jurisdiction).

Within each of the previous categories, hillside areas should be considered more sensitive than flatter areas.

Coordination
Chapter One includes a presentation of how review of your project's site design and landscape design is coordinated with review for compliance with stormwater NPDES requirements.

Where possible, conform the site layout along natural landforms, avoid excessive grading and disturbance of vegetation and soils, and replicate the site's natural drainage patterns. Set back development from creeks, wetlands, and riparian habitats. Preserve significant trees, especially native trees and shrubs, and identify locations for planting additional native or drought tolerant trees and large shrubs. Concentrate development on portions of the site with less permeable soils, and preserve areas that can promote infiltration.

For all types of development, limit overall coverage of paving and roofs. Where allowed by local zoning and design standards—and provided public safety and a walkable environment are not compromised—this can be accomplished by designing compact, taller structures, narrower and shorter streets and sidewalks, smaller parking lots (fewer stalls, smaller stalls, and more efficient lanes), and indoor or underground parking. Examine site layout and circulation patterns and identify areas where landscaping can be substituted for pavement.

Detain and retain runoff throughout the site. On flatter sites, it typically works best to intersperse landscaped areas and IMPs among the buildings and paving. On hillside sites, drainage from upper areas may be collected in conventional catch basins and piped to landscaped areas and IMPs in lower areas.

Use drainage as a design element. Use depressed landscape areas, vegetated buffers, and bioretention areas as amenities and focal points within the site and landscape design. Bioretention areas can be almost any shape and should be located at low points. Bioretention areas shaped as swales can detain and treat low runoff flows and also convey higher flows.

► USE PERVIOUS SURFACES

Consider a vegetated roof. Although not yet widely used in California, vegetated or “green” roofs are growing in popularity. Potential benefits include longer roof life, lower heating and cooling costs, and better sound insulation, in addition to air quality and water quality benefits. For SUSMP compliance purposes, vegetated roofs are considered not to produce increased runoff or runoff pollutants (i.e., any runoff from a vegetated roof requires no further treatment or detention). For more information on vegetated roofs, see www.greenroofs.org.

Consider permeable pavements and surface treatments. Inventory paved areas on your preliminary site plan. Identify where permeable pavements, such as crushed aggregate, turf block, unit pavers, pervious concrete, or pervious asphalt could be substituted for impervious concrete or asphalt paving.

► DISPERSE RUNOFF TO ADJACENT PERVIOUS AREAS

Look for opportunities to direct runoff from impervious areas to adjacent landscaping. The design, including slopes and soils, must reflect a reasonable expectation that an inch of rainfall will soak into the soil and produce no runoff. For example, a lawn or garden depressed 3-4" below surrounding walkways or driveways provides a simple but functional landscape design element.

For sites subject to stormwater treatment requirements only, a 2:1 maximum ratio of impervious to pervious area is acceptable. Be sure soils will drain adequately.

Under some circumstances, it may be allowable to direct runoff from impervious areas to pervious pavement (for example, from roof downspouts to a parking lot paved with crushed aggregate or turf block). The pore volume of pavement and base course must be sufficient to retain an inch of rainfall, including runoff from the tributary area. The slopes and soils must be compatible with infiltrating that volume without producing runoff.

► DIRECT RUNOFF TO INTEGRATED MANAGEMENT PRACTICES

Project Clean Water has developed design criteria for the following IMPs:

- Bioretention facilities, which can be configured as swales, free-form areas, or planters to integrate with your landscape design.
- Flow-through planters, which can be used near building foundations and other locations where infiltration to native soils is not desired.
- Dry wells and other infiltration facilities, which can be used only where soils are permeable.

- Cisterns, in combination with a bioretention facility.

See the design sheets at the end of this chapter.

It may be possible to create a site-specific design that uses cisterns to achieve stormwater flow control, stormwater treatment, and rainwater reuse for irrigation or indoor uses (water harvesting). Such a design could expand the multiple benefits of LID to include water conservation. Keep in mind:

- Facilities must meet criteria for capturing and treating the volume specified by Equation 4-8 below. This volume must be allowed to empty within 24 hours so runoff from additional storms, which may follow, is also captured and treated. Additional volume may be required if the system also stores runoff for longer periods for reuse.
- Storage of water for longer than 48 hours creates the potential for mosquito harborage. Cisterns must be designed to prevent entry by mosquitoes.
- Indoor uses of non-potable water may be restricted or prohibited. Check with municipal staff.

Some references and resources for water harvesting appear at the end of this chapter.

Finding the right location for treatment facilities on your site involves a careful and creative integration of several factors:

- To make the most efficient use of the site and to maximize aesthetic value, integrate IMPs with site landscaping. Many local zoning codes may require landscape setbacks or buffers, or may specify that a minimum portion of the site be landscaped. It may be possible to locate some or all of your site's treatment and flow-control facilities within this same area, or within utility easements or other non-buildable areas.
- Planter boxes and bioretention areas must be level or nearly level all the way around. Bioretention areas configured as swales may be gently sloped in the linear direction, but opposite sides must be at the same elevation.
- For effective, low-maintenance operation, locate facilities so drainage into and out of the device is by gravity flow. Pumped systems are feasible, but are expensive, require more maintenance, are prone to untimely failure, and can cause mosquito control problems. Most IMPs require 3 feet or more of head.
- If the property is being subdivided now or in the future, the facility should be in a common, accessible area. In particular, avoid locating facilities on private residential lots. Even if the facility will serve only one site owner or operator, make sure the facility is located for ready access by inspectors from the local municipality and local mosquito control agency.

- The facility must be accessible to equipment needed for its maintenance. Access requirements for maintenance will vary with the type of facility selected. Planter boxes and bioretention areas will typically need access for the same types of equipment used for landscape maintenance.

To complete your analysis, include in your Project Submittal a brief narrative documenting the site layout and site design decisions you made. This will provide background and context for how your design meets the quantitative LID design criteria.

Rationale

Pollutants in rainfall and windblown dust will tend to become entrained in the vegetation and soils of landscaped areas, so no additional treatment is needed. It is assumed the self-treating landscaped areas will produce runoff less than or equal to the pre-project site condition.

Develop and Document Your Drainage Design

The design documentation procedure begins with careful delineation of pervious areas and impervious areas (including roofs) throughout the site. The procedure accounts for how runoff from each delineated area is managed. For areas draining to IMPs, the procedure ensures each IMP is appropriately sized.

The procedure results in a space-efficient, cost-efficient LID design for meeting SUSMP requirements on most residential and commercial/industrial developments. The procedure arranges documentation of drainage design and IMP sizing in a consistent format for presentation and review.

This procedure is intended to facilitate, not substitute for, creative interplay among site design, landscape design, and drainage design. Several iterations may be needed to optimize your drainage design as well as aesthetics, circulation, and use of available area for your site.

You should be able to complete the needed calculations using only the project's site development plan.

► STEP 1: DELINEATE DRAINAGE MANAGEMENT AREAS

This is the key first step. You must divide the entire project area into individual, discrete Drainage Management Areas (DMAs). Typically, lines delineating DMAs follow grade breaks and roof ridge lines. The Exhibit, tables, text, and calculations in your Project Submittal will illustrate, describe, and account for runoff from each of these areas.

Use separate DMAs for each surface type (e.g., landscaping, pervious paving, or roofs). Each DMA must be assigned a single hydrologic soil group. Assign each DMA an identification number and determine its size in square feet.

► STEP 2: CLASSIFY DMAS AND DETERMINE RUNOFF FACTORS

Next, determine how drainage from each DMA will be handled. Each DMA will be one of the following four types:

1. Self-treating areas.

2. Self-retaining areas (also called “zero-discharge” areas).
3. Areas that drain to self-retaining areas.
4. Areas that drain to IMPs.

Self-treating areas are landscaped or turf areas that do not drain to IMPs, but rather drain directly off site or to the storm drain system. Examples include upslope undeveloped areas which are ditched and drained around a development and grassed slopes which drain off-site to a street or storm drain. In general, self-treating areas include no impervious areas, unless the impervious area is very small (5% or less) in relationship to the receiving pervious area and slopes are gentle enough to ensure runoff will be absorbed into the vegetation and soil. Criteria for self-treating areas are in the design sheet “Self Treating and Self-Retaining Areas” at the end of this chapter.

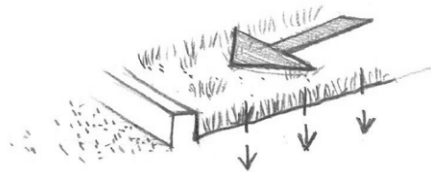


FIGURE 4-1. Self-treating areas are entirely pervious and drain directly off-site or to the storm drain system.

Self-retaining areas are designed to retain the first one inch of rainfall without producing any runoff. The technique works best on flat, heavily landscaped sites. It may be used on mild slopes if there is a reasonable expectation that a one-inch rainfall event would produce no runoff.

To create self-retaining turf and landscape areas in flat areas or on terraced slopes, berm the area or depress the grade into a concave cross-section so that these areas will retain the first inch of rainfall. Specify slopes, if any, toward the center of the pervious area. Inlets of area drains, if any, should be set 3 inches above the low point to allow ponding.

Criteria for self-retaining areas are in the design sheet “Self Treating and Self-Retaining Areas” following this chapter.

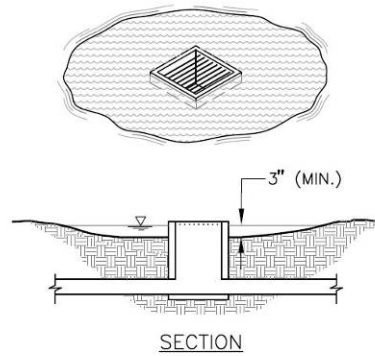


FIGURE 4-2. Self-retaining areas. Berm or depress the grade to retain at least an inch of rainfall and set inlets of any area drains at least 3 inches above low point to allow ponding.

Areas draining to self-retaining areas. Runoff from impervious or partially pervious areas can be managed by routing it to self-retaining pervious areas. For example, roof downspouts can be directed to lawns, and driveways can be sloped toward landscaped areas. The maximum ratio is 2 parts impervious area for every 1 part pervious area.

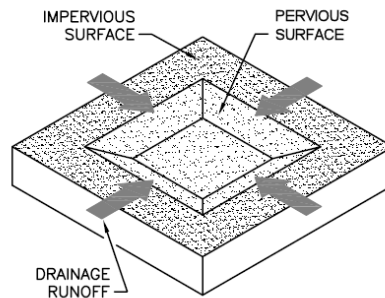


FIGURE 4-3. Relationship of impervious to pervious area for self-retaining areas. Ratio: *pervious* \geq $\frac{1}{2}$ *impervious*

The drainage from the impervious area must be directed to and dispersed within the pervious area, and the entire area must be designed to retain an inch of rainfall without flowing off-site. For example, if the maximum ratio of 2 parts impervious area into 1 part pervious area is used, then the pervious area must absorb 3 inches of water over its surface before overflowing to an off-site drain.

A partially pervious area may be drained to a self-retaining area. For example, a driveway composed of unit pavers may drain to an adjacent lawn. In this case, the maximum ratios are:

$$(\text{Runoff factor}) \times (\text{tributary area}) \leq 2 \times (\text{self-retaining area}) \quad \text{Equation 4-1}$$

Use the runoff factors in Table 4-2.

Prolonged ponding is a potential problem at higher impervious/pervious ratios. In your design, ensure that the pervious area soils can handle the additional run-on and are sufficiently well-drained.

Under some circumstances, pervious pavement (e.g., crushed stone, pervious asphalt, or pervious concrete) can be self-retaining. Adjacent roofs or impervious pavement may drain on to the pervious pavement in the same maximum ratios as described above.

To design a pervious pavement to be a self-treating area, ensure:

- The gravel base course is a minimum of four or more inches deep.
- The base course is not to be underdrained.
- A qualified engineer has been consulted regarding infiltration rates, pavement stability, and suitability for the intended traffic.

Runoff from self-treating and self-retaining areas does not require any further treatment or flow control.

TABLE 4-2. Runoff Factors for Surfaces Draining to IMPs.

Surface	Factor
Roofs	1.0
Concrete	1.0
Pervious Concrete	0.1
Porous Asphalt	0.1
Grouted Unit Pavers	1.0
Solid Unit Pavers on granular base, min. 3/16 inch joint space	0.2
Crushed Aggregate	0.1
Turfblock	0.1
Amended, mulched soil	0.1
Landscape	0.1

Areas draining to IMPs are multiplied by a sizing factor to calculate the required size of the IMP. On most densely developed sites—such as commercial and mixed-use developments and small-lot residential subdivisions—most DMAs will drain to IMPs.

More than one drainage area can drain to the same IMP. However, because the minimum IMP sizes are determined by ratio to drainage area size, a drainage area may not drain to more than one IMP. See Figures 4-4 and 4-5.

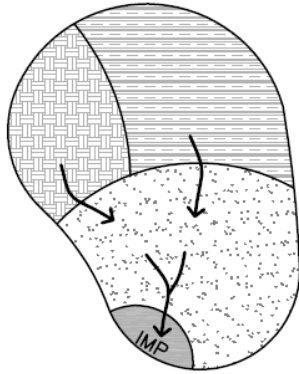


FIGURE 4-4. MORE THAN ONE
Drainage Management Area can drain to a single
IMP.

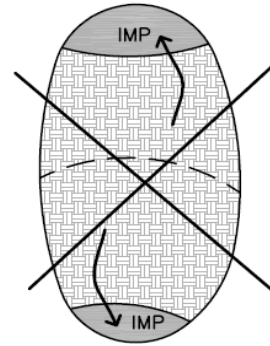


FIGURE 4-5. ONE DRAINAGE
Management Area cannot drain to more than one IMP.
Use a grade break to divide the DMA.

Where possible, design site drainage so only impervious roofs and pavement drain to IMPs. This yields a simpler, more efficient design and also helps protect IMPs from becoming clogged by sediment.

If it is necessary to include turf, landscaping, or pervious pavements within the area draining to an IMP, list each surface as a separate DMA. A runoff factor (similar to a “C” factor used in the rational method) is applied to account for the reduction in the quantity of runoff. For example, when a turf or landscaped drainage management area drains to an IMP, the resulting increment in IMP size is:

$$\Delta (\text{Area}) = (\text{pervious area}) \times (\text{runoff factor}) \times (\text{sizing factor}).$$

Use the runoff factors in Table 4-2.

► STEP 3: TABULATE DRAINAGE MANAGEMENT AREAS

- Tabulate self-treating areas in the format shown in Table 4-3.
- Tabulate self-retaining areas in the format shown in Table 4-4.
- Tabulate areas draining to self-retaining areas in the format shown in Table 4-5. Check to be sure the total product of (square feet of tributary area × runoff factor) for all DMAs draining to a receiving self-retaining area is no greater than a 2:1 ratio to the square footage of the receiving self-retaining area itself.
- Compile a list of DMAs draining to IMPs. Proceed to Step 4 to check the sizing of the IMPs.

TABLE 4-3. Format for Tabulating Self-Treating Areas.

<i>DMA Name</i>	<i>Area (square feet)</i>

TABLE 4-4. Format for Tabulating Self-Retaining Areas.

<i>DMA Name</i>	<i>Area (square feet)</i>

TABLE 4-5. Format for Tabulating Areas Draining to Self-Retaining Areas.

<i>DMA Name</i>	<i>Area (square feet)</i>	<i>Post-project surface type</i>	<i>Runoff factor</i>	<i>Receiving self-retaining DMA</i>	<i>Receiving self-retaining DMA Area (square feet)</i>

► STEP 4: SELECT AND LAY OUT IMPs ON SITE PLAN

Select from the list of IMPs in Table 4-6. Illustrations, designs, and design criteria for the IMPs are in the “IMP Design Details and Criteria” at the end of this chapter.

Once you have laid out the IMPs, calculate the square footage you have set aside on your site plan for each IMP.

► STEP 5: REVIEW SIZING FOR EACH IMP

For each of the IMPs, use the appropriate sizing from Table 4-6.

TABLE 4-6. IMP Sizing.

Bioretention Facilities	Sizing Factor for Area = 0.04
Flow-through Planters	Sizing Factor for Area = 0.04
Dry Well or Infiltration Basin	See Step 6 to Calculate Min. Volume
Cistern with Bioretention	See Step 6 to Calculate Min. Volume of Cistern; then use 0.04 to calculate minimum size of bioretention area

► STEP 6: CALCULATE MINIMUM AREA AND VOLUME OF EACH IMP

The minimum area of bioretention facilities and flow-through planters is found by summing up the contributions of each tributary DMA and multiplying by the adjusted sizing factor for the IMP.

Equation 4-7

$$Min. IMP Area = \sum \left(\begin{matrix} DMA & DMA \\ Square & \times Runoff \\ Footage & Factor \end{matrix} \right) \times \left(\begin{matrix} IMP \\ Sizing \\ Factor \end{matrix} \right)$$

Use the format of Table 4-7 to present the calculations of the required minimum area and volumes for bioretention areas and planter boxes:

TABLE 4-7. Format for Presenting Calculations of Minimum IMP Areas for Bioretention Areas and Planter Boxes.

DMA Name	DMA Area (square feet)	Post-project surface type	DMA Runoff factor	DMA Area × runoff factor	Soil Type:	IMP Name	
						Minimum Area	Proposed Area
					IMP Sizing factor		
				Total	0.04		IMP Area

To size dry wells, infiltration basins, or infiltration trenches, use the following procedure:

1. Use the County of San Diego's 85th Percentile Isopluvial Map to determine the minimum unit volume.
2. Determine the weighted runoff factor (“C” factor) for the area tributary to the facility. The factors in Table 4-2 may be used.
3. Multiply the weighted runoff factor times the tributary area times the minimum unit volume.

Equation 4-8

$$\text{Volume} = [\text{Tributary Area}] \times [\text{weighted runoff factor}] \times [\text{unit volume}]$$

4. Select a facility depth.
5. Determine the required facility area. Dry wells may be designed as an open vault or with rock fill. If rock fill is used, assume a porosity of 40%.
6. Ensure the facility can infiltrate the entire volume within 72 hours.

To size a cistern in series with a bioretention facility:

1. Use Equation 4-8 to calculate the required cistern volume.
2. Design a discharge orifice for a drawdown time of 24 hours.
3. Determine the maximum discharge from the orifice.
4. The minimum area of the bioretention facility must treat this flow based on a percolation rate of 5" per hour through the engineered soil.

► STEP 7: DETERMINE IF AVAILABLE SPACE FOR IMP IS ADEQUATE

Sizing and configuring IMPs may be an iterative process. After computing the minimum IMP area using Steps 1 – 6, review the site plan to determine if the reserved IMP area is sufficient. If so, the planned IMPs will meet the SUSMP sizing requirements. If not, revise the plan accordingly. Revisions may include:

- Reducing the overall imperviousness of the project site.
- Changing the grading and drainage to redirect some runoff toward other IMPs which may have excess capacity.
- Making tributary landscaped DMAs self-treating or self-retaining.
- Expanding IMP surface area.

► STEP 8: COMPLETE YOUR SUMMARY REPORT

Present your IMP sizing calculations in tabular form. Adapt the following format as appropriate to your project. Coordinate your presentation of DMAs and calculation of minimum IMP sizes with the Project Submittal drawing (labeled to show delineation of DMAs and locations of IMPs). It is also helpful to incorporate a brief description of each DMA and each IMP.

Sum the total area of all DMAs and IMPs listed and show it is equal to the total project area. This step may include adjusting the square footage of some DMAs to account for area used for IMPs.

Format:

Project Name:

Project Location:

APN or Subdivision Number:

Total Project Area (square feet):

Mean Annual Precipitation at Project Site:

I. Self-treating areas:

<i>DMA Name</i>	<i>Area (square feet)</i>

II. Self-retaining areas:

<i>DMA Name</i>	<i>Area (square feet)</i>

III. Areas draining to self-retaining areas:

<i>DMA Name</i>	<i>Post-project surface type</i>	<i>Runoff factor</i>	<i>Area (square feet)</i>	<i>Receiving self-retaining DMA</i>	<i>Receiving self-retaining DMA Area (square feet)</i>

IV. Areas draining to IMPs (repeat for each IMP):

<i>DMA Name</i>	<i>DMA Area (square feet)</i>	<i>Post-project surface type</i>	<i>DMA Runoff factor</i>	<i>DMA Area × runoff factor</i>	<i>Soil Type:</i>	<i>IMP Name</i>		
					<i>IMP Sizing factor</i>	<i>Minimum Area or Volume</i>	<i>Proposed Area or Volume</i>	
				<i>Total</i>				<i>IMP Area</i>

Specify Preliminary Design Details

In your Project Submittal, describe your IMPs in sufficient detail to demonstrate the area, volume, and other criteria of each can be met within the constraints of the site.

Ensure these details are consistent with preliminary site plans, landscaping plans, and architectural plans submitted with your application for planning and zoning approvals.

Following are design sheets for:

- Self-treating and self-retaining areas
- Pervious pavements
- Bioretention facilities
- Flow-through planter
- Dry wells and infiltration basins
- Cistern with bioretention facility

These design sheets include recommended configurations and details, and example applications, for these IMPs. The information in these design sheets must be adapted and applied to the conditions specific to the development project such as unstable slopes or the lack of available head.

Keep in mind that proper and functional design of the IMP is the responsibility of the applicant. Effective operation of the IMP throughout the project’s lifetime will be the responsibility of the property owner.

Alternatives to Integrated LID Design

If you believe design of features and facilities as described above is infeasible for your development site, consult with City staff before preparing an alternative design for stormwater treatment, flow control, and LID compliance.

<p style="text-align: center;">Local Requirements</p> <p>Cities or the County may have requirements that differ from, or are in addition to, this countywide model SUSMP. Check with local planning and community development staff.</p>	<p>For all alternative designs, the applicant must prepare a complete Project Submittal, including a drawing showing the entire site divided into discrete Drainage Management Areas, text and tables showing how drainage is routed from each DMA to a treatment facility, and calculations demonstrating the design achieves the applicable design criteria for each stormwater treatment facility. Alternative treatment facilities are limited to the circumstances and selection criteria identified beginning on page 17. The Project Submittal must also show how the project meets the minimum LID criteria (page 21) and ensures runoff rates, durations, and velocities are controlled to maintain or reduce downstream erosion conditions and protect stream habitat (NPDES Permit Provision D.1.d.(10)).</p>
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► DESIGN OF ALTERNATIVE TREATMENT FACILITIES

Here are criteria and design considerations for some alternative treatment facilities:

Sand Filters. To ensure effectiveness is not compromised by compacting or clogging of the filter surface, sand filters must be maintained frequently.

The following criteria apply to sand filters:

- Calculate the design flow using the rational method with an intensity of 0.2"/hour and the "C" factors for "treatment only" from Table 4-2.
- To determine the required filter surface area, divide the design flow by an allowable design surface loading rate of 5"/hour.
- The minimum depth of filter media is 18". The media should be washed sand, with gradation similar to that specified for fine aggregate in ASTM C-33.
- The entire filter area must be accessible for easy maintenance without the need to enter a confined space.

A typical filter design includes a gravel drain layer and a perforated pipe underdrain. Filter fabric may be used to prevent the filter media from entering the gravel layer.

The design should not include any permanent pool or other standing water. Instead of including a pretreatment basin, consider the following features in the area tributary to the filter to reduce the potential for filter clogging:

- Limit the size of the Drainage Management Area.
- Include only impervious areas in the DMA.
- Stabilize slopes and eliminate sources of sediment in the DMA.
- Provide screens for trash and leaves at storm drain inlets (if allowed by municipality).

For additional design considerations and details, see *Design of Stormwater Filtering Systems* by Richard A. Claytor and Thomas R. Schueler, The Center for Watershed Protection, 1996, and *California Stormwater BMP Handbooks* Fact Sheet TC-40, Media Filter.

Extended ("Dry") Detention Basins. The required detention volume is based on the 85th percentile 24-hour storm depth. The steps to calculate the required detention volume are:

1. Use the County of San Diego's 85th Percentile Isopluvial Map to determine the unit basin volume.
2. Determine the weighted runoff factor ("C" factor) for the area tributary to the basin. The factors in Table 4-2 may be used.
3. Multiply the weighted runoff factor times the tributary area times the unit basin volume.

For maximum effectiveness the basin should not be sized substantially larger than this volume.

For design considerations and details, see the [*California Stormwater Best Management Practice Handbooks*](#), Fact Sheet TC-22, “Extended Detention Basins.” The basin outlet should be designed for a 24-hour drawdown time.

As noted in Fact Sheet TC-22, “dry” detention basins may not be practicable for drainage areas less than 5 acres. The potential for mosquito harborage is a concern. In the design, do not create any areas that will hold standing water for 72 hours or more.

“Wet” Detention Ponds and Constructed Wetlands. The required detention volume is determined as with a “dry” detention basin. Before proceeding with design, contact the local mosquito control agency to coordinate the design and plan ongoing inspection and maintenance of the facility for mosquito control. For design considerations and details, see the [*California Stormwater Best Management Practices Handbooks*](#), Fact Sheet TC-20, “Wet Ponds,” and Fact Sheet TC-21, “Constructed Wetlands.”

Vegetated Swales. Design recommendations for conventional vegetated swales are in the [*California Stormwater Best Management Practices Handbooks*](#). The conventional swale design uses available on-site soils and does not include an underdrain system. Where soils are clayey, there is little infiltration. Treatment occurs as runoff flows through grass or other vegetation before exiting at the downstream end. Recommended detention times are on the order of 10 minutes.

Conventional vegetated swales may be used to meet NPDES permit treatment requirements and LID requirements (see page 21). The following should be incorporated in the design:

- Determine the weighted runoff factor (“C” factor) for the area tributary to the swale. The factors in Table 4-2 may be used.
- Calculate the design flow by multiplying the weighted runoff factor times the tributary area times either (1) 0.2 inches of rainfall per hour, or (2) twice the 85th percentile hourly rainfall intensity.
- When sizing the swale, use a value of 0.25 for Manning’s “n”.
- Ensure that all flow enters the swale near its highest point and that no flow short-circuits treatment by entering the swale along its length.
- The swale should be a minimum 100 feet in length.
- Longitudinal slopes should not exceed 2.5%; on flatter slopes, incorporate measures to avoid prolonged surface ponding.

Consider using linear-shaped bioretention areas (see page 60) in place of conventional vegetated swales because:

- Conventional swale design has resulted in standing water and associated nuisances.

- Conventional swales often don't obtain even the design residence time because of the length required and because proper design requires runoff enter the swale at the upstream end rather than at various locations along its length, and
- Bioretention areas provide a more flexible drainage design, more effective practicable treatment, and more effective flow control within the same footprint.

► TREATMENT FACILITIES FOR SPECIAL CIRCUMSTANCES

Higher-rate surface filters and vault-based proprietary filters can only be used in the circumstances described beginning on page 17 and when sand filters, extended “dry” detention basins, and “wet” detention ponds or constructed wetlands have been found infeasible.

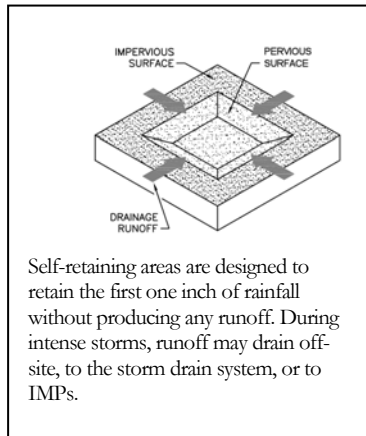
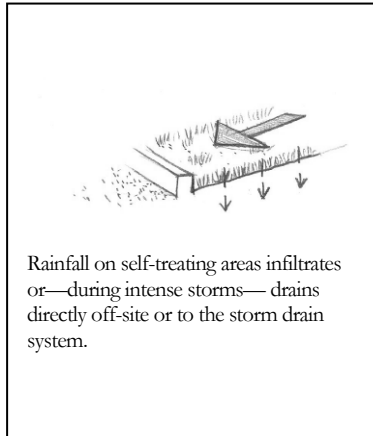
For surface filters, the grading and drainage design should minimize the area draining to each unit and maximize the number of discrete drainage areas and units. Proprietary facilities should be installed consistent with the manufacturer's instructions.

References and Resources:

- [RWQCB Order R9-2007-0001 \(Stormwater NPDES Permit\)](#)
- [Low Impact Development Center](#)
- [County of San Diego Low Impact Development Handbook](#)
- [California Best Management Practices Handbooks](#)
- [Design of Stormwater Filtering Systems](#) (Claytor and Scheuler, 1996)
- [American Rainwater Catchment Systems Association](#)
- [Water Conservation Alliance of Southern Arizona](#)
- [Rainwater Harvesting for Drylands and Beyond](#)
- [The Texas Manual on Rainwater Harvesting](#)
- *Managing Wet Weather With Green Infrastructure: Municipal Handbook, Rainwater Harvesting Policies* (Low Impact Development Center, 2008)

Self-Treating and Self-Retaining Areas

► CRITERIA



LID design seeks to manage runoff from roofs and paving so effects on water quality and hydrology are minimized. Runoff from landscaping, however, does not need to be managed the same way.

Runoff from landscaping can be managed by creating self-treating and self-retaining areas.

Self-treating areas are natural, landscaped, or turf areas that drain directly off site or to the storm drain system. Examples include upslope undeveloped areas that are ditched and drained around a development and grassed slopes that drain offsite to a street or storm drain. Self-treating areas may not drain on to adjacent paved areas.

Where a landscaped area is upslope from or surrounded by paved areas, a self-retaining area (also called a zero-discharge area) may be created. Self-retaining areas are designed to retain the first one inch of rainfall without producing any runoff. The technique works best on flat, heavily landscaped sites. It may be used on mild slopes if there is a reasonable expectation that the first inch of rainfall would produce no runoff.

To create self-retaining turf and landscape areas in flat areas or on terraced slopes, berm the area or depress the grade into a concave cross-section so that these areas will retain the first inch of rainfall. Inlets of area drains, if any, should be set 3 inches above the low point to allow ponding.

Areas draining to self retaining areas. Drainage from roofs and paving can be directed to self-retaining areas and allowed to infiltrate into the soil. The maximum allowable ratio is 2 parts impervious: 1 part pervious.

The self-retaining area must be bermed or depressed to retain an inch of rainfall including the flow from the tributary impervious area.

Best Uses

- Heavily landscaped sites

Advantages

- No maintenance verification requirement
- Complements site landscaping

Limitations

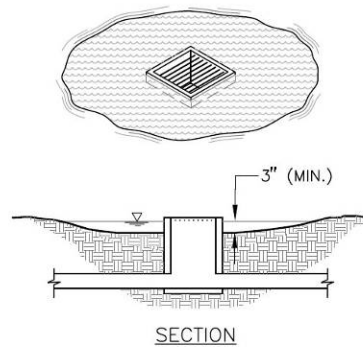
- Requires substantial square footage
- Grading requirements must be coordinated with landscape design

► DETAILS

Drainage from self-treating areas must flow to off-site streets or storm drains without flowing on to paved areas.

Pavement within a self-treating area cannot exceed 5% of the total area.

In self-retaining areas, overflows and area drain inlets should be set high enough to ensure ponding over the entire surface of the self-retaining area.



Set overflows and area drain inlets high enough to ensure ponding (3" deep) over the surface of the self-retaining area.

Self-retaining areas should be designed to promote even distribution of ponded runoff over the area.

Leave enough reveal (from pavement down to landscaped surface) to accommodate buildup of turf or mulch.

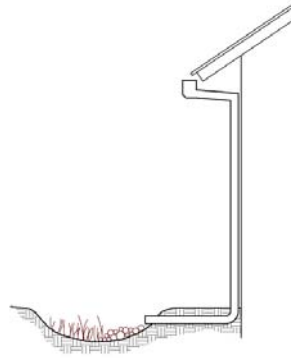
► APPLICATIONS

Lawn or landscaped areas adjacent to streets can be considered self-treating areas.

Self-retaining areas can be created by depressing lawn and landscape below surrounding sidewalks and plazas.

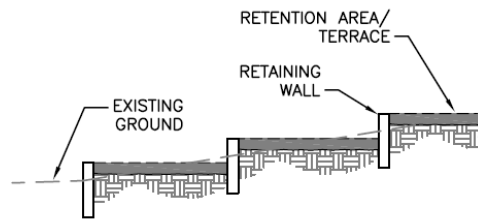
Runoff from walkways or driveways in parks and park-like areas can sheet-flow to self-retaining areas.

Roof leaders can be connected to self-retaining areas by piping beneath plazas and walkways. If necessary, a “bubble-up” can be used.



Connecting a roof leader to a self-retaining area. The head from the eave height makes it possible to route roof drainage some distance away from the building.

Self-retaining areas can be created by terracing mild slopes. The elevation difference promotes subsurface drainage.



Mild slopes can be terraced to create self-retaining areas.

▶ DESIGN CHECKLIST FOR SELF-TREATING AREAS

- The self-treating area is at least 95% lawn or landscaping (not more than 5% impervious).
- Re-graded or re-landscaped areas have amended soils, vegetation, and irrigation as may be required to maintain soil stability and permeability.
- Runoff from the self-treating area does not enter an IMP or another drainage management area, but goes directly to the storm drain system.

▶ DESIGN CHECKLIST FOR SELF-RETAINING AREAS

- Area is bermed all the way around or graded concave.
- Slopes do not exceed 4%.
- Entire area is lawn, landscaping, or pervious pavement (see criteria in Chapter 4).
- Area has amended soils, vegetation, and irrigation as may be required to maintain soil stability and permeability.
- Any area drain inlets are at least 3 inches above surrounding grade.

▶ DESIGN CHECKLIST FOR AREAS DRAINING TO SELF-RETAINING AREAS

- Ratio of tributary impervious area to self-retaining area is not greater than 2:1.
- Roof leaders collect runoff and route it to the self-retaining area.
- Paved areas are sloped so drainage is routed to the self-retaining area.
- Inlets are designed to protect against erosion and distribute runoff across the area.

Pervious Pavements

► CRITERIA

Impervious roadways, driveways, and parking lots account for much of the hydrologic impact of land development. In contrast, pervious pavements allow rainfall to collect in a gravel or sand base course and infiltrate into native soil.

Pervious pavements are designed to transmit rainfall through the surface to storage in a base course. For example, a 4-inch-deep base course provides approximately 1.6 inches of storage. Runoff stored in the base course infiltrates to native soils over time. Except in the case of solid pavers, the surface course provides additional storage.

Areas with the following pervious pavements may be regarded as “self-treating” and require no additional treatment or flow control if they drain off-site (not to an IMP).

- Pervious concrete
- Porous asphalt
- Crushed aggregate (gravel)
- Open pavers with grass or plantings
- Open pavers with gravel
- Artificial turf

Areas with these pervious pavements can also be self-retaining areas and may receive runoff from impervious areas if they are bermed or depressed to retain the first one inch of rainfall, including runoff from the tributary impervious area.

Solid unit pavers—such as bricks, stone blocks, or precast concrete shapes—are considered to reduce runoff compared to impervious pavement, when the unit pavers are set in sand or gravel with ¼" gaps between the pavers. Joints must be filled with an open-graded aggregate free of fines.

Best Uses

- Areas with permeable native soils
- Low-traffic areas
- Where aesthetic quality can justify higher cost

Advantages

- No maintenance verification requirement
- Variety of surface treatments can complement landscape design

Limitations

- Initial cost
- Placement requires specially trained crews
- Geotechnical concerns, especially in clay soils
- Concerns about pavement strength and surface integrity
- Some municipalities do not allow in public right of way

When draining pervious pavements to an IMP, use the runoff factors in Table 4-2.

► DETAILS

Permeable pavements can be used in clay soils; however, special design considerations, including an increased depth of base course, typically apply and will increase the cost of this option. Geotechnical fabric between the base course and underlying clay soil is recommended.

Pavement strength and durability typically determines the required depth of base course. If underdrains are used, the outlet elevation must be a minimum of 3 inches above the bottom elevation of the base course.

Pervious concrete and porous asphalt must be installed by crews with special training and tools. Industry associations maintain lists of qualified contractors.

Parking lots with crushed aggregate or unit pavers may require signs or bollards to organize parking.

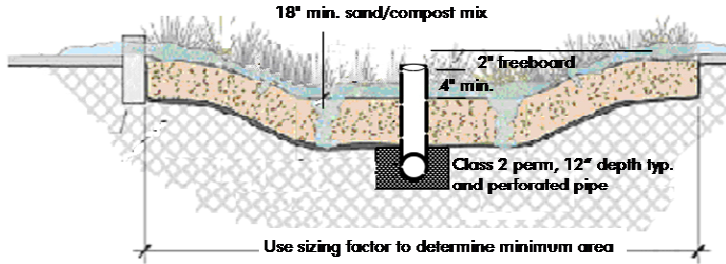
► DESIGN CHECKLIST FOR PERVIOUS PAVEMENTS

- No erodible areas drain on to pavement.
- Subgrade is uniform. Compaction is minimal.
- Reservoir base course is of open-graded crushed stone. Base depth is adequate to retain rainfall and support design loads.
- If a subdrain is provided, outlet elevation is a minimum of 3 inches above bottom of base course.
- Subgrade is uniform and slopes are not so steep that subgrade is prone to erosion.
- Rigid edge is provided to retain granular pavements and unit pavers.
- Solid unit pavers are installed with open gaps filled with open-graded aggregate free of fines.
- Permeable pavements are installed by industry-certified professionals according to vendor's recommendations.
- Selection and location of pavements incorporates Americans with Disabilities Act requirements, site aesthetics, and uses.

Resources

- Southern California Concrete Producers www.concreteresources.net.
- California Asphalt Pavement Association <http://www.californiapavements.org/stormwater.html>
- Interlocking Concrete Pavement Institute <http://www.icpi.org/>
- *Start at the Source Design Manual for Water Quality Protection*, pp. 47-53. www.basmaa.org
- *Porous Pavements*, by Bruce K. Ferguson. 2005. ISBN 0-8493-2670-2.

Bioretention Facilities



Bioretention facility configured for treatment-only requirements. Bioretention facilities can be rectangular, linear, or nearly any shape.

Bioretention detains runoff in a surface reservoir, filters it through plant roots and a biologically active soil mix, and then infiltrates it into the ground. Where native soils are less permeable, an underdrain conveys treated runoff to storm drain or surface drainage.

Bioretention facilities can be configured in nearly any shape. When configured as linear swales, they can convey high flows while percolating and treating lower flows.

Bioretention facilities can be configured as in-ground or above-ground planter boxes, with the bottom open to allow infiltration to native soils underneath. If infiltration cannot be allowed, use the sizing factors and criteria for the Flow-Through Planter.

► CRITERIA

For development projects subject only to runoff treatment requirements, the following criteria apply:

Parameter	Criterion
Soil mix depth	18 inches minimum
Soil mix minimum percolation rate	5 inches per hour minimum sustained (10 inches per hour initial rate recommended)
Soil mix surface area	0.04 times tributary impervious area (or equivalent)
Surface reservoir depth	6 inches minimum; may be sloped to 4 inches where adjoining walkways.

Best Uses

- Commercial areas
- Residential subdivisions
- Industrial developments
- Roadways
- Parking lots
- Fit in setbacks, medians, and other landscaped areas

Advantages

- Can be any shape
- Low maintenance
- Can be landscaped

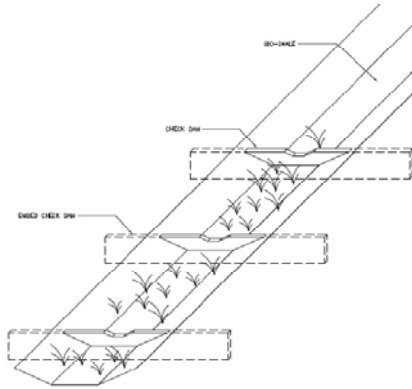
Limitations

- Require 4% of tributary impervious square footage
- Typically requires 3-4 feet of head
- Irrigation typically required

Parameter	Criterion
Underdrain	Required in Group “C” and “D” soils. Perforated pipe embedded in gravel (“Class 2 permeable” recommended), connected to storm drain or other accepted discharge point.

► DETAILS

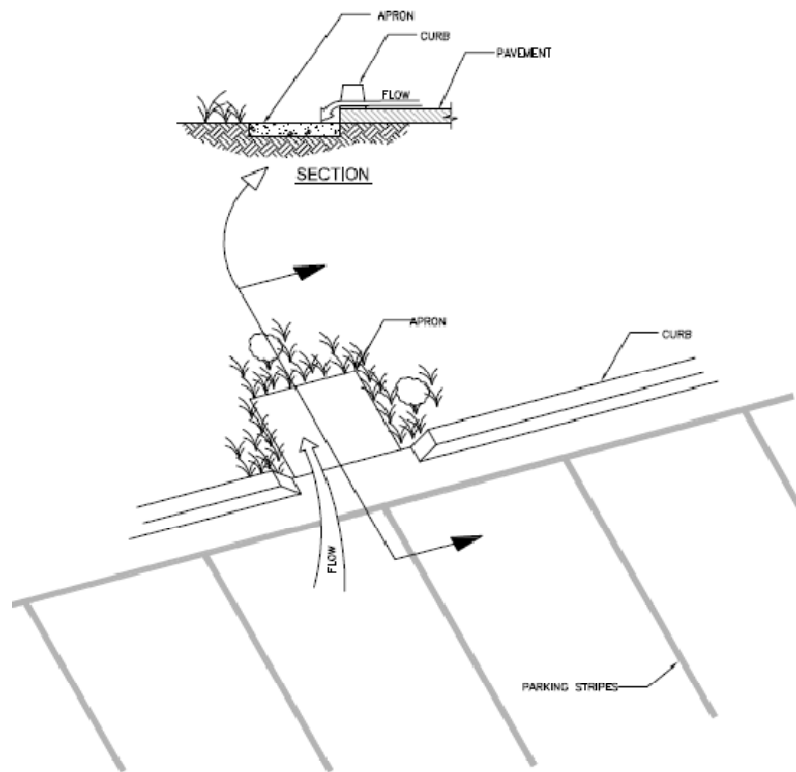
Plan. On the surface, a bioretention facility should be one level, shallow basin—or a series of basins. As runoff enters each basin, it should flood and fill throughout before runoff overflows to the outlet or to the next downstream basin. This will help prevent movement of surface mulch and soil mix.



Use check dams for linear bioretention facilities (swales) on a slope.

In a linear swale, check dams should be placed so that the lip of each dam is at least as high as the toe of the next upstream dam. A similar principle applies to bioretention facilities built as terraced roadway shoulders.

Inlets. Paved areas draining to the facility should be graded, and inlets should be placed, so that runoff remains as sheet flow or as dispersed as possible. Curb cuts should be wide (12" is recommended) to avoid clogging with leaves or debris. Allow for a minimum reveal of 4"-6" between the inlet and soil mix elevations to ensure turf or mulch buildup does not block the inlet. In addition, place an apron of stone or concrete, a foot square or larger, inside each inlet to prevent vegetation from growing up and blocking the inlet.



Recommended design details for bioretention facility inlets (see text).

Where runoff is piped into the facility, provide energy-dissipating structures, such as landscaping from high-velocity flows with energy-dissipating rocks. In larger installations, provide cobble-lined channels to better distribute flows throughout the facility.

Upturned pipe outlets can be used to dissipate energy when runoff is piped from roofs and upgradient paved areas.

Soil mix. The required soil mix is similar to a loamy sand. It must maintain a minimum percolation rate of 5" per hour throughout the life of the facility, and it must be suitable for maintaining plant life. Typically, on-site soils will not be suitable due to clay content.

Storage and drainage layer. "Class 2 permeable," Caltrans specification 68-1.025, is recommended. Open-graded crushed rock, washed, may be used, but requires 4"-6" washed pea gravel be substituted at the top of the crushed rock gravel layers. Do not use filter fabric to separate the soil mix from the gravel drainage layer or the gravel drainage layer from the native soil.

Underdrains. No underdrain is required where native soils beneath the facility are Hydrologic Soil Group A or B. For treatment-only facilities where native soils are Group C or D, a

perforated pipe must be bedded in the gravel layer and must terminate at a storm drain or other approved discharge point.

Outlets. In treatment-only facilities, outlets must be set high enough to ensure the surface reservoir fills and the entire surface area of soil mix is flooded before the outlet elevation is reached. In swales, this can be achieved with appropriately placed check dams.

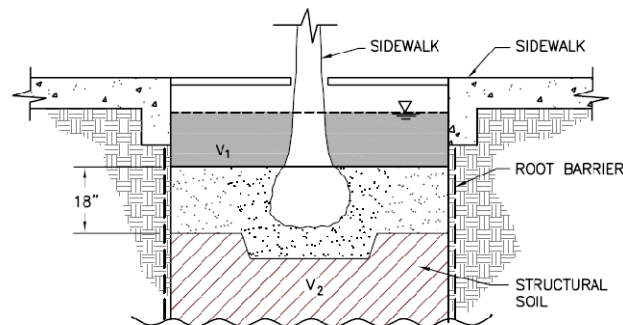
The outlet should be designed to exclude floating mulch and debris.

Vaults, utility boxes and light standards. It is best to locate utilities outside the bioretention facility—in adjacent walkways or in a separate area set aside for this purpose. If utility structures are to be placed within the facility, the locations should be anticipated and adjustments made to ensure the minimum bioretention surface area and volumes are achieved. Leaving the final locations to each individual utility can produce a haphazard, unaesthetic appearance and make the bioretention facility more difficult to maintain.

Emergency overflow. The site grading plan should anticipate extreme events and potential clogging of the overflow and route emergency overflows safely.

Trees. Bioretention areas can accommodate small or large trees. There is no need to subtract the area taken up by roots from the effective area of the facility. Extensive tree roots maintain soil permeability and help retain runoff. Normal maintenance of a bioretention facility should not affect tree lifespan.

The bioretention facility can be integrated with a tree pit of the required depth and filled with structural soil. If a root barrier is used, it can be located to allow tree roots to spread throughout the bioretention facility while protecting adjacent pavement. Locations and planting elevations should be selected to avoid blocking the facility's inlets and outlets.



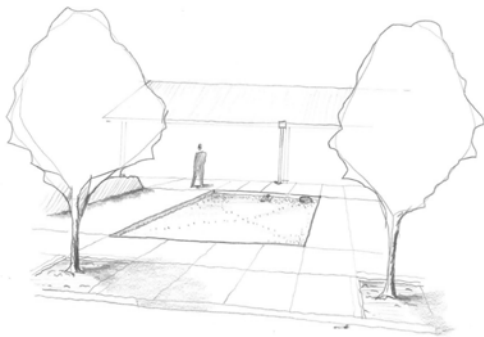
Bioretention facility configured as a tree well.
The root barrier is optional.

► APPLICATIONS

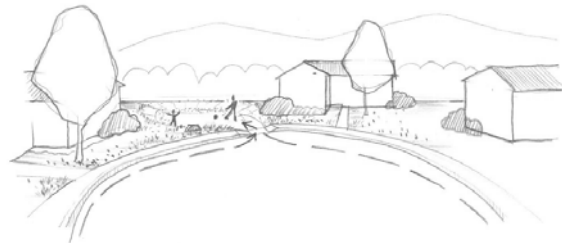
Multi-purpose landscaped areas. Bioretention facilities are easily adapted to serve multiple purposes. The loamy sand soil mix will support turf or a plant palette suitable to the location and a well-drained soil.

Example landscape treatments:

- Lawn with sloped transition to adjacent landscaping.
- Swale in setback area
- Swale in parking median
- Lawn with hardscaped edge treatment
- Decorative garden with formal or informal plantings
- Traffic island with low-maintenance landscaping
- Raised planter with seating
- Bioretention on a terraced slope



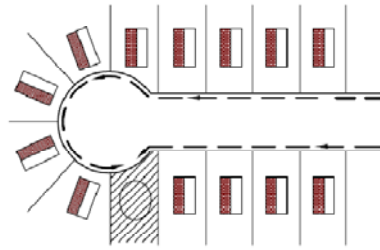
Bioretention facility configured as a recessed decorative lawn with hardscaped edge.



Bioretention facility configured and planted as a lawn/ play area.

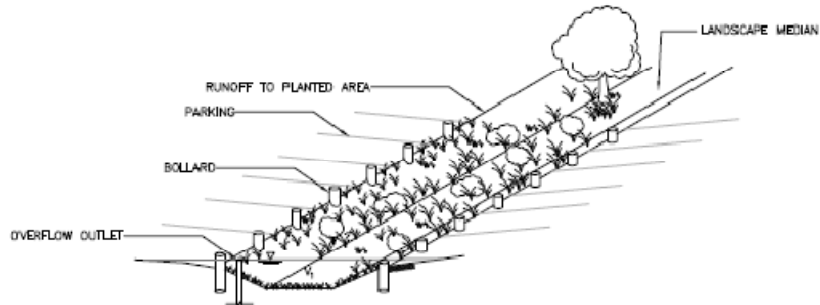
Residential subdivisions. Some subdivisions are designed to drain roofs and driveways to the streets (in the conventional manner) and then drain the streets to bioretention areas, with one bioretention area for each 1 to 6 lots, depending on subdivision layout and topography.

If allowed by the local jurisdiction, bioretention areas can be placed on a separate, dedicated parcel with joint ownership.



Bioretention facility receiving drainage from individual lots and the street in a residential subdivision.

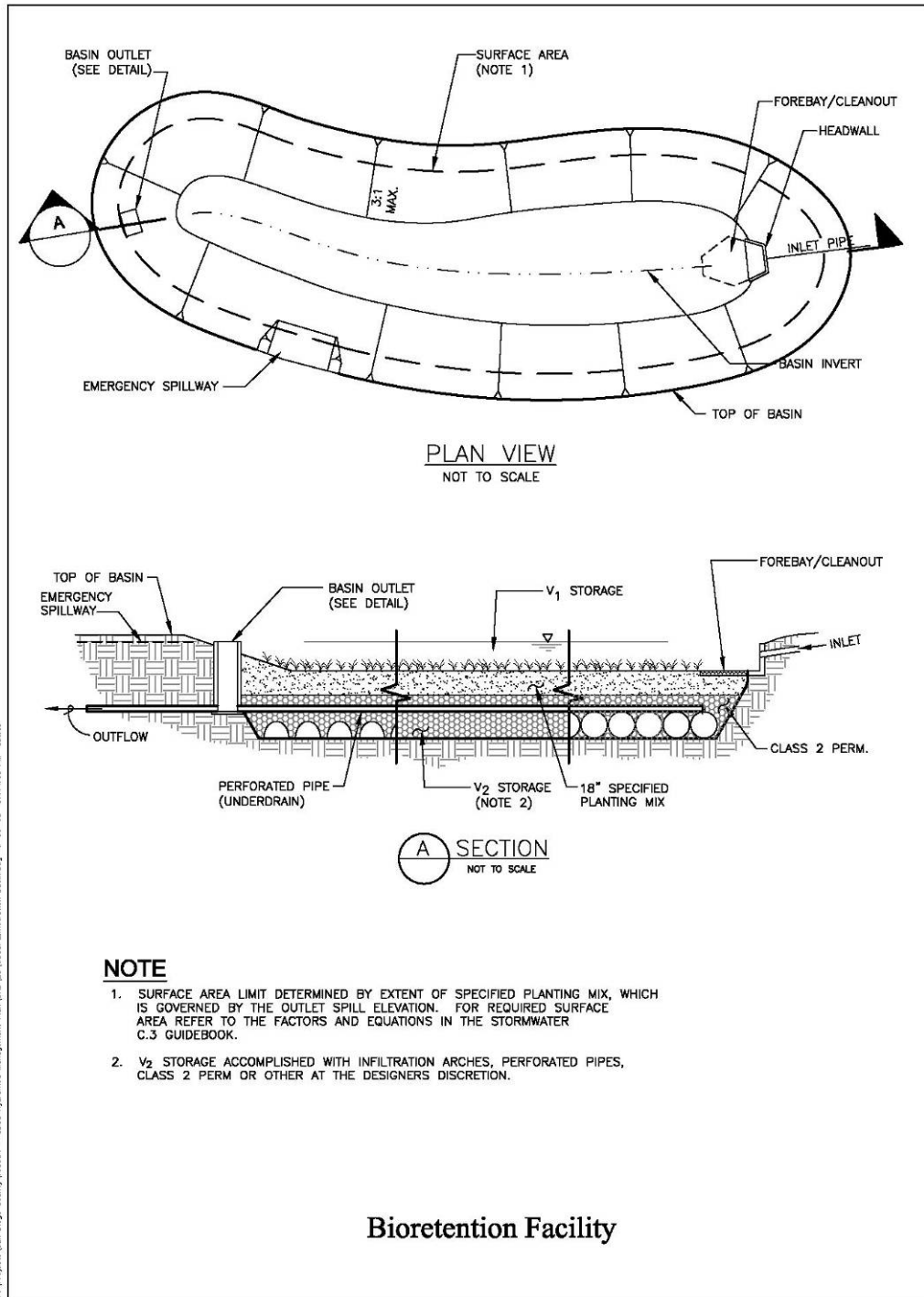
Sloped sites. Bioretention facilities must be constructed as a basin, or series of basins, with the circumference of each basin set level. It may be necessary to add curbs or low retaining walls.



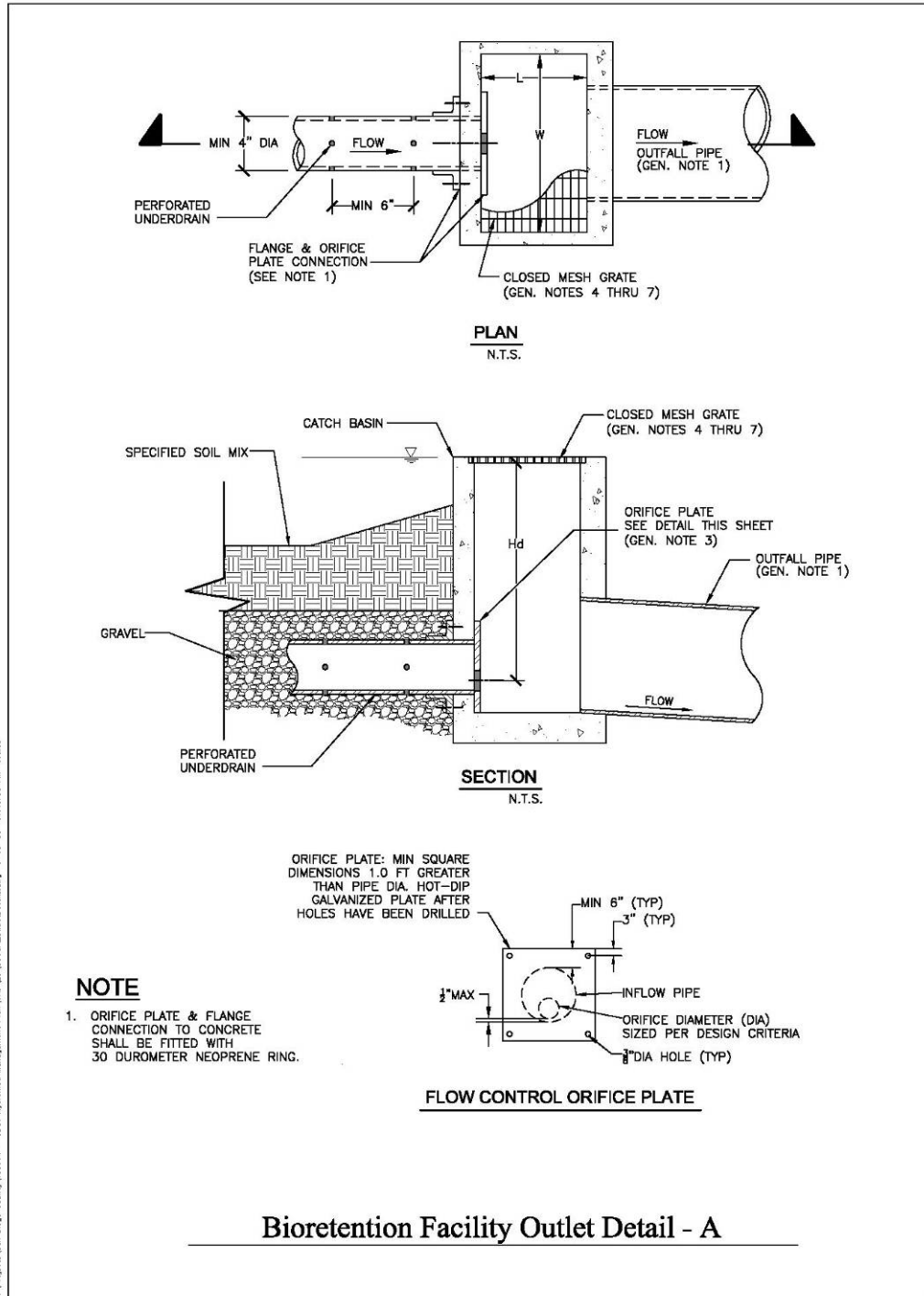
Bioretention facility configured as a parking median.
Note use of bollards in place of curbs, eliminating the need for curb cuts.

Design Checklist for Bioretention

- Volume or depth of surface reservoir meets or exceeds minimum.
- 18" depth "loamy sand" soil mix with minimum long-term percolation rate of 5"/hour.
- Area of soil mix meets or exceeds minimum.
- Perforated pipe underdrain bedded in "Class 2 perm" with connection and sufficient head to storm drain or discharge point (except in "A" or "B" soils).
- No filter fabric.
- Underdrain has a clean-out port consisting of a vertical, rigid, non-perforated PVC pipe, with a minimum diameter of 6 inches and a watertight cap.
- Location and footprint of facility are shown on site plan and landscaping plan.
- Bioretention area is designed as a basin (level edges) or a series of basins, and grading plan is consistent with these elevations. If facility is designed as a swale, check dams are set so the lip of each dam is at least as high as the toe of the next upstream dam.
- Inlets are 12" wide, have 4"-6" reveal and an apron or other provision to prevent blockage when vegetation grows in, and energy dissipation as needed.
- Overflow connected to a downstream storm drain or approved discharge point.
- Emergency spillage will be safely conveyed overland.
- Plantings are suitable to the climate and a well-drained soil.
- Irrigation system with connection to water supply.
- Vaults, utility boxes, and light standards are located outside the minimum soil mix surface area.
- When excavating, avoid smearing of the soils on bottom and side slopes. Minimize compaction of native soils and "rip" soils if clayey and/or compacted. Protect the area from construction site runoff.



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Flow-through Planter



Portland 2004 Stormwater Manual

Flow-through planters treat and detain runoff without allowing seepage into the underlying soil. They can be used next to buildings and on slopes where stability might be affected by adding soil moisture.

Flow-through planters typically receive runoff via downspouts leading from the roofs of adjacent buildings. However, they can also be set in-ground and receive sheet flow from adjacent paved areas.

Pollutants are removed as runoff passes through the soil layer and is collected in an underlying layer of gravel or drain rock. A perforated-pipe underdrain is typically connected to a storm drain or other discharge point. An overflow inlet conveys flows which exceed the capacity of the planter.

► CRITERIA

Treatment only. For development projects subject only to runoff treatment requirements, the following criteria apply:

Best Uses

- Management of roof runoff
- Next to buildings
- Dense urban areas
- Where infiltration is not desired

Advantages

- Can be used next to structures
- Versatile
- Can be any shape
- Low maintenance

Limitations

- Can be used for flow-control only on sites with “C” and “D” soils
- Requires underdrain
- Requires 3-4 feet of head

Parameter	Criterion
Soil mix depth	18 inches minimum
Soil mix minimum percolation rate	5 inches per hour minimum sustained (10 inches per hour initial rate recommended)
Soil mix surface area	0.04 times tributary impervious area (or equivalent)
Surface reservoir depth	6" minimum; may be sloped to 4" where adjoining walkways.
Underdrain	Typically used. Perforated pipe embedded in gravel ("Class 2 permeable" recommended), connected to storm drain or other accepted discharge point.

► DETAILS

Configuration. The planter must be level. To avoid standing water in the subsurface layer, set the perforated pipe underdrain and orifice as nearly flush with the planter bottom as possible.

Inlets. Protect plantings from high-velocity flows by adding rocks or other energy-dissipating structures at downspouts and other inlets.

Soil mix. The required soil mix is similar to a loamy sand. It must maintain a minimum percolation rate of 5" per hour throughout the life of the facility, and it must be suitable for maintaining plant life. Typically, on-site soils will not be suitable due to clay content.

Gravel storage and drainage layer. "Class 2 permeable," Caltrans specification 68-1.025, is recommended. Open-graded crushed rock, washed, may be used, but requires 4"-6" of washed pea gravel be substituted at the top of the crushed rock layer. **Do not use filter fabric** to separate the soil mix from the gravel drainage layer.

Emergency overflow. The planter design and installation should anticipate extreme events and potential clogging of the overflow and route emergency overflows safely.

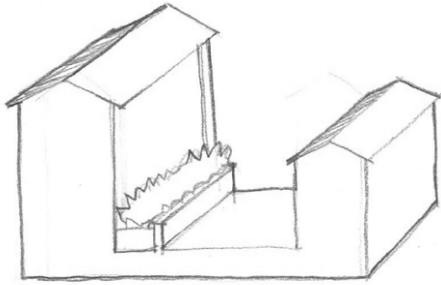
► APPLICATIONS

Adjacent to buildings. Flow-through planters may be located adjacent to buildings, where the planter vegetation can soften the visual effect of the building wall. A setback with a raised planter box may be appropriate even in some neo-traditional pedestrian-oriented urban streetscapes.

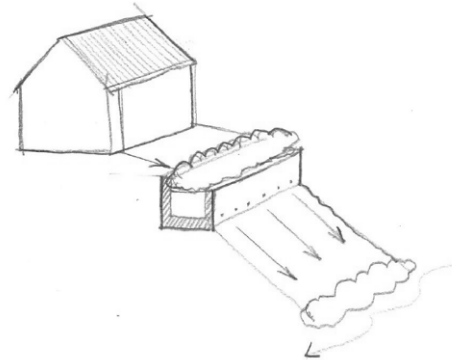
At plaza level. Flow-through planters have been successfully incorporated into podium-style developments, with the planters placed on the plaza level and receiving runoff from the tower

roofs above. Runoff from the plaza level is typically managed separately by additional flow-through planters or bioretention facilities located at street level.

Steep slopes. Flow-through planters provide a means to detain and treat runoff on slopes that cannot accept infiltration from a bioretention facility. The planter can be built into the slope similar to a retaining wall. The design should consider the need to access the planter for periodic maintenance. Flows from the planter underdrain and overflow must be directed in accordance with local requirements. It is sometimes possible to disperse these flows to the downgradient hillside.



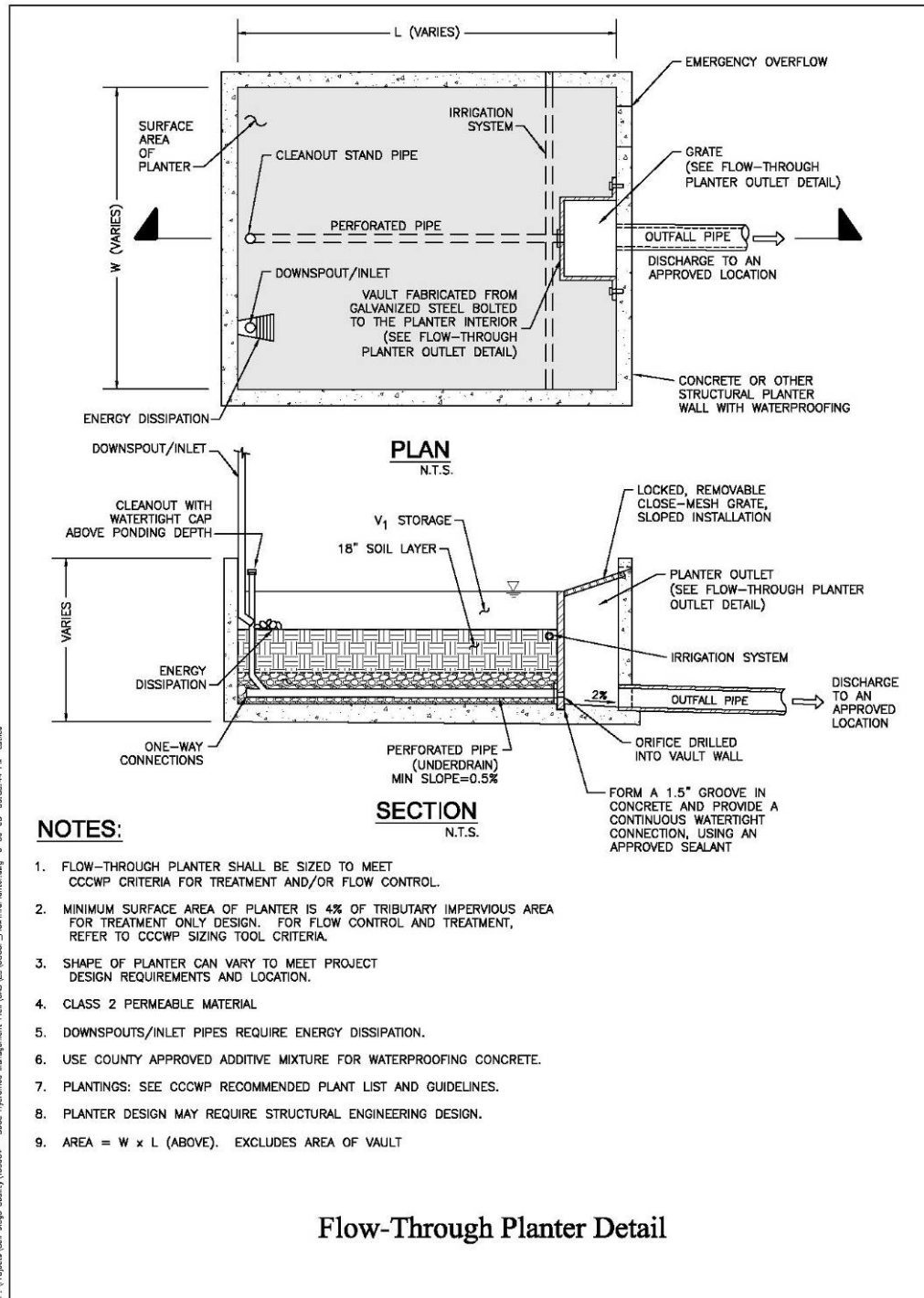
Flow-through planter on the plaza level of a podium-style development.



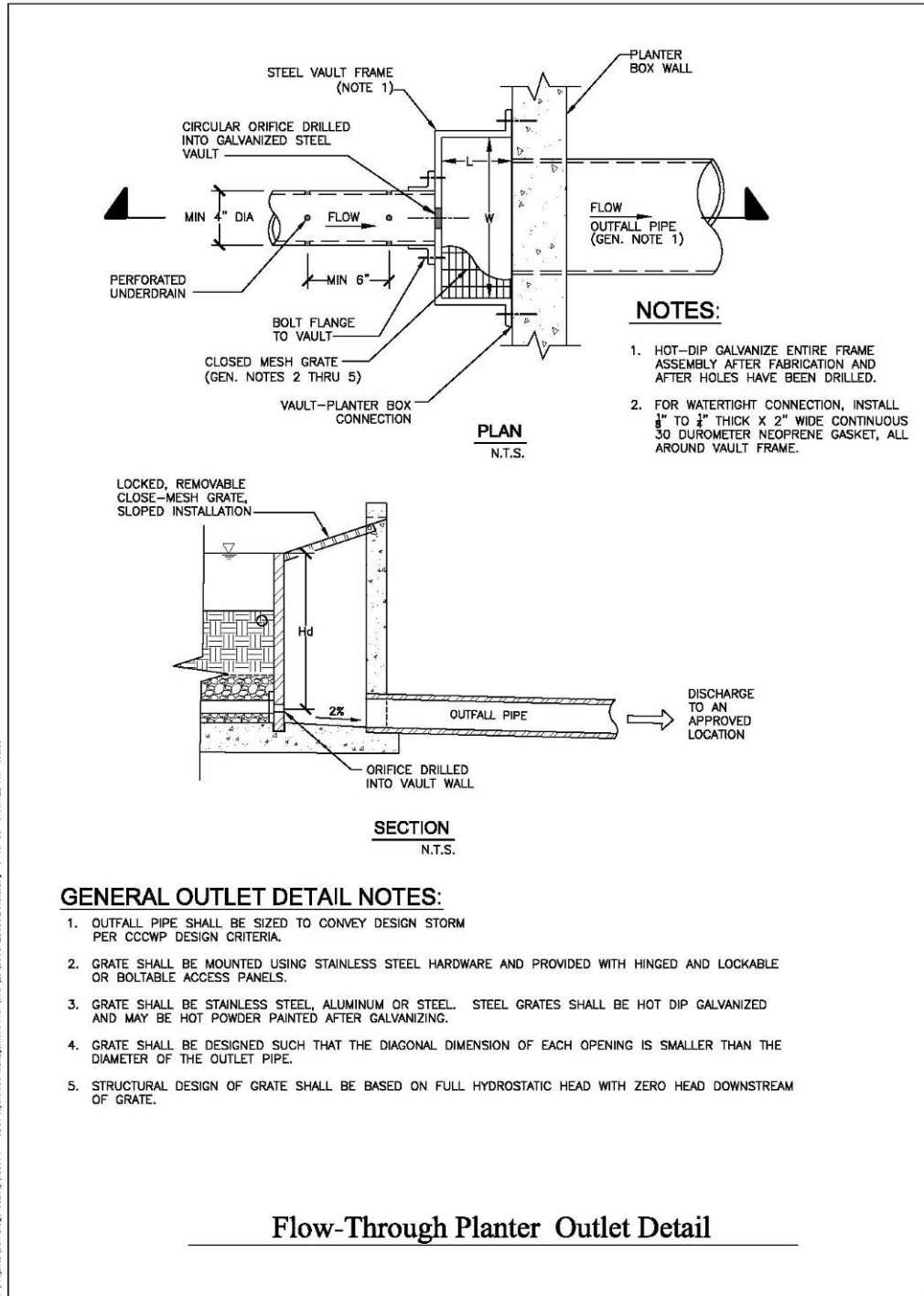
Flow-through planter built into a hillside. Flows from the underdrain and overflow must be directed in accordance with local requirements.

Design Checklist for Flow-through Planter

- Reservoir depth is 4-6" minimum.
- 18" depth "loamy sand" soil mix with minimum long-term infiltration rate of 5"/hour.
- Area of soil mix meets or exceeds minimum.
- "Class 2 perm" drainage layer.
- No filter fabric.
- Perforated pipe underdrain with outlet located flush or nearly flush with planter bottom. Connection with sufficient head to storm drain or discharge point.
- Underdrain has a clean-out port consisting of a vertical, rigid, non-perforated PVC pipe, with a minimum diameter of 6 inches and a watertight cap.
- Overflow connected to a downstream storm drain or approved discharge point.
- Location and footprint of facility are shown on site plan and landscaping plan.
- Planter is set level.
- Emergency spillage will be safely conveyed overland.
- Plantings are suitable to the climate and a well-drained soil.
- Irrigation system with connection to water supply.



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Dry Wells and Infiltration Basins

The typical dry well is a prefabricated structure, such as an open-bottomed vault or box, placed in an excavation or boring. The vault may be empty, which provides maximum space efficiency, or may be filled in rock.

An infiltration basin has the same functional components—a volume to store runoff and sufficient area to infiltrate that volume into the native soil—but is open rather than covered.

► CRITERIA

Dry wells and infiltration basins must be designed with the minimum volume calculated by Equation 4-8 using a unit volume based on the County of San Diego's 85th Percentile Isopluvial Map.

Consult with the local jurisdiction engineer regarding the need to verify soil permeability and other site conditions are suitable for dry wells and infiltration basins. Some proposed criteria are on Page 5-12 of Caltrans' 2004 *BMP Retrofit Pilot Study Final Report* (CTSW-RT-01-050).

The infiltration rate and infiltrative area must be sufficient to drain a full facility within 72 hours.

► DETAILS

Dry wells should be sited to allow for the potential future need for removal and replacement.

In locations where native soils are coarser than a medium sand, the area directly beneath the facility should be over-excavated by two feet and backfilled with sand as a groundwater protection measure.

Best Uses

- Alternative to bioretention in areas with permeable soils

Advantages

- Compact footprint
- Can be installed in paved areas

Limitations

- Can be used only on sites with "A" and "B" soils
- Requires minimum of 10' from bottom of facility to seasonal high groundwater
- Not suitable for drainage from some industrial areas or arterial roads
- Must be maintained to prevent clogging.

Design Checklist for Dry Well

- Volume and infiltrative area meet or exceed minimum.
- Overflow connected to a downstream storm drain or approved discharge point.
- Emergency spillage will be safely conveyed overland.
- Depth from bottom of the facility to seasonally high groundwater elevation is $\geq 10'$.
- Areas tributary to the facility do not include automotive repair shops; car washes; fleet storage areas (Bus, truck, etc.); nurseries, or other uses that may present an exceptional threat to groundwater quality.
- Underlying soils are in Hydrologic Soil Group A or B. Infiltration rate is sufficient to ensure a full basin will drain completely within 72 hours. Soil infiltration rate has been confirmed.
- Set back from structures 10' or as recommended by structural or geotechnical engineer

Cistern with Bioretention Facility

A cistern in series with a bioretention facility can meet treatment requirements where space is limited. In this configuration, the cistern is equipped with a flow-control orifice and the bioretention facility is sized to treat a trickle outflow from the cistern.

► CRITERIA

Cistern. The cistern must detain the volume calculated by Equation 4-8 and must include an orifice or other device designed for a 24-hour drawdown time.

Bioretention facility. See the design sheet for bioretention facilities. The area of the bioretention facility must be sized to treat the maximum discharge flow, assuming a percolation rate of 5" per hour through the engineered soil.

Use with sand filter. A cistern in series with a sand filter can meet treatment requirements. See the discussion of treatment facility selection in Chapter 2 and the design guidance for sand filters in Chapter 4.

► DETAILS

Flow-control orifice. The cistern must be equipped with an orifice plate or other device to limit flow to the bioretention area.

Preventing mosquito harborage. Cisterns should be designed to drain completely, leaving no standing water. Drains should be located flush with the bottom of the cistern. Alternatively—or in addition—all entry and exit points, should be provided with traps or sealed or screened to prevent mosquito entry. Note mosquitoes can enter through openings $\frac{1}{16}$ " or larger and will fly for many feet through pipes as small as $\frac{1}{4}$ ".

Exclude debris. Provide leaf guards and/or screens to prevent debris from accumulating in the cistern.

Ensure access for maintenance. Design the cistern to allow for cleanout. Avoid creating the need for maintenance workers to enter a confined space. Ensure the outlet orifice can be easily accessed for cleaning and maintenance.

Best Uses

- In series with a bioretention facility to meet treatment requirement in limited space.
- Management of roof runoff
- Dense urban areas

Advantages

- Storage volume can be in any configuration

Limitations

- Somewhat complex to design, build, and operate
- Requires head for both cistern and bioretention facility

► APPLICATIONS

Shallow ponding on a flat roof. The “cistern” storage volume can be designed in any configuration, including simply storing rainfall on the roof where it falls and draining it away slowly. See the County of San Diego’s 85th percentile isopluvial diagrams for required average depths.

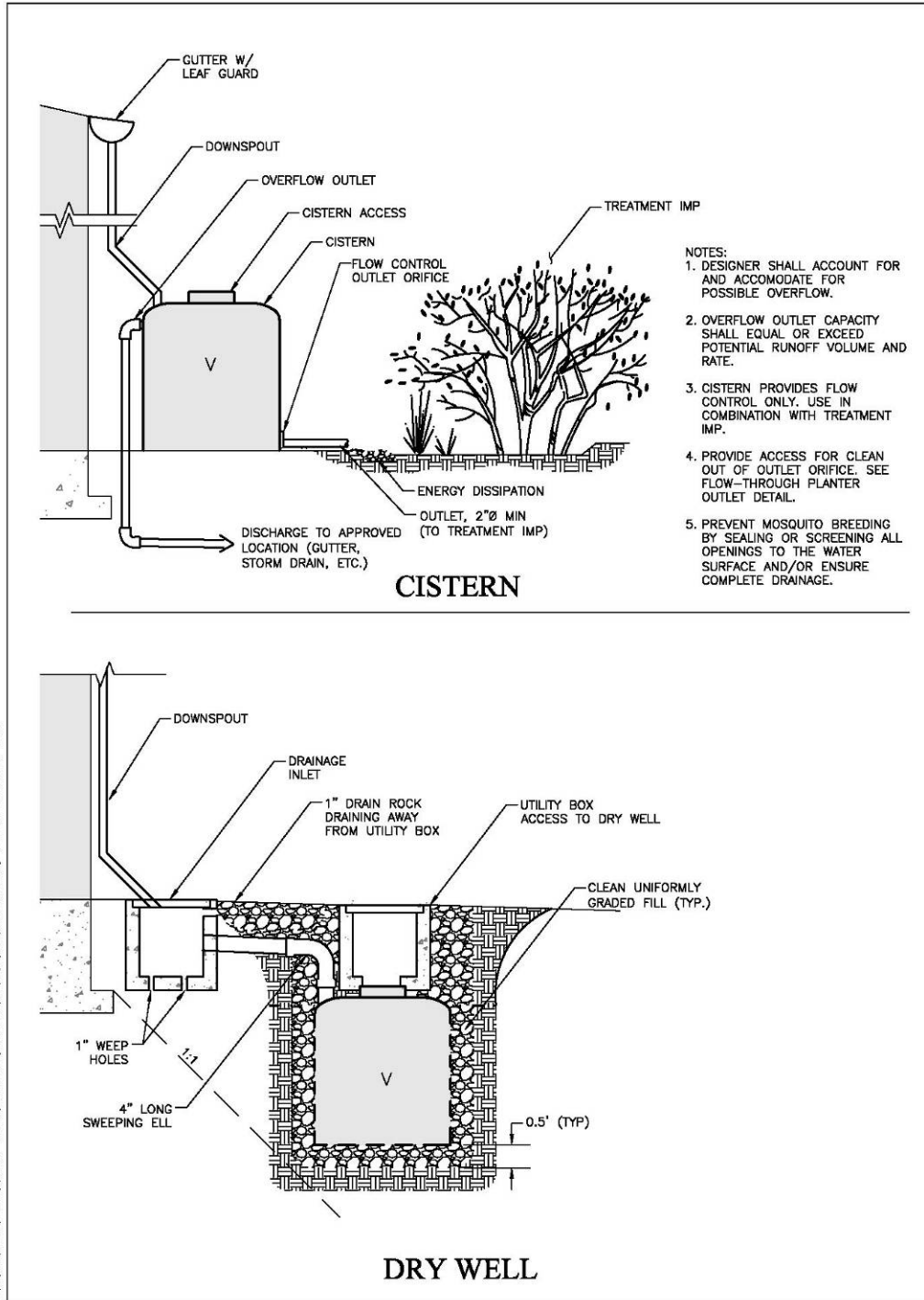
Cistern attached to a building and draining to a planter. This arrangement allows a planter box to be constructed with a smaller area.

Vault with pumped discharge to bioretention facility. In this arrangement, runoff from a parking lot and/or building roofs can be captured and detained underground and then pumped to a bioretention facility on the surface. Alternatively, treatment can be accomplished with a sand filter. See the discussion of selection of stormwater treatment facilities in Chapter 2.

Water harvesting or graywater reuse. It may be possible to create a site-specific design that uses cisterns to achieve stormwater flow control, stormwater treatment, and rainwater reuse for irrigation or indoor uses (water harvesting). Facilities must meet criteria for capturing and treating the volume specified by Equation 4-8. This volume must be allowed to empty within 24 hours so runoff from additional storms, which may follow, is also captured and treated. Additional volume may be required if the system also stores runoff for longer periods for reuse. Indoor uses of non-potable water may be restricted or prohibited. Check with municipal staff.

Design Checklist for Cistern

- Volume meets or exceeds minimum.
- Outlet with orifice or other flow-control device restricts flow and is designed to provide a 24-hour drawdown time.
- Outlet is piped to a bioretention facility designed to treat the maximum discharge from the cistern orifice.
- Cistern is designed to drain completely and/or sealed to prevent mosquito harborage.
- Design provides for exclusion of debris and accessibility for maintenance.
- Overflow connected to a downstream storm drain or approved discharge point.
- Emergency spillage will be safely conveyed overland.



Operation & Maintenance of Stormwater Facilities

How to prepare a customized Stormwater Maintenance Plan for the treatment BMPs on your site.

The stormwater NPDES Permit requires the City to verify all treatment and flow-control facilities are adequately maintained. Facilities you install as part of your project will be verified for effectiveness and proper performance. The City may also verify the ongoing function of stormwater management features that are not treatment or flow control facilities, such as permeable pavements and limitations on impervious area.

Operation and maintenance of stormwater facilities is a six-stage process:

1. Determine who will own the facility and be responsible for the maintenance of treatment facilities. Identify the means by which ongoing maintenance will be assured (for example, a maintenance agreement that runs with the land).
2. Identify typical maintenance requirements, and allow for these requirements in your project planning and preliminary design.
3. Prepare a maintenance plan for the site incorporating detailed requirements for each treatment and flow-control facility.
4. Maintain the facilities from the time they are constructed until ownership and maintenance responsibility is formally transferred.
5. Formally transfer operation and maintenance responsibility to the site owner or occupant. A warranty, secured by a bond, or other financial instrument, may be required to secure against lack of performance due to flaws in design or construction.
6. Maintain the facilities in perpetuity and comply with your municipality's self-inspection, reporting, and verification requirements.

See the schedule for these stages in Table 5-1.

Stage 1: Ownership and Responsibility

You must specify a means to ensure maintenance of treatment and flow-control facilities in perpetuity.

Depending on the intended use of your site, this may require one or more of the following:

- Execution of a maintenance agreement that “runs with the land.”
- Formation of a new community facilities district or other special district, or addition of the properties to an existing special district.
- Dedication of fee title or easement transferring ownership of the facility (and the land under it) to the City.

Ownership and maintenance responsibility for treatment and flow-control facilities should be discussed at the beginning of project planning, typically at the pre-application meeting for planning and zoning review. Experience has shown provisions to finance and implement maintenance of treatment and flow-control facilities can be a major stumbling block to project approval, particularly for small residential subdivisions. (See “New Subdivisions” in Chapter 1.)

► PRIVATE OWNERSHIP AND MAINTENANCE

The municipality may require—as a condition of project approval—that a maintenance agreement be executed.

TABLE 5-1. Schedule for Planning Operation and Maintenance of Stormwater Treatment BMPs.

<i>Stage</i>	<i>Description</i>	<i>Schedule</i>
1	Determine facility ownership and maintenance responsibility	Discuss with planning staff at pre-application meeting
2	Identify typical maintenance requirements	In initial submittal, coordinate with planning & zoning application
3	Develop detailed operation and maintenance plan	As required by municipality
4	Interim operation and maintenance of facilities	During and following construction including warranty period
5	Formal transfer of operation & maintenance responsibility	On sale and transfer of property or permanent occupancy
6	Ongoing maintenance and compliance with inspection & reporting requirements	In perpetuity

Typically, these agreements may provide that the City may collect a management and/or inspection fee established by a standard fee schedule. The agreement may provide that, if the property owner fails to maintain the stormwater facility, the City may enter the property, restore the stormwater facility to good working order and obtain reimbursement, including administrative costs, from the property owner.

Stage 2: General Maintenance Requirements

Include in your Project Submittal a general description of anticipated facility maintenance requirements. This will help ensure that:

- Ongoing costs of maintenance have been considered in your facility selection and design.
- Site and landscaping plans provide for access for inspections and by maintenance equipment.
- Landscaping plans incorporate irrigation requirements for facility plantings.
- Initial maintenance and replacement of facility plantings is incorporated into landscaping contracts and guarantees.

Fact sheets available on the Project Clean Water web page describe general maintenance requirements for the types of stormwater facilities featured in the LID Design Guide (Chapter 4). You can use this information to specify general maintenance requirements in your Project Submittal.

Maintenance fact sheets for conventional stormwater facilities are available in the California Stormwater BMP Handbooks.

Stage 3: Detailed Maintenance Plan

Prepare and submit a detailed maintenance plan. Your detailed maintenance plan should be kept on-site for use by maintenance personnel and during site inspections. It is also recommended that a copy of your initial Project Submittal be kept onsite as a reference.

► YOUR DETAILED MAINTENANCE PLAN: STEP BY STEP

The following step-by-step guidance will help you prepare your detailed maintenance plan.

Preparation of the plan will require familiarity with your stormwater facilities as they have been or will be constructed and a fair amount of “thinking through” plans for their operation and maintenance.

► STEP 1: DESIGNATE RESPONSIBLE INDIVIDUALS

To begin creating your detailed maintenance plan, designate and identify:

- The individual who will have direct responsibility for the maintenance of stormwater controls. This individual should be the designated contact with City inspectors and should sign self-inspection reports and any correspondence with the City regarding verification inspections.
- Employees or contractors who will report to the designated contact and are responsible for carrying out BMP operation and maintenance.
- The corporate officer authorized to negotiate and execute any contracts that might be necessary for future changes to operation and maintenance or to implement remedial measures if problems occur.
- Your designated respondent to problems, such as clogged drains or broken irrigation mains, that would require immediate response should they occur during off-hours.

Updated contact information must be provided to the City immediately whenever a property is sold and whenever designated individuals or contractors change.

Draw or sketch an organization chart to show the relationships of authority and responsibility between the individuals responsible for maintenance. This need not be elaborate, particularly for smaller organizations.

Describe how funding for BMP operation and maintenance will be assured, including sources of funds, budget category for expenditures, process for establishing the annual maintenance budget, and process for obtaining authority should unexpected expenditures for major corrective maintenance be required.

Describe how your organization will accommodate initial training of staff or contractors regarding the purpose, mode of operation, and maintenance requirements for the stormwater

facilities on your site. Also, describe how your organization will ensure ongoing training as needed and in response to staff changes.

► STEP 2: SUMMARIZE DRAINAGE AND BMPS

Incorporate the following information from your Project Submittal into your maintenance plan:

- Figures delineating and designating pervious and impervious areas.
- Figures showing locations of stormwater facilities on the site.
- Tables of pervious and impervious areas served by each facility.

Review the Project Submittal narrative, if any, that describes each facility and its tributary drainage area and update the text to incorporate any changes that may have occurred during planning and zoning review, building permit review, or construction. Incorporate the updated text into your maintenance plan.

► STEP 3: DOCUMENT FACILITIES "AS BUILT"

Include the following information from final construction drawings:

- Plans, elevations, and details of all facilities. Annotate if necessary with designations used in the initial Project Submittal.
- Design information or calculations submitted in the detailed design phase (i.e., not included in the initial Project Submittal.)
- Specifications of construction for facilities, including sand or soil, compaction, pipe materials and bedding.

In the maintenance plan, note field changes to design drawings, including changes to any of the following:

- Location and layouts of inflow piping, flow splitter boxes, and piping to off-site discharge
- Depths and layering of soil, sand, or gravel
- Placement of filter fabric or geotextiles
- Changes or substitutions in soil or other materials.
- Natural soils encountered (e.g., sand or clay lenses)

► STEP 4: PREPARE MAINTENANCE PLANS FOR EACH FACILITY

Prepare a maintenance plan, schedule, and inspection checklists (routine, annual, and after major storms) for each facility. Plans and schedules for two or more similar facilities on the same site may be combined.

Use the following resources to prepare your customized maintenance plan, schedule, and checklists.

- Specific information noted in Steps 2 and 3, above.
- Other input from the facility designer, City staff, or other sources.
- Operation and Maintenance Fact Sheets (available on the Project Clean Water website).

Note any particular characteristics or circumstances that could require attention in the future, and include any troubleshooting advice.

Also include manufacturer’s data, operating manuals, and maintenance requirements for any:

- Pumps or other mechanical equipment.
- Proprietary devices used as BMPs.

Manufacturers’ publications should be referenced in the text (including models and serial numbers where available). Copies of the manufacturers’ publications should be included as an attachment in the back of your maintenance plan or as a separate document.

► STEP 5: COMPILE MAINTENANCE PLAN

The following general outline is provided as an example.

- I. Inspection and Maintenance Log
- II. Updates, Revisions and Errata
- III. Introduction
 - A. Narrative overview describing the site; drainage areas, routing, and discharge points; and treatment facilities.
- IV. Responsibility for Maintenance
 - A. General
 - (1) Name and contact information for responsible individual(s).
 - (2) Organization chart or charts showing organization of the maintenance function and location within the overall organization.
 - (3) Reference to Operation and Maintenance Agreement (if any). A copy of the agreement should be attached.
 - (4) Maintenance Funding

- (1) Sources of funds for maintenance
 - (2) Budget category or line item
 - (3) Description of procedure and process for ensuring adequate funding for maintenance
- B. Staff Training Program
- C. Records
- D. Safety
- V. Summary of Drainage Areas and Stormwater Facilities
 - A. Drainage Areas
 - (1) Drawings showing pervious and impervious areas (copied or adapted from initial Project Submittal).
 - (2) Designation and description of each drainage area and how flow is routed to the corresponding facility.
 - B. Treatment and Flow-Control Facilities
 - (1) Drawings showing location and type of each facility
 - (2) General description of each facility (Consider a table if more than two facilities)
 - (1) Area drained and routing of discharge.
 - (2) Facility type and size
- VI. Facility Documentation
 - A. “As-built” drawings of each facility (design drawings in the draft Plan)
 - B. Manufacturer’s data, manuals, and maintenance requirements for pumps, mechanical or electrical equipment, and proprietary facilities (include a “placeholder” in the draft plan for information not yet available).
 - C. Specific operation and maintenance concerns and troubleshooting
- VII. Maintenance Schedule or Matrix
 - A. Maintenance Schedule for each facility with specific requirements for:
 - (1) Routine inspection and maintenance
 - (2) Annual inspection and maintenance

(3) Inspection and maintenance after major storms

B. Service Agreement Information

Assemble and make copies of your maintenance plan. One copy must be submitted to the municipality, and at least one copy kept on-site. Here are some suggestions for formatting the maintenance plan:

- Format plans to 8½" x 11" to facilitate duplication, filing, and handling.
- Include the revision date in the footer on each page.
- Scan graphics and incorporate with text into a single electronic file. Keep the electronic file backed-up so that copies of the maintenance plan can be made if the hard copy is lost or damaged.

► STEP 6: UPDATES

Your maintenance plan will be a living document.

Operation and maintenance personnel may change; mechanical equipment may be replaced, and additional maintenance procedures may be needed. Throughout these changes, the maintenance plan must be kept up-to-date.

Updates may be transmitted to the local municipality at any time. However, at a minimum, updates to the maintenance plan must accompany the annual inspection report.

Stage 4: Interim Maintenance

Applicants will typically be required to warranty stormwater facilities against lack of performance due to flaws in design or construction. The warranty may need to be secured by a bond or other financial instrument.

Stage 5: Transfer Responsibility

As part of the detailed maintenance plan, note the expected date when responsibility for operation and maintenance will be transferred. Notify the City when this transfer of responsibility takes place.

Stage 6: Operation & Maintenance Verification

The City implements an operation and maintenance verification program, including periodic site inspections.

City staff will perform inspections at least once prior to the rainy season annually.

References and Resources

- *Urban Runoff Quality Management* (WEF/ASCE, 1998). pp 186-189.
- *Stormwater Management Manual* (Portland, 2004). Chapter 3.
- *California Storm Water Best Management Practice Handbooks* (CASQA, 2003).
- *Best Management Practices Guide* (Public Telecommunications Center for [Hampton Roads](#), 2002).
- Operation, Maintenance, and Management of Stormwater Management Systems (Watershed Management Institute, 1997)

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WEF/ASCE. 1998. Water Environment Foundation/American Society of Civil Engineers. *Urban Runoff Quality Management*. WEF Manual of Practice No. 23, ASCE Manual and Report on Engineering Practice No. 87. ISBN 1-57278-039-8 ISBN 0-7844-0174-8. 259 pp. Access: Order from WEF or ASCE, www.wef.org or www.asce.org.

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APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

How to use this worksheet:

1. Review Column 1 and identify which of these potential sources of stormwater pollutants apply to your site. Check each box that applies.
2. Review Column 2 and incorporate all of the corresponding applicable BMPs in your Project-Specific SUSMP drawings.
3. Review Columns 3 and 4 and incorporate all of the corresponding applicable permanent controls and operational BMPs in a table in your Project-Specific SUSMP. Use the format shown in Table 3-1 on page 31 of the *SUSMP*. Describe your specific BMPs in an accompanying narrative, and explain any special conditions or situations that required omitting BMPs or substituting alternatives.

IF THESE SOURCES WILL BE ON THE PROJECT SITE	... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs			
1	2	3	4	
Potential Sources of Runoff Pollutants	Permanent Controls—Show on SUSMP Drawings	Permanent Controls—List in SUSMP Table and Narrative	Operational BMPs—Include in SUSMP Table and Narrative	
<input type="checkbox"/> A. On-site storm drain inlets	<input type="checkbox"/> Locations of inlets.	<input type="checkbox"/> Mark all inlets with the words “No Dumping! Flows to Bay” or similar.	<input type="checkbox"/> Maintain and periodically repaint or replace inlet markings. <input type="checkbox"/> Provide stormwater pollution prevention information to new site owners, lessees, or operators. <input type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-44, “Drainage System Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com <input type="checkbox"/> Include the following in lease agreements: “Tenant shall not allow anyone to discharge anything to storm drains or to store or deposit materials so as to create a potential discharge to storm drains.”	
<input type="checkbox"/> B. Interior floor drains and elevator shaft sump pumps	<p style="text-align: center;">-----</p>	<input type="checkbox"/> State that interior floor drains and elevator shaft sump pumps will be plumbed to sanitary sewer.	<input type="checkbox"/> Inspect and maintain drains to prevent blockages and overflow.	

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs			
1	2	3	4
<p>IF THESE SOURCES WILL BE ON THE PROJECT SITE</p> <p>Potential Sources of Runoff Pollutants</p>	<p>Permanent Controls—Show on SUSMP Drawings</p>	<p>Permanent Controls—List in SUSMP Table and Narrative</p>	<p>Operational BMPs—Include in SUSMP Table and Narrative</p>
<p><input type="checkbox"/> C. Interior parking garages</p> <p><input type="checkbox"/> D1. Need for future indoor & structural pest control</p>	<p>-----</p> <p>-----</p>	<p><input type="checkbox"/> State that parking garage floor drains will be plumbed to the sanitary sewer.</p> <p><input type="checkbox"/> Note building design features that discourage entry of pests.</p>	<p><input type="checkbox"/> Inspect and maintain drains to prevent blockages and overflow.</p> <p><input type="checkbox"/> Provide Integrated Pest Management information to owners, lessees, and operators.</p>
<p><input type="checkbox"/> D2. Landscape/ Outdoor Pesticide Use</p>	<p><input type="checkbox"/> Show locations of native trees or areas of shrubs and ground cover to be undisturbed and retained.</p> <p><input type="checkbox"/> Show self-retaining landscape areas, if any.</p> <p><input type="checkbox"/> Show stormwater treatment facilities.</p>	<p>State that final landscape plans will accomplish all of the following.</p> <p><input type="checkbox"/> Preserve existing native trees, shrubs, and ground cover to the maximum extent possible.</p> <p><input type="checkbox"/> Design landscaping to minimize irrigation and runoff, to promote surface infiltration where appropriate, and to minimize the use of fertilizers and pesticides that can contribute to stormwater pollution.</p> <p><input type="checkbox"/> Where landscaped areas are used to retain or detain stormwater, specify plants that are tolerant of saturated soil conditions.</p> <p><input type="checkbox"/> Consider using pest-resistant plants, especially adjacent to hardscape.</p> <p><input type="checkbox"/> To insure successful establishment, select plants appropriate to site soils, slopes, climate, sun, wind, rain, land use, air movement, ecological consistency, and plant interactions.</p>	<p><input type="checkbox"/> Maintain landscaping using minimum or no pesticides.</p> <p><input type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-41, “Building and Grounds Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p> <p><input type="checkbox"/> Provide IPM information to new owners, lessees and operators.</p>

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs				
1	2	3	4	
Potential Sources of Runoff Pollutants	Permanent Controls—Show on SUSMP Drawings	Permanent Controls—List in SUSMP Table and Narrative	Operational BMPs—Include in SUSMP Table and Narrative	
<p><input type="checkbox"/> E. Pools, spas, ponds, decorative fountains, and other water features.</p> <p><input type="checkbox"/> F. Food service</p>	<p><input type="checkbox"/> Show location of water feature and a sanitary sewer cleanout in an accessible area within 10 feet.</p> <p><input type="checkbox"/> For restaurants, grocery stores, and other food service operations, show location (indoors or in a covered area outdoors) of a floor sink or other area for cleaning floor mats, containers, and equipment.</p> <p><input type="checkbox"/> On the drawing, show a note that this drain will be connected to a grease interceptor before discharging to the sanitary sewer.</p>	<p><input type="checkbox"/> If the local municipality requires pools to be plumbed to the sanitary sewer, place a note on the plans and state in the narrative that this connection will be made according to local requirements.</p> <p><input type="checkbox"/> Describe the location and features of the designated cleaning area.</p> <p><input type="checkbox"/> Describe the items to be cleaned in this facility and how it has been sized to insure that the largest items can be accommodated.</p>	<p><input type="checkbox"/> See applicable operational BMPs in Fact Sheet SC-72, “Fountain and Pool Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p>	

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs				
1	2	3	4	
<p>IF THESE SOURCES WILL BE ON THE PROJECT SITE</p> <p>Potential Sources of Runoff Pollutants</p> <p><input type="checkbox"/> G. Refuse areas</p>	<p>Permanent Controls—Show on SUSMP Drawings</p> <p><input type="checkbox"/> Show where site refuse and recycled materials will be handled and stored for pickup. See local municipal requirements for sizes and other details of refuse areas.</p> <p><input type="checkbox"/> If dumpsters or other receptacles are outdoors, show how the designated area will be covered, graded, and paved to prevent runoff and show locations of berms to prevent runoff from the area.</p> <p><input type="checkbox"/> Any drains from dumpsters, compactors, and tallow bin areas shall be connected to a grease removal device before discharge to sanitary sewer.</p>	<p>Permanent Controls—List in SUSMP Table and Narrative</p> <p><input type="checkbox"/> State how site refuse will be handled and provide supporting detail to what is shown on plans.</p> <p><input type="checkbox"/> State that signs will be posted on or near dumpsters with the words “Do not dump hazardous materials here” or similar.</p>	<p>Operational BMPs—Include in SUSMP Table and Narrative</p> <p><input type="checkbox"/> State how the following will be implemented:</p> <p>Provide adequate number of receptacles. Inspect receptacles regularly; repair or replace leaky receptacles. Keep receptacles covered. Prohibit/prevent dumping of liquid or hazardous wastes. Post “no hazardous materials” signs. Inspect and pick up litter daily and clean up spills immediately. Keep spill control materials available on-site. See Fact Sheet SC-34, “Waste Handling and Disposal” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p>	
<p><input type="checkbox"/> H. Industrial processes.</p>	<p><input type="checkbox"/> Show process area.</p>	<p><input type="checkbox"/> If industrial processes are to be located on site, state: “All process activities to be performed indoors. No processes to drain to exterior or to storm drain system.”</p>	<p><input type="checkbox"/> See Fact Sheet SC-10, “Non-Stormwater Discharges” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p>	

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs				
1	2	3	4	
Potential Sources of Runoff Pollutants	Permanent Controls—Show on SUSMP Drawings	Permanent Controls—List in SUSMP Table and Narrative	Operational BMPs—Include in SUSMP Table and Narrative	
<p><input type="checkbox"/> 1. Outdoor storage of equipment or materials. (See rows J and K for source control measures for vehicle cleaning, repair, and maintenance.)</p>	<p><input type="checkbox"/> Show any outdoor storage areas, including how materials will be covered. Show how areas will be graded and bermed to prevent run-on or run-off from area.</p> <p><input type="checkbox"/> Storage of non-hazardous liquids shall be covered by a roof and/or drain to the sanitary sewer system, and be contained by berms, dikes, liners, or vaults.</p> <p><input type="checkbox"/> Storage of hazardous materials and wastes must be in compliance with the local hazardous materials ordinance and a Hazardous Materials Management Plan for the site.</p>	<p><input type="checkbox"/> Include a detailed description of materials to be stored, storage areas, and structural features to prevent pollutants from entering storm drains. Where appropriate, reference documentation of compliance with the requirements of local Hazardous Materials Programs for:</p> <ul style="list-style-type: none"> ▪ Hazardous Waste Generation ▪ Hazardous Materials Release Response and Inventory ▪ California Accidental Release (CalARP) ▪ Aboveground Storage Tank ▪ Uniform Fire Code Article 80 Section 103(b) & (c) 1991 ▪ Underground Storage Tank 	<p><input type="checkbox"/> See the Fact Sheets SC-31, “Outdoor Liquid Container Storage” and SC-33, “Outdoor Storage of Raw Materials ” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p>	

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs			
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on SUSMP Drawings	3 Permanent Controls—List in SUSMP Table and Narrative	4 Operational BMPs—Include in SUSMP Table and Narrative
<input type="checkbox"/> J. Vehicle and Equipment Cleaning	<input type="checkbox"/> Show on drawings as appropriate: (1) Commercial/industrial facilities having vehicle /equipment cleaning needs shall either provide a covered, bermed area for washing activities or discourage vehicle/equipment washing by removing hose bibs and installing signs prohibiting such uses. (2) Multi-dwelling complexes shall have a paved, bermed, and covered car wash area (unless car washing is prohibited on-site and hoses are provided with an automatic shut-off to discourage such use). (3) Washing areas for cars, vehicles, and equipment shall be paved, designed to prevent run-on to or runoff from the area, and plumbed to drain to the sanitary sewer. (4) Commercial car wash facilities shall be designed such that no runoff from the facility is discharged to the storm drain system. Wastewater from the facility shall discharge to the sanitary sewer, or a wastewater reclamation system shall be installed.	<input type="checkbox"/> If a car wash area is not provided, describe measures taken to discourage on-site car washing and explain how these will be enforced.	<input type="checkbox"/> Describe operational measures to implement the following (if applicable): <input type="checkbox"/> Washwater from vehicle and equipment washing operations shall not be discharged to the storm drain system. <input type="checkbox"/> Car dealerships and similar may rinse cars with water only. <input type="checkbox"/> See Fact Sheet SC-21, “Vehicle and Equipment Cleaning,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs				
1	2	3	4	
Potential Sources of Runoff Pollutants	Permanent Controls—Show on SUSMP Drawings	Permanent Controls—List in SUSMP Table and Narrative	Operational BMPs—Include in SUSMP Table and Narrative	
<p><input type="checkbox"/> K. Vehicle/Equipment Repair and Maintenance</p>	<p><input type="checkbox"/> Accommodate all vehicle equipment repair and maintenance indoors. Or designate an outdoor work area and design the area to prevent run-on and runoff of stormwater.</p> <p><input type="checkbox"/> Show secondary containment for exterior work areas where motor oil, brake fluid, gasoline, diesel fuel, radiator fluid, acid-containing batteries or other hazardous materials or hazardous wastes are used or stored. Drains shall not be installed within the secondary containment areas.</p> <p><input type="checkbox"/> Add a note on the plans that states either (1) there are no floor drains, or (2) floor drains are connected to wastewater pretreatment systems prior to discharge to the sanitary sewer and an industrial waste discharge permit will be obtained.</p>	<p><input type="checkbox"/> State that no vehicle repair or maintenance will be done outdoors, or else describe the required features of the outdoor work area.</p> <p><input type="checkbox"/> State that there are no floor drains or if there are floor drains, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.</p> <p><input type="checkbox"/> State that there are no tanks, containers or sinks to be used for parts cleaning or rinsing or, if there are, note the agency from which an industrial waste discharge permit will be obtained and that the design meets that agency's requirements.</p>	<p>In the SUSMP report, note that all of the following restrictions apply to use the site:</p> <p><input type="checkbox"/> No person shall dispose of, nor permit the disposal, directly or indirectly of vehicle fluids, hazardous materials, or rinsewater from parts cleaning into storm drains.</p> <p><input type="checkbox"/> No vehicle fluid removal shall be performed outside a building, nor on asphalt or ground surfaces, whether inside or outside a building, except in such a manner as to ensure that any spilled fluid will be in an area of secondary containment. Leaking vehicle fluids shall be contained or drained from the vehicle immediately.</p> <p><input type="checkbox"/> No person shall leave unattended drip parts or other open containers containing vehicle fluid, unless such containers are in use or in an area of secondary containment.</p>	

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs			
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on SUSMP Drawings	3 Permanent Controls—List in SUSMP Table and Narrative	4 Operational BMPs—Include in SUSMP Table and Narrative
<input type="checkbox"/> L. Fuel Dispensing Areas	<input type="checkbox"/> Fueling areas ¹ shall have impermeable floors (i.e., portland cement concrete or equivalent smooth impervious surface) that are: a) graded at the minimum slope necessary to prevent ponding; and b) separated from the rest of the site by a grade break that prevents run-on of stormwater to the maximum extent practicable. <input type="checkbox"/> Fueling areas shall be covered by a canopy that extends a minimum of ten feet in each direction from each pump. [Alternative: The fueling area must be covered and the cover's minimum dimensions must be equal to or greater than the area within the grade break or fuel dispensing area ¹ .] The canopy [or cover] shall not drain onto the fueling area.	<p>-----</p>	<input type="checkbox"/> The property owner shall dry sweep the fueling area routinely. <input type="checkbox"/> See the Business Guide Sheet, "Automotive Service—Service Stations" in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com

¹ The fueling area shall be defined as the area extending a minimum of 6.5 feet from the corner of each fuel dispenser or the length at which the hose and nozzle assembly may be operated plus a minimum of one foot, whichever is greater.

APPENDIX—STORMWATER POLLUTANT SOURCES/SOURCE CONTROL CHECKLIST

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs				
1	2	3	4	
Potential Sources of Runoff Pollutants	Permanent Controls—Show on SUSMP Drawings	Permanent Controls—List in SUSMP Table and Narrative	Operational BMPs—Include in SUSMP Table and Narrative	
<p><input type="checkbox"/> M. Loading Docks</p>	<p><input type="checkbox"/> Show a preliminary design for the loading dock area, including roofing and drainage. Loading docks shall be covered and/or graded to minimize run-on to and runoff from the loading area. Roof downspouts shall be positioned to direct stormwater away from the loading area. Water from loading dock areas should be drained to the sanitary sewer where feasible. Direct connections to storm drains from depressed loading docks are prohibited.</p> <p><input type="checkbox"/> Loading dock areas draining directly to the sanitary sewer shall be equipped with a spill control valve or equivalent device, which shall be kept closed during periods of operation.</p> <p><input type="checkbox"/> Provide a roof overhang over the loading area or install door skirts (cowling) at each bay that enclose the end of the trailer.</p>	<p>-----</p>	<p><input type="checkbox"/> Move loaded and unloaded items indoors as soon as possible.</p> <p><input type="checkbox"/> See Fact Sheet SC-30, “Outdoor Loading and Unloading,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p>	
<p><input type="checkbox"/> N. Fire Sprinkler Test Water</p>	<p>-----</p>	<p><input type="checkbox"/> Provide a means to drain fire sprinkler test water to the sanitary sewer.</p>	<p><input type="checkbox"/> See the note in Fact Sheet SC-41, “Building and Grounds Maintenance,” in the CASQA Stormwater Quality Handbooks at www.cabmphandbooks.com</p>	

... THEN YOUR STORMWATER CONTROL PLAN SHOULD INCLUDE THESE SOURCE CONTROL BMPs			
1 Potential Sources of Runoff Pollutants	2 Permanent Controls—Show on SUSMP Drawings	3 Permanent Controls—List in SUSMP Table and Narrative	4 Operational BMPs—Include in SUSMP Table and Narrative
<p>O. Miscellaneous Drain or Wash Water</p> <p>Boiler drain lines</p> <p>Condensate drain lines</p> <p>Rooftop equipment</p> <p>Drainage sumps</p> <p>Roofing, gutters, and trim.</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p>-----</p>	<p><input type="checkbox"/> Boiler drain lines shall be directly or indirectly connected to the sanitary sewer system and may not discharge to the storm drain system.</p> <p><input type="checkbox"/> Condensate drain lines may discharge to landscaped areas if the flow is small enough that runoff will not occur.</p> <p>Condensate drain lines may not discharge to the storm drain system.</p> <p>Rooftop mounted equipment with potential to produce pollutants shall be roofed and/or have secondary containment.</p> <p>Any drainage sumps on-site shall feature a sediment sump to reduce the quantity of sediment in pumped water.</p> <p>Avoid roofing, gutters, and trim made of copper or other unprotected metals that may leach into runoff.</p> <p><input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/></p>	<p>-----</p> <p><input type="checkbox"/> Plazas, sidewalks, and parking lots shall be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing shall be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.</p>
<p>P. Plazas, sidewalks, and parking lots.</p> <p><input type="checkbox"/></p>	<p>-----</p>	<p>-----</p>	<p><input type="checkbox"/> Plazas, sidewalks, and parking lots shall be swept regularly to prevent the accumulation of litter and debris. Debris from pressure washing shall be collected to prevent entry into the storm drain system. Washwater containing any cleaning agent or degreaser shall be collected and discharged to the sanitary sewer and not discharged to a storm drain.</p>

Appendix 2-D
Priority Treatment Control BMP
Inventory Tracking and Maintenance

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City of Del Mar Treatment Control BMP Inventory Inspection Database

As of July 1, 2010

Project Name	Project Number	Address	Hydrologic Unit (Watershed)	Treatment Control BMP Type(s)	Date of Construction	Construction Verification Received	Party Responsible for Maintenance	Date of Last Inspection	Inspection Findings	Corrective Actions
Garden Del Mar Specific Plan	DRB-08-23; SP-07-01; LCPA-08-02; CDP-08-17	941 Camino del Mar	San Dieguito	1. Underground Retention Vault	N/A	N/A	Owner	N/A	N/A	N/A
				2. Green (vegetated) Roofs	N/A	N/A	Owner	N/A	N/A	N/A
				3. Media Filter/Clarifier/Water Qty Inlet	N/A	N/A	Owner	N/A	N/A	N/A
Riverview Project	DRB-08-28; CUP-08-01; CDP-08-19; FDP-08-02	Two vacant lots at the SW corner of San Dieguito Drive & Jimmy Durante Blvd	San Dieguito	1. Permeable pavement and sub-drains	N/A	N/A	Owner	N/A	N/A	N/A
				2. Vegetated Buffer Strip	N/A	N/A	Owner	N/A	N/A	N/A
				3. Detention/Infiltration Basin	N/A	N/A	Owner	N/A	N/A	N/A
				4. Infiltration Trench	N/A	N/A	Owner	N/A	N/A	N/A
Pacifica Stratford	DRB-05-27, 28, 29, 30, 31	535/537, 545/547, 555/557; 605/607; 615/617 Stratford	San Dieguito	1. Pervious Pavers	Under Construction	N/A	Owner(s)	N/A	N/A	N/A
				2. Vegetated Buffer Strip	Under Construction	N/A	Owner(s)	N/A	N/A	N/A
				1. Infiltration Trench	2009	3/30/2009	Owner	9/30/2009	Site in good repair. Drain covers need replacing.	NOV/CO issued. Modifications made as requested.
				2. Vegetated Swale	2009	3/30/2009	Owner	(10/14/2009)		
3. Vegetated Buffer Strip	2009	3/30/2009	Owner							
4. Multiple Systems	2009	3/30/2009	Owner							
Morotta/James Single Family Residence	DRB-03-37	2124 San Dieguito Drive	San Dieguito	1. Infiltration Trench	2009	3/30/2009	Owner	9/30/2009	Site in good repair. Drain covers need replacing.	NOV/CO issued. Modifications made as requested.
				2. Vegetated Swale	2009	3/30/2009	Owner	(10/14/2009)		
				3. Vegetated Buffer Strip	2009	3/30/2009	Owner			
				4. Multiple Systems	2009	3/30/2009	Owner			

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Section 3

Construction Component



3.1 Introduction

This section provides an overview to the City's efforts to comply with the Construction Component of its 2008 JURMP as required under the terms of the Permit.

3.2 Source Characterization

Section 5.2.2 of the 2008 JURMP describes how a watershed-based inventory of all construction sites is prepared by the City of Del Mar, while Section 5.2.3 provides a description of the steps taken to develop, and update this inventory on a monthly basis. The City of Del Mar continues to use the construction inspection tracking system discussed in the Supplemental Information provided to Regional Board Staff in February 2009, to ensure that it's system meets the reporting requirements outlined in Section J.3.a.(3)(b)vii of the Permit. The tracking system itself is a combined database which includes Geographical Information System (GIS) input, and spreadsheet tallies. Information is entered into the database on a regular basis, no less than monthly. City enforcement staff maintain the GIS information via "drive-by" verification of the status of all construction sites, and subsequently entering the data into the GIS system. Monthly inventories of active construction sites are then produced for use in the field by staff. Regular patrols by City staff are also used to determine if a site's status has changed in the interim. In addition, the Clean Water Manager is notified by the staff when a Pre-Construction meeting has been held and/or construction commences at a site. This information is then used to assist in the population of the database.

Since construction project sites are constantly approved, cancelled (permits withdrawn by the applicant, denied by the City, expire, etc.), and completed, the City's inventory is fluid. In addition to the regular updates, staff continues to routinely patrol construction sites to "field truth" data received from the Planning and Building Departments, and annotate areas of surface disturbance that may, or may not be, permitted.

Appendix 3-A located at the end of this section provides a copy of the monthly construction site inventory, including the priority classification for each site. Appendix 3-B includes printouts of the GIS Construction Site Inventory Maps for each month of the Reporting Period.

3.3 Updates to Ordinances and Approval Processes

The City is required by the Permit to review and update its grading ordinance as necessary. Section 5.3 of the 2008 JURMP provides a description of the modifications made to the City's construction-related regulations and describes previous updates to the grading ordinance and other applicable ordinances. No modification to City Ordinances affecting construction activities were made during this Reporting Period, and no modifications in Section 5.3 of the 2008 JURMP were recorded.

3.4 Best Management Practice Requirements

Section 5.4.1 of the 2008 JURMP provided a description of minimum BMPs that were implemented, or required to be implemented, including pollution prevention. No modifications in Section 5.4.1 of the 2008 JURMP have been recorded during this Reporting Period. All appropriate, designated BMPs were

implemented, or required to be implemented, at all construction sites within the City of Del Mar in accordance with the requirements of the 2008 JURMP during Fiscal Year 2009-2010.

3.5 Program Implementation

As required by the Permit, and outlined in the 2008 JURMP, all permitted construction sites were required to undergo the City's construction urban runoff approval process, and meet the applicable construction requirements. Appropriate, designated BMPs were required to be implemented for all construction sites. Information regarding construction activities is tracked by the Clean Water Program, and updated via formal inspections by City Staff. In addition to the formal inspection program, and as discussed above, staff regularly patrol the City as part of other duties and confirm inventory data, verify that perimeter BMPs are in place and that appropriate controls are in place for deliveries and storage areas.

3.5.1 Maximum Disturbed Area for Erosion Controls

Section 5.4.3 of 2008 JURMP identifies one acre as the maximum disturbed area that the City allows to be graded before either temporary or permanent erosion controls are required. No modifications in Section 5.4.3 of the 2008 JURMP have been recorded during this Reporting Period. Although rarely applied in the small projects in Del Mar, the City confirms that the maximum disturbed area for grading was applied to applicable construction sites.

3.5.2 Advanced Treatment Methods

Section 5.4.4 of the 2008 JURMP identified and listed the construction site conditions that will require the use of advanced treatment methods. No modifications in Section 5.4.4 of the 2008 JURMP have been recorded during this Reporting Period. During Fiscal Year 2009-2010, no construction site met the requirements necessitating advanced treatment methods, and as such, none were required nor tracked.

3.5.3 Inspection and Enforcement Measures for Construction Sites

This section provides confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance with the 2008 JURMP. Section 5.5.5 of the 2008 JURMP provided a description of several educational and compliance verification activities that are included as part of the City's inspections of construction sites and the general results of the inspections conducted on construction sites.

3.5.3.1 Construction Inspections

As required by the Permit and outlined in the 2008 JURMP, all permitted construction sites were required to undergo the City's construction urban runoff approval process, meet the applicable construction requirements, including the implementation of appropriate designated BMPs. As indicated in the 2008 JURMP, this information is tracked by the Department of Planning and Community Development, and updated regularly via both formal and informal inspections.

Because of the small size of the community, staff has regular interaction with the applicants and contractors during the process and able to verify conditions on a regular basis when on routine patrol. In addition to the formal inspection program by staff, and as indicated above, staff regularly patrols sites in-route to other assignments which allows staff to "field truth" data and verify that perimeter BMPs are in place, and appropriate controls are in place for deliveries and storage areas.

Appendix C of the Permit defines the wet season as October 1 through April 30 of each year, and prescribes minimum inspection frequencies for construction sites during this period as defined in Section D.2.d. of the Permit. Section D.2.d.(1) of the Permit requires bi-weekly inspections of all construction sites meeting certain size requirements, or identified by either the Regional Board or the City of Del Mar as having a “significant threat to water quality.” Section D.2.d.(2) of the Permit requires a minimum of monthly inspections of all construction sites with one acre or more of soil disturbance not meeting the criteria in Section D.2.d.(1) of the Permit. As indicated in Section 5.2.1 of the 2008 JURMP, the City of Del Mar does not differentiate between these “High” and “Medium” Classifications, and treats projects meeting the criteria of Section D.2.d.(2) of the permit as “High Priority” construction sites.

During this Reporting Period, only one (1) active construction site met the criteria for this designation. This project, the Pacifica Stratford project, located on Stratford Court was inspected at a minimum of bi-weekly during the Fiscal Year 2009-2010 Wet Season. All remaining construction projects were classified as “Low” priority sites, and inspected as needed during the Fiscal Year 2009-2010 Wet Season. As required by Section D.2.d.(4) of the Permit, all construction sites, regardless of priority classification, continued to be inspected on an “as-needed” basis during the remainder of the year.

Appendix 3-C contains the construction inspection inventory, including a report of the period of time (in weeks) that the site was active within the rainy season, the number of inspection conducted during the rainy season, the number of inspections conducted during the dry season, and the total number of inspections for each site.

3.5.3.2 Enforcement Measures for Construction Sites

Section 5.5.6 of the 2008 JURMP provides a description of the general process for applying enforcement to construction sites for urban runoff related violations. No modifications in Section 5.5.6 of the 2008 JURMP have been recorded during this Reporting Period.

This section provides the number of violations and enforcement actions (including types) taken for construction sites, including information on any necessary follow-up actions taken. The section also exhibits that compliance has been achieved and describes the actions taken to achieve compliance.

Del Mar has implemented a policy of education first, with aggressive enforcement measures only being used when compliance requests are ignored and/or in the event of an actual discharge which has the potential to impact to receiving waters. In general, contractors have been compliant with BMP requirements at their respective construction sites. In the majority of those instances where compliance has not been attained, a single verbal or written warning was all that was required to achieve compliance.

During this Reporting Period, six (6) enforcement actions, including any written warnings; Notices of Violation (NOVs); and/or Administrative Citations were issued by staff. This does not include verbal warnings issued during patrols which were handled immediately, unless the contractor failed to comply with the direction of the inspector. In general, the inspections conducted revealed that education efforts over the past several years have resulted in a high level of compliance. In those incidents where contractors were not in full compliance, it was either easily remedied by replacement or re-installation of BMPs. Only one (1) contractor was a repeat offender. Table 3-1 provides a summary of formal enforcement actions taken by the City for construction activities not in compliance with BMP requirements under the City’s 2008 JURMP.

Table 3-1: Construction-Related Enforcement Actions for Fiscal Year 2009-2010

Date of Action	Contractor	Project Address	NOV	Cite Issued	Cite No.	Stop Work	Fine Levied	Comments/Action's Taken
10/26/2009	4x4 Construction	1236 Stratford Court	Yes	Yes	895	No	\$100	Failure to implement BMPs. Contractor warned previously
10/27/2009	4x4 Construction	1942 Santa Fe	Yes	Yes	897	No	\$200	Failure to implement BMPs. Contractor warned previously
11/30/2009	Lifedeck Coating	1101 Camino del Mar	Yes	Yes	669	No	\$400	No permits/license/bmps. Failure to multiple warnings. Temporary stop work until BMPs in place.
7/30/2009	Beacham Construction	466 Avenida Primavera	Yes	Yes	858	No	\$200	Failure to implement appropriate BMPs with illegal discharge. Contractor complied immediately.
7/30/2009	Brookwood Plastering	466 Avenida Primavera	Yes	Yes	856	No	\$200	Failure to implement appropriate BMPs with illegal discharge. Contractor complied immediately.
1/15/2010	Cisco Painting	122 24th Street	Yes	Yes	928	No	\$200	Powerwash discharge from painting operations. Cleanup and abatement addressed immediately.

3.5.4 Notable Activities

This section describes the notable activities conducted to manage urban runoff from construction sites by the City. During this Reporting Period, the City of Del Mar continued its policy of education first and aggressive enforcement as necessary. With a relatively limited number of projects with any significant amount of surface disturbance within the City, and only one project meeting the criteria to be designated a “high priority” construction site, this policy continues to be successful in providing staff the opportunity to develop more cooperative working relationships with developers, many of whom live and work in the community, all while implementing the necessary programmatic elements to protect water quality.

3.6 Construction Activities Effectiveness Assessment

A complete assessment of the effectiveness of the City’s implementation of its 2008 JURMP, including the Construction Component, is included as Chapter 11 of this Annual Report.

3.7 Program Review and Modification

The City of Del Mar continues to utilize the construction inventory process and GIS-based tracking system that was developed out of programmatic reviews conducted during Fiscal Year 2007-2008. Minor modifications to the process were made, and a procedure document developed during the Fiscal Year 2009-2010 reporting period. No modifications to the Construction Component of the 2008 JURMP were made during this Reporting Period.

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Appendix 3-A
Fiscal Year 2009-2010 Watershed-based Construction Inventory
including Priority Classifications for Each Site

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FY2009/2010 Watershed Based Construction Inventory

Del Mar Account Number	Facility Name	Number	Street	Hydrologic Unit	Description of Activity	Receiving Water Body	303(d) Listed	
							Water Body	Water Body
High and Medium Priority Construction Projects								
DRB-05-27	Pacifica Stratford Duplexes	531/533	Stratford Ct.	San Diego	2 unit Condo	Pacific Ocean	No	No
DRB-05-28	Pacifica Stratford Duplexes	541/543	Stratford Ct.	San Diego	2 unit Condo	Pacific Ocean	No	No
DRB-05-29	Pacifica Stratford Duplexes	551/553	Stratford Ct.	San Diego	2 unit Condo	Pacific Ocean	No	No
DRB-05-30	Pacifica Stratford Duplexes	601/603	Stratford Ct.	San Diego	2 unit Condo	Pacific Ocean	No	No
DRB-05-31	Pacifica Stratford Duplexes	611/613	Stratford Ct.	San Diego	2 unit Condo	Pacific Ocean	No	No
Low Priority Construction Projects								
DRB-05-24	Klipstein	415	Torrey Pointe Road	Los Penasquitos	NSFR w/ basement	Los Penasquitos Lagoon	Yes, sediment	
DRB-04-13	McGuire	1105	Stratford Ct.	San Diego	remodel	Pacific Ocean	No	No
DRB-06-08; 06-17	Chesnut	1236	Stratford Ct.	San Diego	NSFR	Pacific Ocean	No	No
DRB-04-54	Nicholas	1344	Ocean Ave.	San Diego	NSFR	Pacific Ocean	No	No
DRB-07-27	Harrington	1345	Ocean Ave.	San Diego	remodel	Pacific Ocean	No	No
DRB-04-08	Richards (Demich)	963	Klish Way	San Diego	NSFR	Pacific Ocean	No	No
DRB-05-33	Hoehn	730	Kalamath Street	San Diego	NSFR	Pacific Ocean	No	No
DRB-05-23	Belezzuoli	424	Carolina Road	San Diego	windows/pool	Pacific Ocean	No	No
DRB-08-14	Valentine	1420	Crest Road	San Diego	site improvements / pool	Pacific Ocean	No	No
DRB-04-15	Hilliard	1492	Crest Road	San Diego	site improvements	Pacific Ocean	No	No
DRB-07-06	Dallas	466	Avenida Primavera	San Diego	NSFR w/ basement & pool	Pacific Ocean	No	No
DRB-06-34	Moore	155	27th Street	San Diego	NSFR	San Diego Lagoon	Yes, bacteria	
DRB-84-52	Gillies	2136	San Diego Drive	San Diego	NSFR	San Diego Lagoon	Yes, bacteria	
DRB-98-32 Mod	Bakker	335	La Amatista	San Diego	remodel and addition	Pacific Ocean	No	No
DRB-07-19	Fisher	236	24th Street	San Diego	NSFR	San Diego Lagoon	Yes, bacteria	
DRB-04-34	Pinney/Asciutto	425	8th Street	San Diego	remodel and pool/spa	Pacific Ocean	No	No
DRB-07-24	Goldberg	1942	Santa Fe Ave.	San Diego	NSFR	Pacific Ocean	No	No
ADR-08-47	Pogue	314	Del Mar Heights	Los Penasquitos	window/siding replacement	Pacific Ocean	No	No
DRB-08-25	Bierman	143	8th Street	San Diego	remodel	Pacific Ocean	No	No
N/A	Lindsey	2020	Oceanfront	San Diego	siding	Pacific Ocean	No	No
DRB-07-05	Eaton	187	Ocean View Ave.	Los Penasquitos	remodel/addition	Pacific Ocean	No	No
DRB-05-41	Bligh	262	Ocean View Ave.	Los Penasquitos	NSFR	Pacific Ocean	No	No
None	Bouma	2418	Oceanfront	San Diego	demolition	San Diego Lagoon	Yes, bacteria	
SCP-09-04	Sbicca	215	15th Street	San Diego	sidewalk café	Pacific Ocean	No	No
ADR-09-09	Kling	810	Klish Way	San Diego	windows, doors, stucco	Pacific Ocean	No	No
DRB-08-43	Hardke	431	Van Dyke Ave.	San Diego	NSFR w/ basement and pool	Pacific Ocean	No	No
DRB-08-41	Farrell	1415	Via Alta	San Diego	deck repair	Pacific Ocean	No	No
ADR-09-16	Karagheusian	1925	Oceanfront	San Diego	windows, doors, garage door	Pacific Ocean	No	No
DRB-06-23	Olliphant	2020	Santa Fe Ave.	San Diego	NSFR	Pacific Ocean	No	No
DRB-06-18	Gardner	1111	Klish Way	San Diego	skylights/roofing	Pacific Ocean	No	No
N/A	Wadia	1660	Luneta Drive	San Diego	site wall along right-of-way	Pacific Ocean	No	No
ADR-09-04	Ozaki	155	7th Street	San Diego	site improvements	Pacific Ocean	No	No
DRB-08-46	Scipione	555	Amphitheatre Drive	San Diego	rear-yard improvements	Pacific Ocean	No	No
ADR-09-23	Gradinger	434	8th Street	San Diego	front-yard improvements	Pacific Ocean	No	No
DRB-08-35	Wilkinson	131	25th Street	San Diego	addition & remodel	San Diego Lagoon	Yes, bacteria	

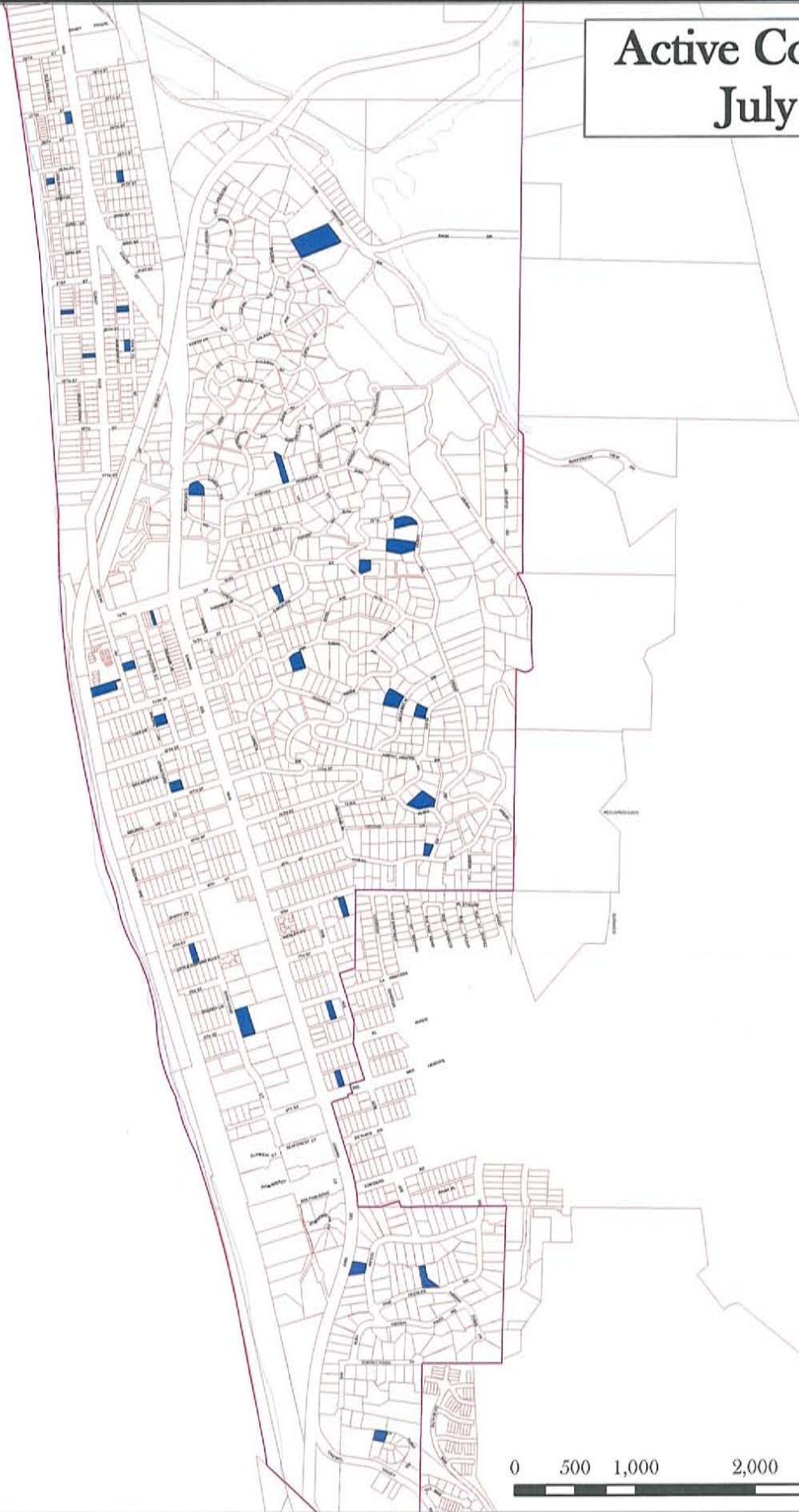
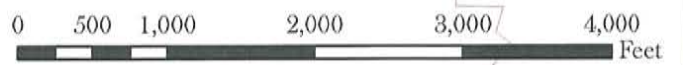
FY2009/2010 Watershed Based Construction Inventory

Del Mar Account Number	Facility Name	Number	Street	Hydrologic Unit	Description of Activity	Receiving Water Body	303(d) Listed Water Body
N/A	KSA No. 1	1709	Coast Blvd	San Dieguito	rear-yard improvements	Pacific Ocean	No
DRB-08-08	Savage	2007/2009	Santa Fe Ave	San Dieguito	remodel	Pacific Ocean	No
N/A	Walton	2018/2020	Coast Blvd	San Dieguito	driveway work	Pacific Ocean	No
N/A	Novakovic	328	El Amigo	Los Penasquitos	painting and siding	Pacific Ocean	No
N/A	Shenuski	376	Serpentine Drive	San Dieguito	minor interior work	Pacific Ocean	No
DRB-08-38	Nerenberg	205	Ocean View Ave	Los Penasquitos	NSFR	Pacific Ocean	No
DRB-08-37	Wiggins	1926	Coast Blvd	San Dieguito	remodel & roof deck	Pacific Ocean	No
ADR-09-35	Vaughn	335	10th Street	San Dieguito	porch cover & windows	Pacific Ocean	No
ADR-09-31	Drago	210	Oceanview Ave.	Los Penasquitos	rear-yard site walls	Pacific Ocean	No
DRB-10-02	Linnell	411	Hidden Pines Lane	Los Penasquitos	interior work (sub. garage)	Pacific Ocean	No
N/A	Bjornson	471	Carolina Road	San Dieguito	interior and landscaping	Pacific Ocean	No
N/A	Schibanoff	443	Zuni Drive	San Dieguito	roofing	Pacific Ocean	No
not yet applied	Everingham	1555	San Dieguito Drive	San Dieguito	interior, windows/doors, walls	San Dieguito Lagoon	Yes, bacteria
N/A	McCarthy	2528	Oceanfront	San Dieguito	interior	San Dieguito Lagoon	Yes, bacteria
ADR-10-06	Benham	1935	Oceanfront	San Dieguito	windows and doors	Pacific Ocean	No
DRB-08-33	Wohlford-Kidd	1155	Cuchara Drive	San Dieguito	remodel	Pacific Ocean	No
ADR-10-02	Thomas	259	24th Street	San Dieguito	front porch remodel-interior	San Dieguito Lagoon	Yes, bacteria
N/A	Hook	635	Hoska Drive	San Dieguito	interior remodel	Pacific Ocean	No
ADR-09-32	Voss	543	Tewa Street	San Dieguito	pool	Pacific Ocean	No
DRB-10-12	Ogilvy	340	Serpentine Drive	San Dieguito	deck	Pacific Ocean	No

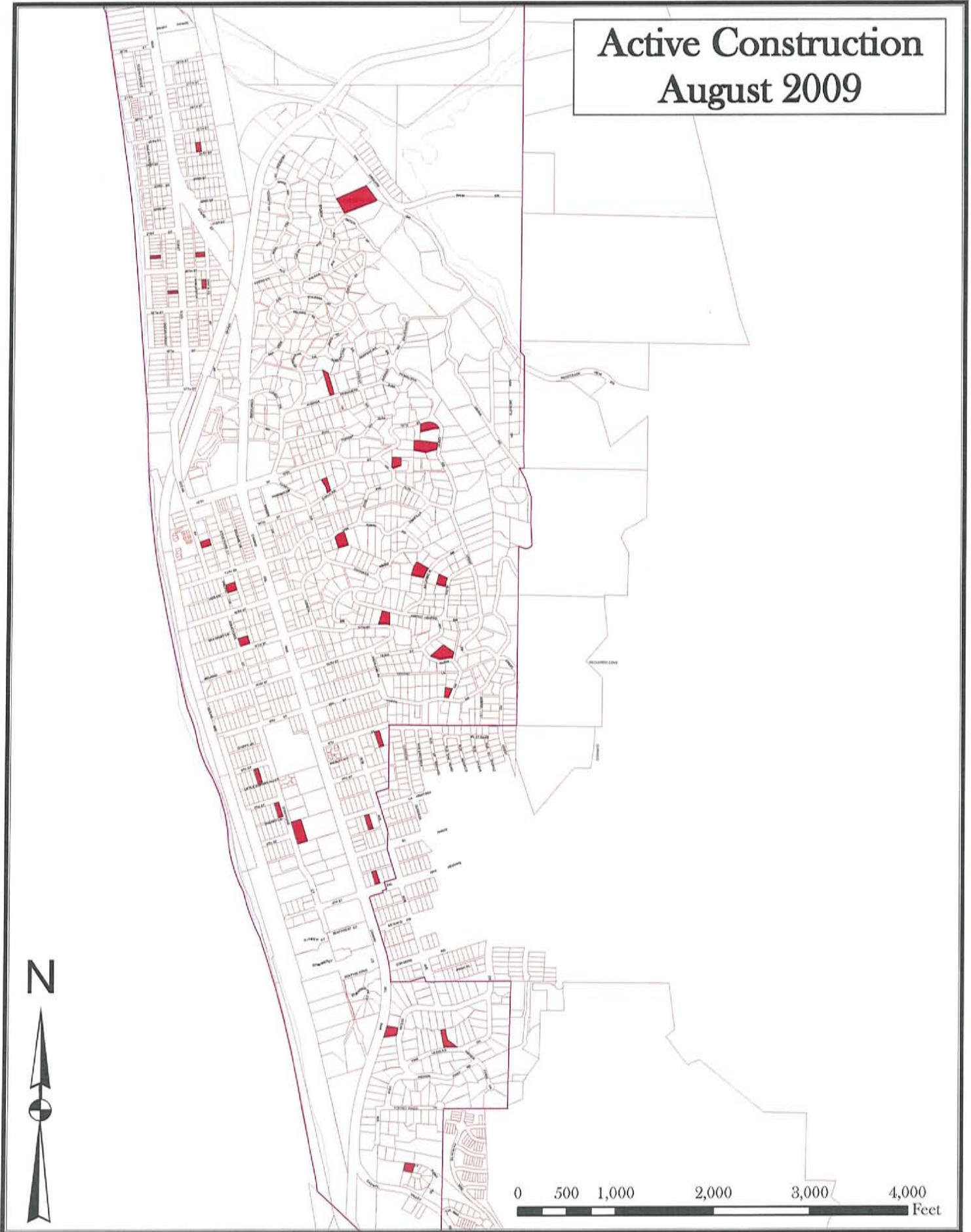
Appendix 3-B
Monthly GIS Construction Site Inventory Maps
for Fiscal Year 2009-2010

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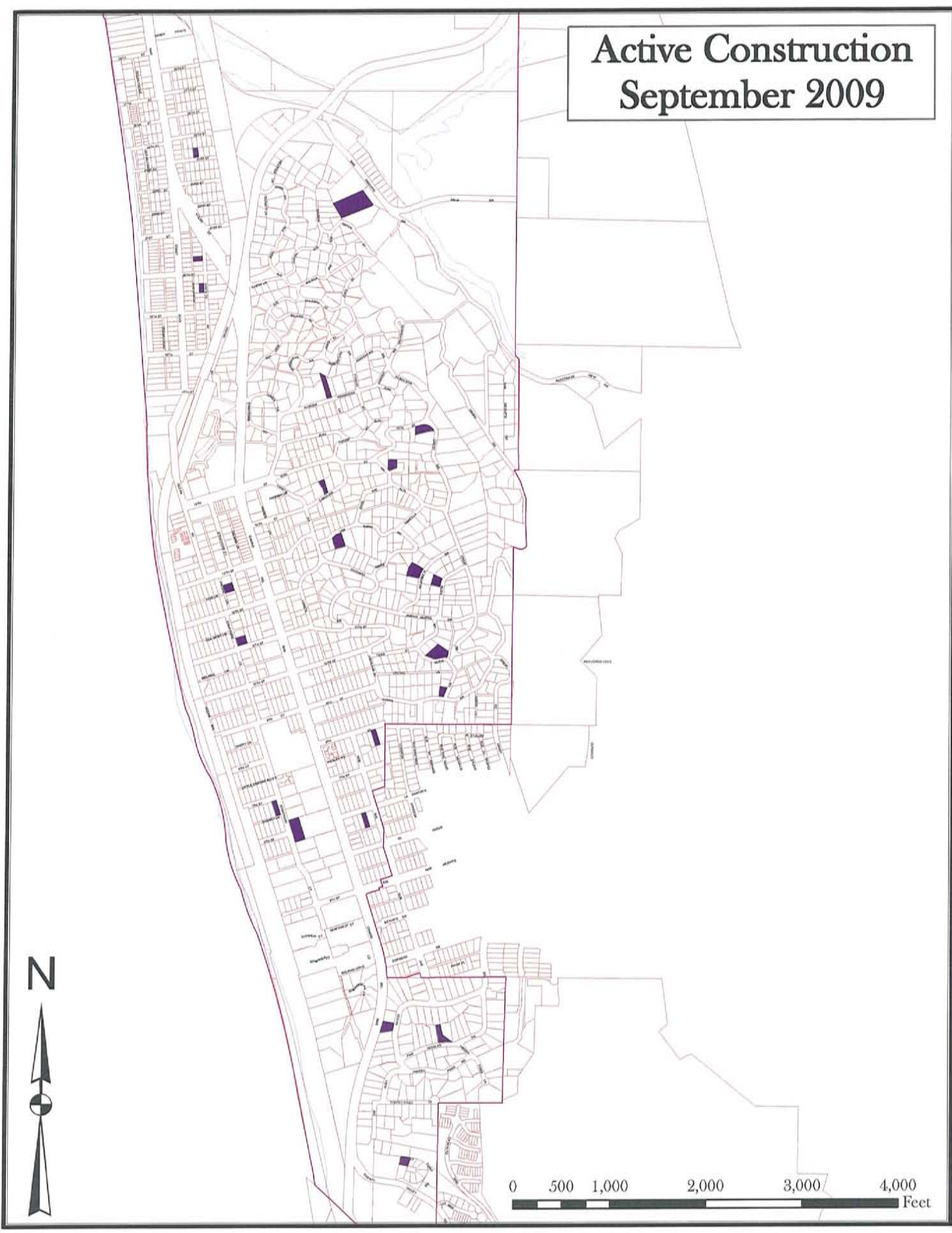
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Active Construction August 2009



Active Construction September 2009

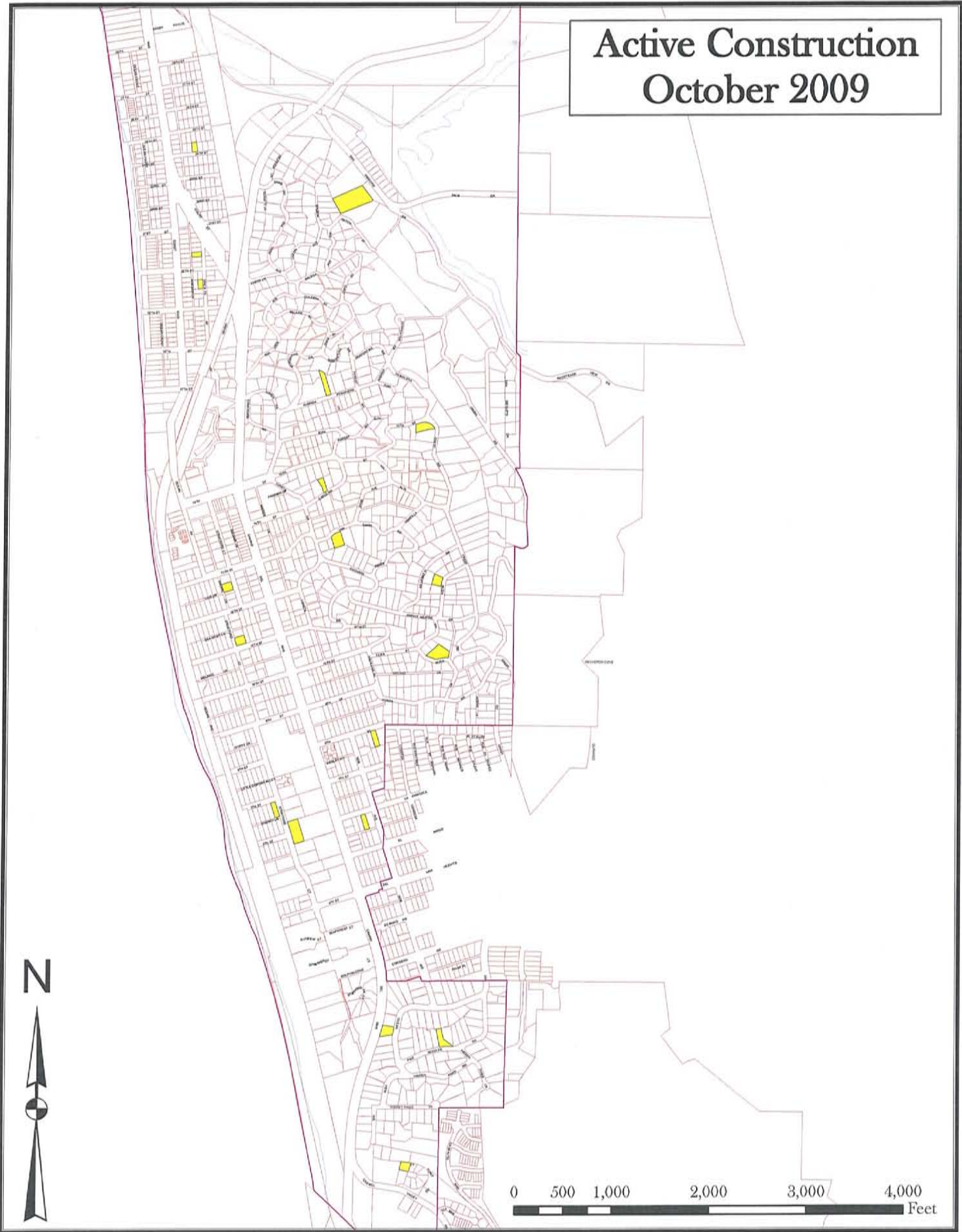


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0 500 1,000 2,000 3,000 4,000 Feet

Active Construction October 2009

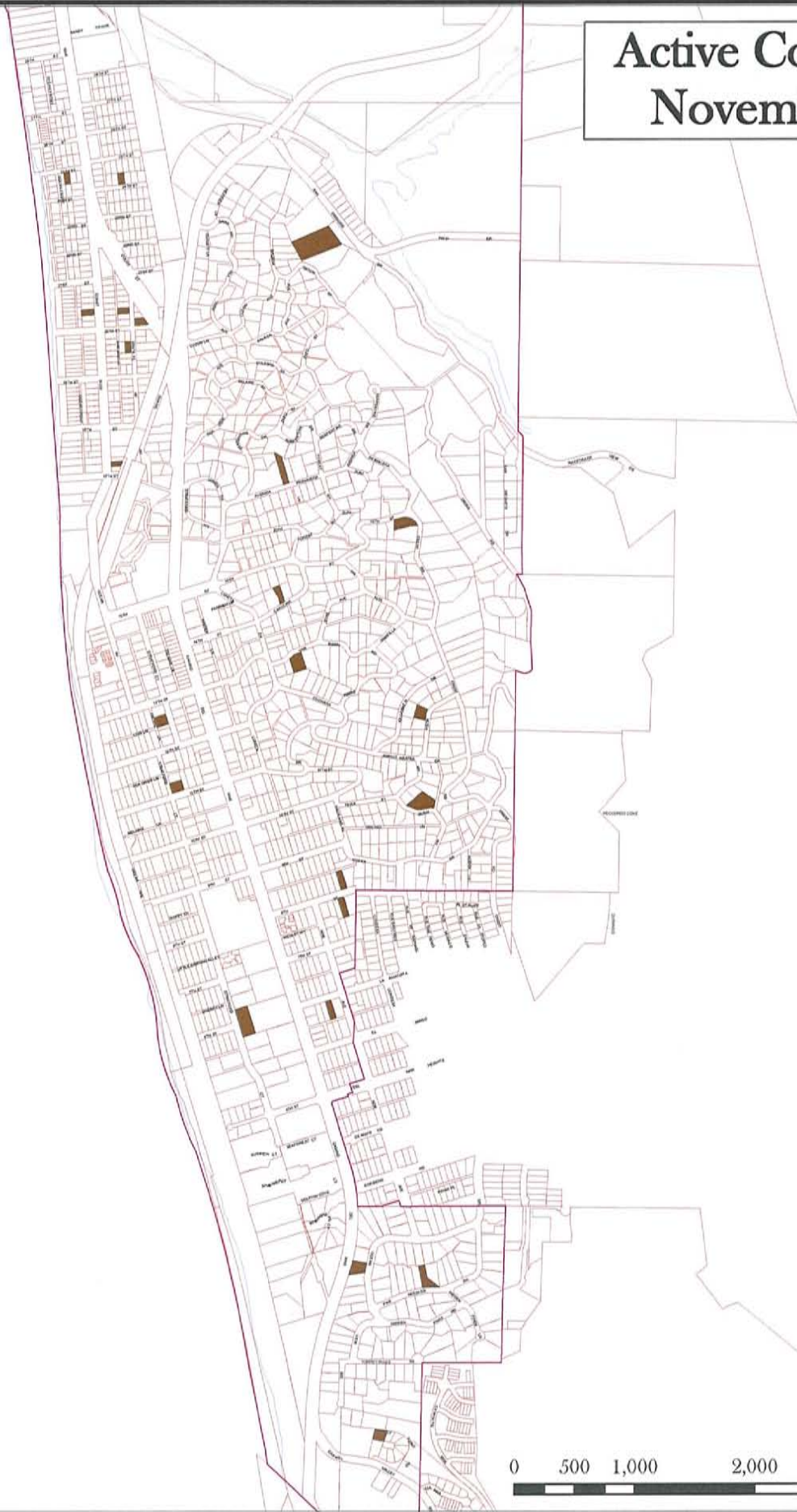
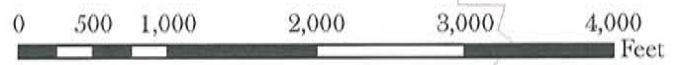


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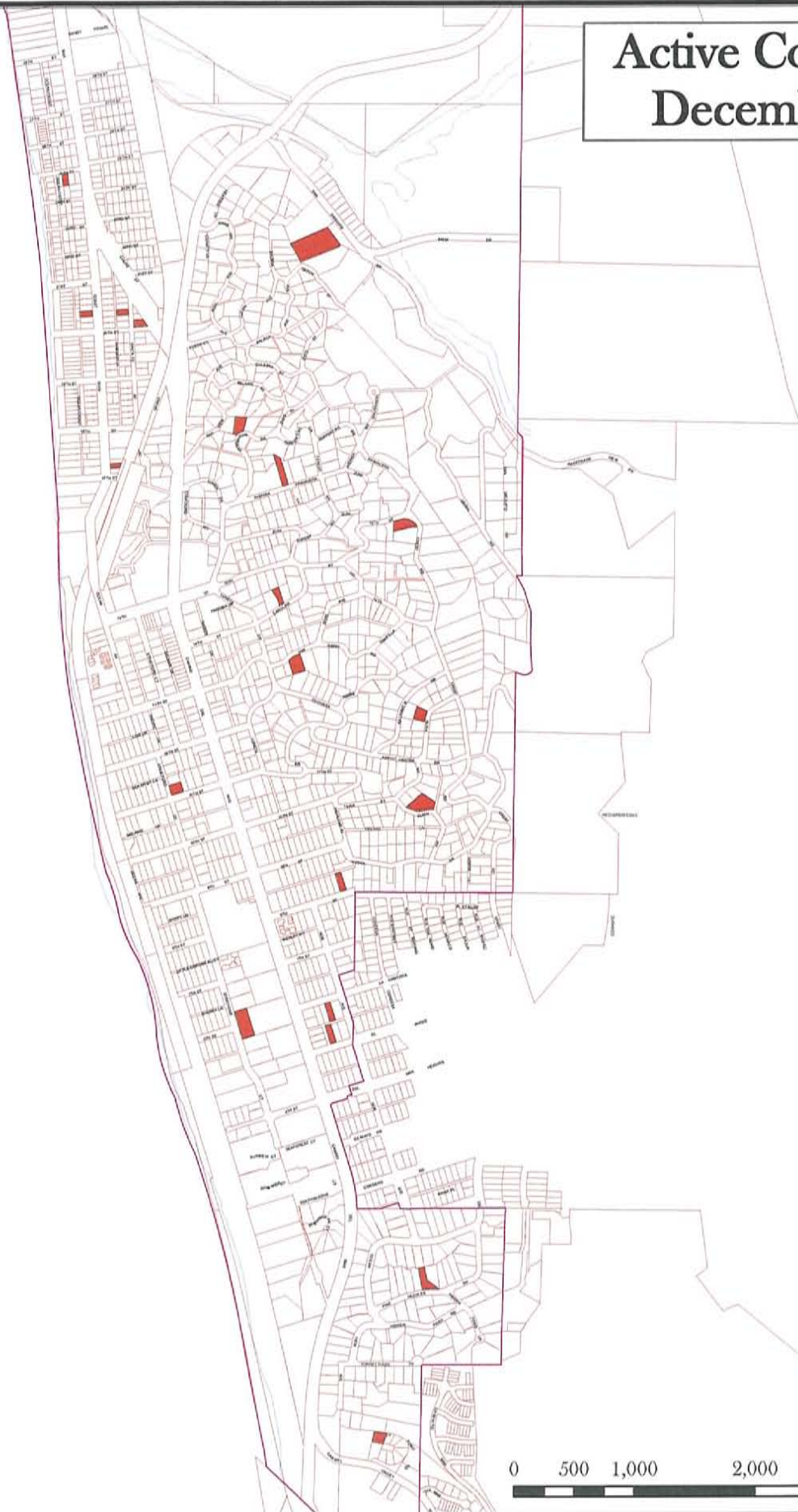


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Active Construction November 2009



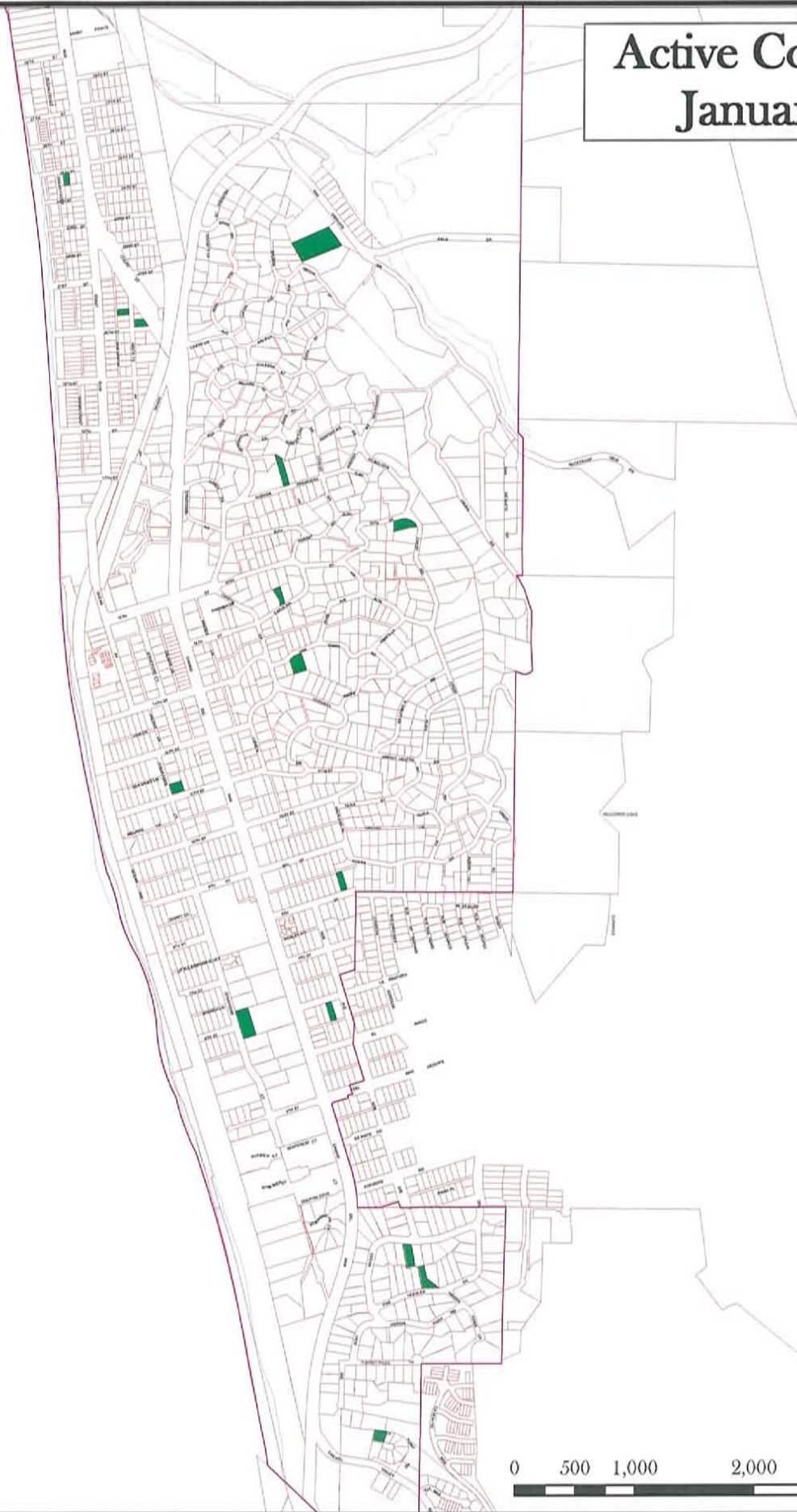
Active Construction December 2009



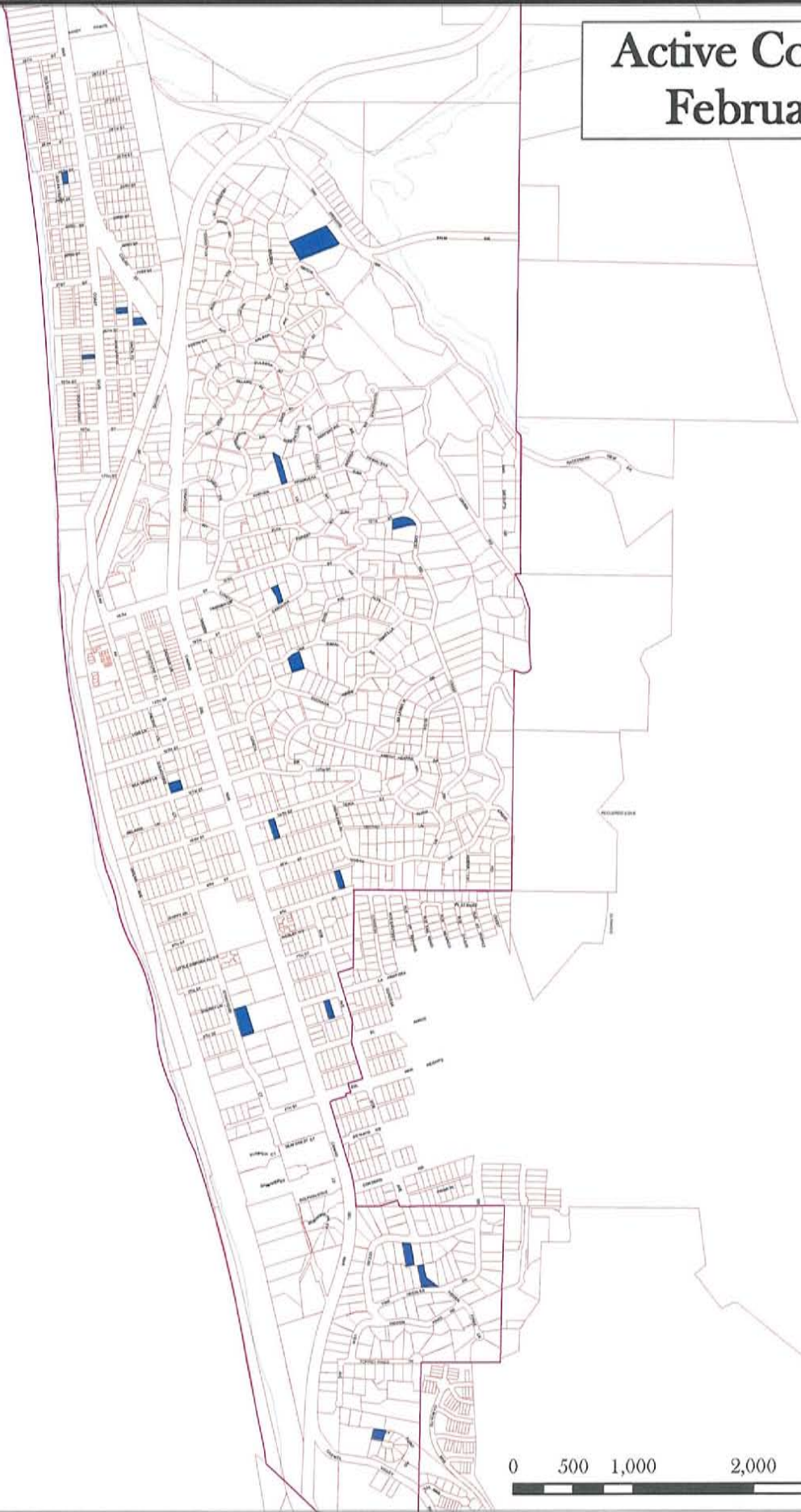
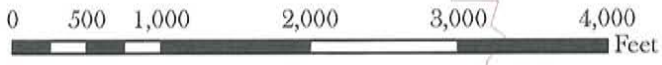
Active Construction January 2010



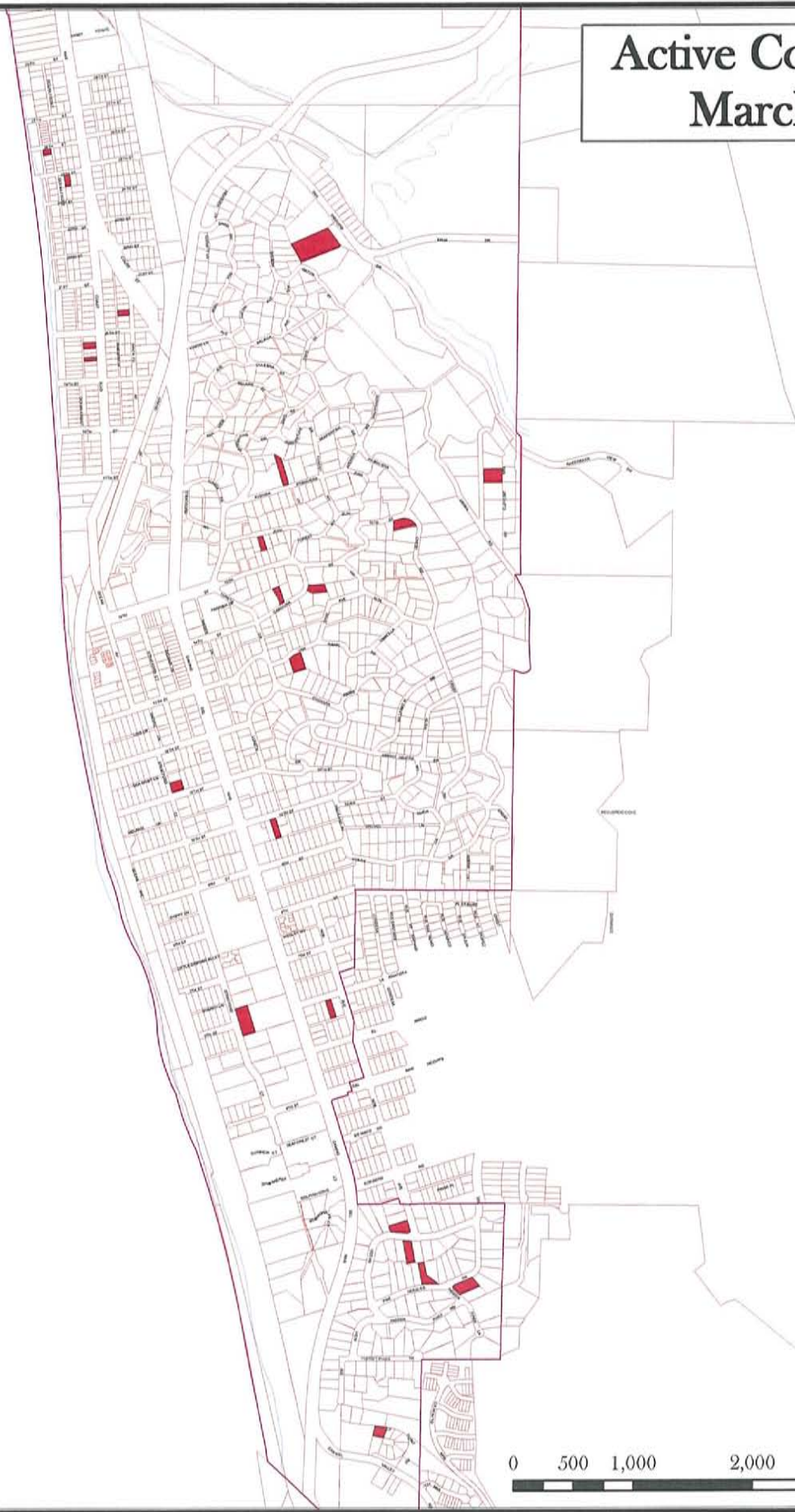
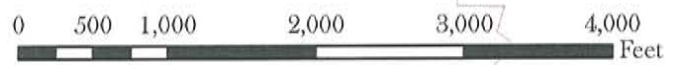
0 500 1,000 2,000 3,000 4,000 Feet



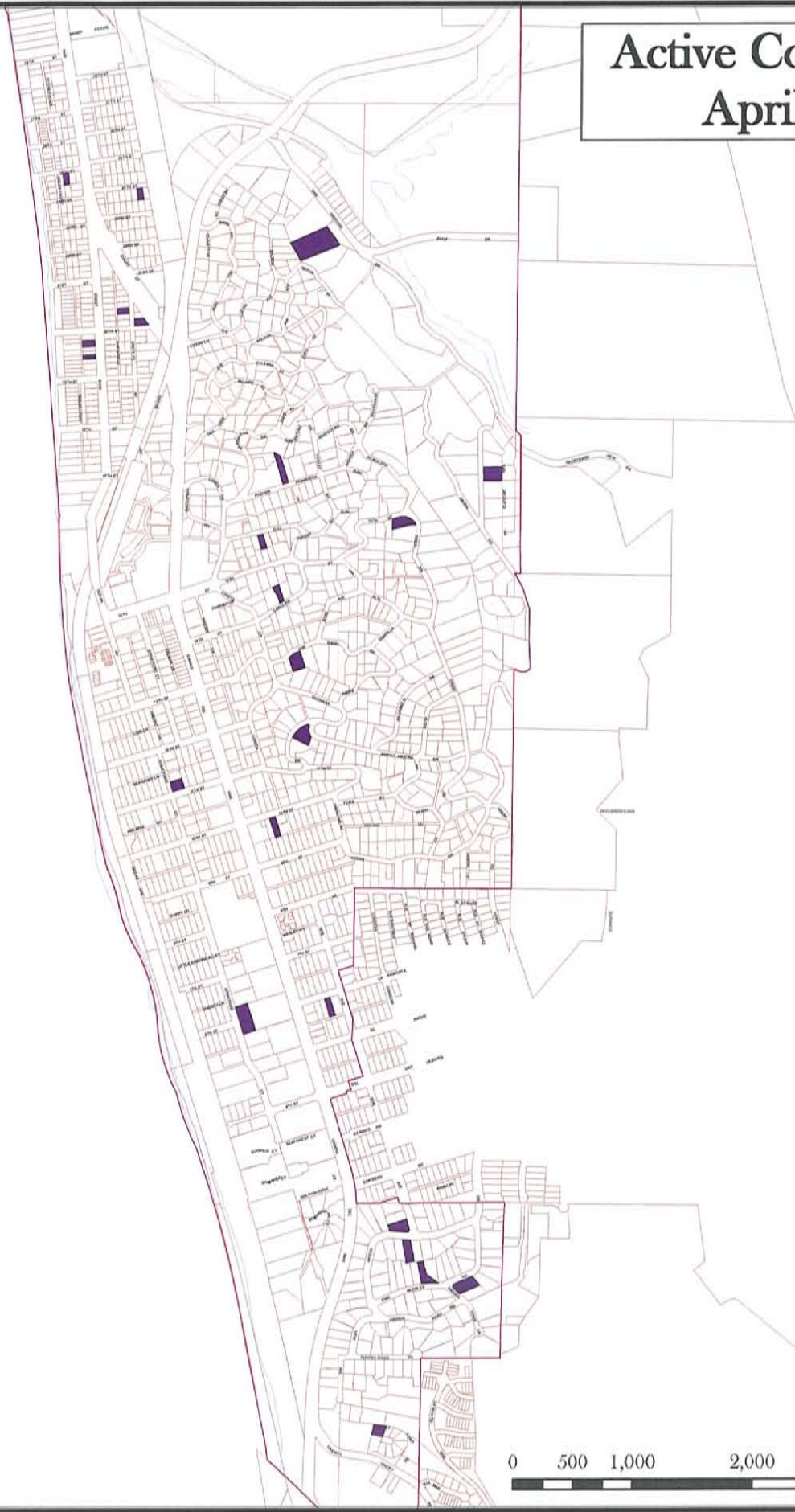
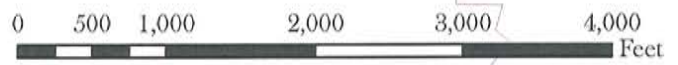
Active Construction February 2010



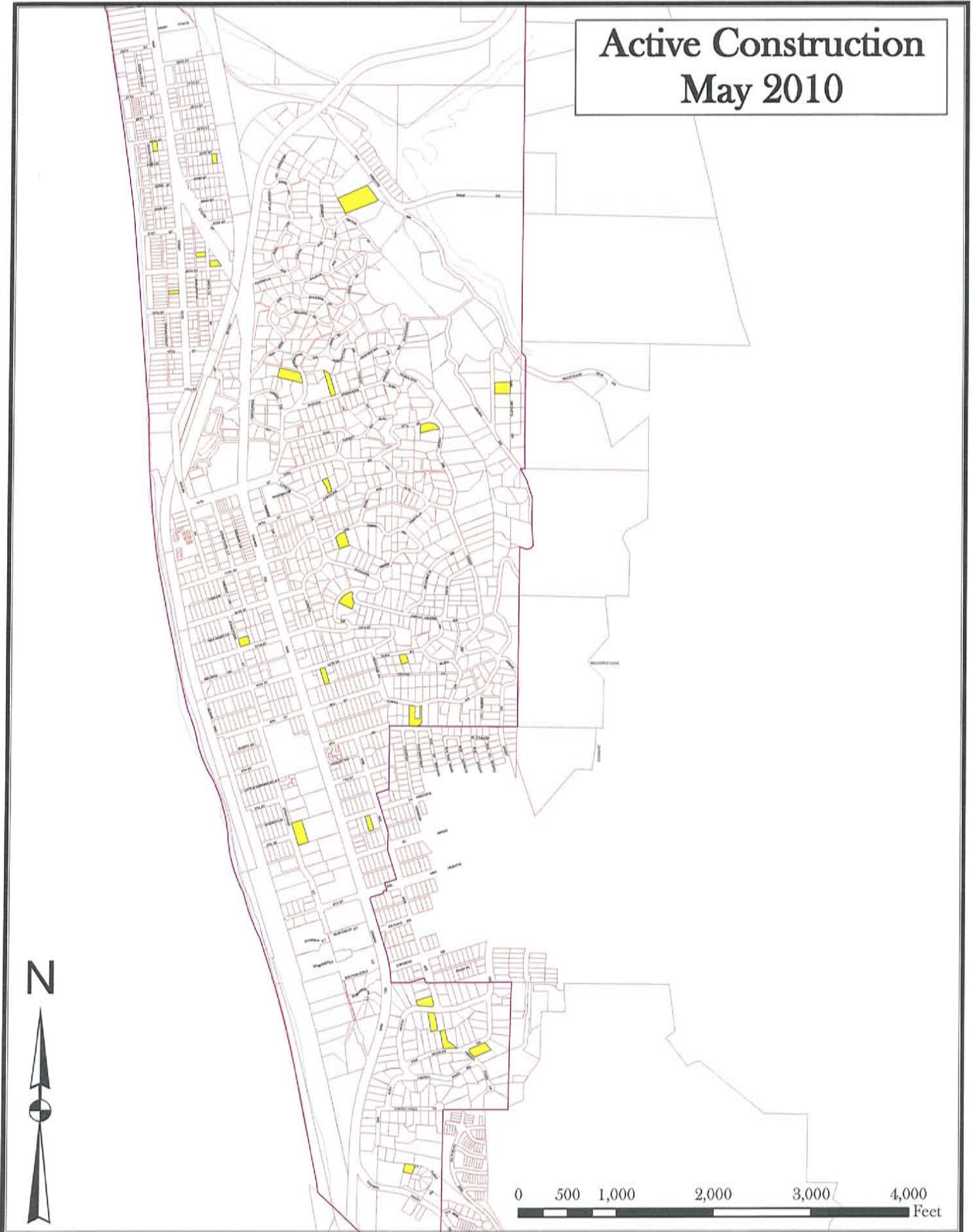
Active Construction March 2010



Active Construction April 2010



Active Construction May 2010



Active Construction June 2010



Appendix 3-C
Fiscal Year 2009-2010 Construction Inspection Inventory

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FY2009/2010 Construction Inspection Summary Table

Del Mar Account Number	Facility Name	Number	Street	Hydrologic Unit	Description of Activity	Start Date	End Date	Weeks Active		No. Inspections		Total Inspections
								(WET)	(DRY)	(Wet)	(Dry)	
High and Medium Priority Construction Projects (Wet: Bi-Weekly/Dry: As Needed)												
DRB-05-27	Pacifica Stratford Duplexes	531/533	Stratford Ct.	San Dieguito	2 unit Condo	6/7/2008	5/20/2010	30	6	16	1	17
DRB-05-28	Pacifica Stratford Duplexes	541/543	Stratford Ct.	San Dieguito	2 unit Condo	6/7/2008	5/20/2010	30	6	16	1	17
DRB-05-29	Pacifica Stratford Duplexes	551/553	Stratford Ct.	San Dieguito	2 unit Condo	6/7/2008	Active	30	22	16	5	21
DRB-05-30	Pacifica Stratford Duplexes	601/603	Stratford Ct.	San Dieguito	2 unit Condo	6/7/2008	Active	30	22	16	5	21
DRB-05-31	Pacifica Stratford Duplexes	611/613	Stratford Ct.	San Dieguito	2 unit Condo	6/7/2008	Active	30	22	16	5	21
Low Priority Construction Projects (As Needed Only)												
DRB-98-32 MOD	Bakker	335 La Amatasta		Los Penasquitos	Remodel/Addition	4/21/2005	Active	30	22	1	1	2
DRB-05-23/ADR-08-43	Belezuoli	424 Carolina Road		San Dieguito	windows/pool	9/4/2006	Active	30	22	1	0	1
ADR-10-06	Berham	1935 Oceanfront		San Dieguito	windows and doors	2/24/2010	4/14/2010	7	0	1	0	1
DRB-08-25	Bierman	143 8th Street		San Dieguito	Remodel/Addition	12/10/2008	8/18/2009	0	8	0	1	1
N/A	Bjornson	471 Carolina Road		San Dieguito	interior and landscaping	2/8/2010	3/25/2010	7	0	1	0	1
DRB-05-41	Bligh	262 Ocean View		Los Penasquitos	NSFR	4/13/2009	11/24/2009	8	13	1	1	2
N/A	Bouma	2418 Oceanfront		San Dieguito	demolition	4/27/2009	7/23/2009	0	4	0	1	1
DRB-06-08	Chesnut	1236 Stratford Court		San Dieguito	NSFR	11/14/2007	11/16/2009	5	13	1	0	1
DRB-07-06	Dallas	466 Avenida Primavera		San Dieguito	NSFR	7/7/2008	6/17/2010	30	20	1	0	1
ADR-09-31	Diago	210 Oceanview Ave.		Los Penasquitos	rear-yard site walls	2/16/2010	5/13/2010	9	2	1	0	1
DRB-07-05	Eaton	187 Ocean View Ave.		Los Penasquitos	Remodel/Addition	4/27/2009	Active	30	22	1	1	2
N/A	Everingham	1555 San Dieguito Drive		San Dieguito	interior, windows/doors, walls	2/22/2010	6/18/2010	10	7	0	0	0
DRB-08-41	Farrrell	1415 Via Alta		San Dieguito	Deck Repairs	5/11/2009	9/17/2009	0	11	0	1	1
DRB-07-19	Fisher	236 24th Street		San Dieguito	NSFR	12/15/2008	11/24/2009	9	13	1	1	2
N/A	Gardner	1111 Klish Way		San Dieguito	skylights/roofing	6/23/2009	12/17/2009	12	13	0	0	0
DRB-84-52	Gillies	2136 San Dieguito Drive		San Dieguito	NSFR	12/14/1998	Active	30	22	1	1	2
DRB-07-24	Goldberg	1942 Santa Fe Ave.		San Dieguito	NSFR	11/10/2008	11/13/2009	7	13	1	1	2
ADR-09-23	Gradinger	434 8th Street		San Dieguito	front-yard improvements	10/19/2009	2/12/2010	16	0	1	0	1
DRB-08-43	Hardke	431 Van Dyke Ave.		San Dieguito	NSFR	5/26/2009	Active	30	22	1	1	2
DRB-07-27	Harrington	1345 Ocean Avenue		San Dieguito	Remodel/Addition	9/19/2008	8/5/2009	0	6	0	1	1
DRB-04-15	Hilliard	1492 Crest Road		San Dieguito	site improvements	4/2/2007	Active	30	22	1	1	2
DRB-05-33	Hoehn	700 Kalamath Street		San Dieguito	NSFR	4/13/2010	6/22/2010	3	7	0	0	0
N/A	Hook	635 Hoska Drive		San Dieguito	interior remodel	5/27/2009	8/18/2009	0	7	0	0	0
ADR-09-16	Karagheusian	1925 Oceanfront		San Dieguito	Exterior Remodel	5/26/2009	9/15/2009	0	11	0	1	1
ADR-09-09	Kling	810 Klish Way		San Dieguito	Exterior windows/doors	8/22/2008	Active	30	22	1	1	2
DRB-05-24	Klipstein	415 Torrey Pointe Road		Los Penasquitos	NSFR w/ basement	10/28/2009	12/10/2009	7	0	1	0	1
N/A	KSA No. 1	1709 Coast Blvd		San Dieguito	rear-yard improvements	3/30/2009	8/7/2009	0	6	0	0	0
N/A	Lindsey	2020 Oceanfront		San Dieguito	sidling	2/8/2010	Active	30	22	1	1	2
DRB-10-02	Linnell	411 Hidden Pines Lane		Los Penasquitos	interior work (sub. garage)	2/3/2010	4/16/2010	10	0	0	0	0
N/A	McCarthy	2528 Oceanfront		San Dieguito	interior	9/13/2007	Active	30	22	1	1	2
DRB-04-13	McGuire	1105 Stratford Court		San Dieguito	NSFR	3/30/2008	7/23/2009	0	3	0	1	1
DRB-06-34	Moore	155 27th Street		San Dieguito	NSFR	6/28/2010	Active	30	22	1	1	2
DRB-09-12	More	408 Luzon Ave		San Dieguito	exterior improvements	12/28/2009	Active	30	22	1	1	2
DRB-08-38	Nerenberg	205 Ocean View Ave		Los Penasquitos	NSFR	12/19/2006	7/14/2009	0	2	0	1	1
DRB-04-54	Nicholas	1344 Ocean Avenue		San Dieguito	NSFR	11/16/2009	12/10/2009	4	0	1	0	1
N/A	Novakovic	328 El Amigo		San Dieguito	painting and siding	4/26/2010	6/10/2010	1	5	0	0	0
DRB-10-12	Ogilvy	340 Serpentine Drive		San Dieguito	deck	6/1/2009	Active	30	22	1	1	2
DRB-06-23	Oliphant	2020 Santa Fe Ave.		San Dieguito	NSFR	7/13/2009	10/15/2009	2	11	1	1	2
ADR-09-04	Ozaki	155 7th Street		San Dieguito	site improvements	10/20/2008	11/12/2009	6	13	1	1	2
DRB-04-34	Pinney/Asciutto	425 8th Street		San Dieguito	NSFR	11/18/2008	8/6/2009	0	5	0	1	1
ADR-08-47	Pogue	314 Del Mar Heights		Los Penasquitos	Exterior windows/doors	6/28/2010	Active	0	1	0	0	0
N/A	RHN	1846 Oceanfront		San Dieguito	interior improvements	8/21/2007	12/9/2009	10	13	1	1	2
DRB-04-08	Richards (Demich)	963 Klish Way		San Dieguito	NSFR	10/19/2009	Active	27	9	1	1	2
DRB-08-08	Savage	2007/2009 Santa Fe Ave		San Dieguito	remodel	6/1/2009	7/9/2009	0	1	0	1	1
SCP-09-04	Sbicca	215 15th Street		San Dieguito	Sidewalk Café	2/22/2010	4/8/2010	6	0	0	0	0
N/A	Schibanoff	443 Zuni Drive		San Dieguito	roofing							

FY2009/2010 Construction Inspection Summary Table

DRB-08-46	Scipione	555 Amphitheatre Drive	San Dieguito	rear-yard improvements	7/13/2009	8/18/2009	0	5	0	1	1
N/A	Shenuski	376 Serpentine Drive	San Dieguito	minor interior work	11/18/2009	12/22/2009	5	0	0	0	0
ADR-10-02	Thomas	259 24th Street	San Dieguito	front porch remodel-interior	3/10/2010	5/18/2010	7	3	1	1	2
DRB-08-14	Valentine	1420 Crest Road	San Dieguito	Remodel/Addition	7/1/2008	8/11/2009	0	6	0	1	1
ADR-09-35	Vaughn	335 10th Street	San Dieguito	porch cover & windows	1/25/2010	5/13/2010	13	2	1	1	2
ADR-09-32	Voss	543 Tewa Street	San Dieguito	pool	4/19/2010	5/26/2010	1	5	1	1	2
N/A	Wadia	1660 Luneta Drive	San Dieguito	site wall along right-of-way	6/29/2009	7/23/2009	0	3	0	1	1
N/A	Walton	2018/2020 Coast Blvd	San Dieguito	driveway work	10/29/2009	11/19/2009	3	0	1	0	1
DRB-08-37	Wiggins	1926 Coast Blvd	San Dieguito	remodel & roof deck	1/25/2010	Active	13	9	1	1	2
DRB-08-35	Wilkinson	131 25th Street	San Dieguito	addition & remodel	10/26/2009	Active	26	9	1	1	2
DRB-08-33	Wohlford-Kidd	1155 Cuchara Drive	San Dieguito	remodel	3/23/2010	Active	5	9	1	1	2

Section 4

Municipal Component



4.1 Introduction

This section describes the implementation of the Municipal Component of the 2008 JURMP during the Fiscal Year 2009-2010 Reporting Period. The Municipal Component was implemented to: (1) reduce municipal discharges of pollutants from the MS4 to the MEP, and; (2) prevent municipal discharges from the MS4 from causing or contributing to a violation of water quality standards.

This section addresses two types of municipal operations: fixed or stationary facilities; and field activities. A fixed facility is a specific building or physical location at which municipal operations occur (e.g. a corporate yard). Conversely, field activities are actions or programs that staff or City contractors implement as a part of their work duties at various locations across the City (e.g. street maintenance).

4.2 Municipal Activities

4.2.1 Source Characterization

During the Reporting Period, there were no additions or deletions to the City's municipal activity inventory, including the: MS4 system; street sweeping routes; or special event venues. Additionally, there were no changes to the prioritization of the City's storm drain facilities.

The City's complete MS4 is shown in Figure 4-1 below and reflects the most recently available system updates.

4.2.2 Best Management Practice Requirements

During the Reporting Period, the City did not make changes to its BMP requirements for municipal activities. For more details on the current BMP requirements, please refer to the 2008 JURMP submitted in March 2008.

The required BMPs for all municipal activities were implemented and required to be implemented through contracts, agreements or permits.

4.2.3 Program Implementation

During the Reporting Period, the City did not make any changes to its the Municipal Component of the 2008 JURMP during the Fiscal Year 2009-2010 Reporting Period. The following sub-sections discuss the program implementation for the municipal activities programs.

4.2.3.1 Municipal Separate Storm Sewer System (MS4) Program

During the Reporting Period, the City did not make changes to its MS4 program implementation. For more details on the City's MS4 program implementation please refer to the 2008 JURMP submitted in March 2008.

The following data and information was collected and is provided to document MS4 operation and maintenance activities as required by the Permit and the City's 2008 JURMP:

1. Confirmation that the designated BMPs were implemented or required to be implemented during MS4 cleaning activities to eliminate waste discharges when cleaning is taking place.

During the reporting period, the City's Public Works employees implemented BMPs for MS4 maintenance activities to prevent the release of pollutants downstream as a result of maintenance activities. Generally, dry clean methods were conducted; however if jetting was required, socks and waddles were used downstream to trap the wash water. The wash water was then vacuumed and disposed of in the sanitary sewer. Any sediment or debris collected from MS4 maintenance activities was disposed of in a landfill, along with other debris collected throughout the City. The City kept logs of all MS4 inspection and maintenance activities in order to satisfy the reporting requirements of the JURMP Annual Report.

2. A description of inspections and maintenance conducted for municipal treatment controls, as applicable.

Trash Guards Treatment Control: The purpose of the "trash guards", installed on the face of storm drain inlets along Camino del Mar, is to minimize the amount of debris and trash entering into storm drain catch basins and to maximize the effectiveness of street sweeping. The guards keep the trash and debris on the street in order for it to be removed by the street sweeper. Inspections of the guards were performed to verify they were still operational and performing as purposed.

Inlet Filter Treatment Control– North County Transit District: As reported in the 2008 JURMP, the City of Del Mar has a Maintenance Agreement in place with the North San Diego County Transit Development Board as part of the Del Mar Stabilization Project 1 (Drainage Improvements and Landslide Warning System), which consists of fifty-four (54) structures. Fossil filters have been installed in some of the structures to address water quality and Permit requirements. The Maintenance Agreement requires the City to maintain fourteen (14) of the structures, while NCTD maintains the remaining forty (40) structures. Out of the fourteen structures maintained by the City, six have been fitted with filters that are serviced by the City's contractor (Downstream Services, Inc.). This fiscal year, all six filters were inspected and required maintenance.

Table 4-1 below represents a summary of the maintenance performed on the inlet filters.



Figure 4-1: MS4 Drainage System Map

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Table 4-1: Summary of Inlet Filter Maintenance for Fiscal Year 2009-2010

ID #	Location	Inlet Type	Materials	%Vol used*	Comments
1	West end of 4th Street	Combo	Dirt, Silt, or Sediment (D) 70% Trash (E) 5%	130%	Replaced (12) pouches and placed storm drain marker.
2	West end of 8th Street	Grate	D 70% Gravel (G) 20% Organics (O) 15%	105%	Replaced (4) pouches and placed storm drain marker.
3	SW 11th Street	Curb	D 70% G 20% O 10%	105%	Replaced (2) pouches and placed storm drain marker.
4	NW side of 11th Street	Curb	D 70% G 10% O 20%	100%	Replaced (3) pouches, placed storm drain marker, and retied.
5	W of 13th Street	Curb	D 95% E 5% O 5%	105%	Replaced (1) pouch and placed storm drain marker.
6	50' SW of pedestrian RR crossing, between RR tracks and Coast Blvd.	Grate	Asphalt (A) 10% D 50% O 10%	70%	Replaced (4) pouches and placed storm drain marker.

*where the "%Vol used" is greater than 100%, the inspection found more material at the inlet than the capacity of the filter

Based on a review of the Inlet Filter Maintenance Reports submitted by the City's Contractors, it is clear that a more frequent inspection and maintenance schedule may be necessary to ensure that no materials overwhelm the filters. Beginning in Fiscal Year 2010-2011, the City of Del Mar Public Works Department will be increasing visual inspections of the inlet filters identified in Table 4-1 and requesting additional service as needed from its contractor (Downstream Services, Inc.).

3. Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria (33% capacity), and the number of catch basins and inlets cleaned.

The City is responsible for the inspection and maintenance of 284 drainage structures that are part of the MS4, including inlets and catch basins. In Fiscal Year 2009-2010, 100% (284) of the MS4 inlets and catch basins were inspected and cleaned. None of the inlets or catch basins were found to have accumulated waste exceeding 33% capacity.

4. Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.

The City owns a total of 5.87 lineal miles of MS4. The City's MS4 pipe inspection program consists of cleaning crews inspecting pipes based on accessibility and visually inspecting pipe conditions during the inspection or cleaning of inlets and catch basins. During the Reporting Period, the City visually inspected approximately 3,500 lineal feet of MS4 pipe and cleaned approximately 2,500 lineal feet of MS4 pipe. No pipes were reported as exceeding the cleaning criteria threshold.

5. Identification of the total distance (miles) of open channels, the distance of open channels inspected, the distance of open channels found with anthropogenic litter, and the distance of open channels cleaned.

There are 2.85 linear miles of open channel or swale type drainage in the City, and these drainage structures are considered to be part of the MS4 inventory. During the Reporting Period, 100% (2.85 miles) of the open channels and swales were inspected. When necessary, the City cleaned sand, mud and sediment from the open channels and swales. The City's inspection and maintenance records indicate that no observations of significant amounts of anthropogenic litter were noted.

6. Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category. Proper disposal of waste removed pursuant to applicable laws.

The total amount of material removed from catch basins, inlets, open channels, and the MS4 for the Fiscal Year 2009-2010 was 86.5 cubic yards, or approximately 43.2 tons. By drainage structure category, it is estimated that approximately 35.8 tons of materials were removed from catch basins and inlets (combined inlets, basins and junctions), 7.1 tons of materials were removed from swales and open channels (headwall cleanings as channels), and the remaining estimated 0.3 tons of material was collected from the MS4 cleanings. *Please Note: the Permit requires the material collected to be reported in tons. However, the City's measurements are in cubic yards, and converted to tons for reporting purposes using a 1,000 pound per cubic yard conversion.*

4.2.3.2 Street Sweeping Program

During the Reporting Period, the City did not make changes to its street sweeping implementation. For more details on the City's street sweeping implementation please refer to the 2008 JURMP.

The following data and information were collected and are provided to document street sweeping activities as required by the Permit and the City's 2008 JURMP.

1. Identification of the total distance of curb-miles of improved roads and streets identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads and streets.

The total distance of curb-miles of improved roads and streets that consistently generate the highest volumes of trash and/or debris is approximately 5.7 miles, including curbed medians. The frequency at which these roads and streets are swept is at a minimum, weekly.

2. Identification of the total distance of curb-miles of improved roads and streets identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads and streets.

The total distance of curb-miles of improved roads and streets that consistently generate moderate volumes of trash and/or debris is approximately 14.5, including curbed medians. The frequency at which these roads and streets are swept is at a minimum, bimonthly.

3. Identification of the total distance of curb-miles of improved roads and streets identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads and streets.

The total distance of curb-miles of improved roads and streets that consistently generate low volumes of trash and/or debris is 31.2, including curbed medians. The frequency at which these roads and streets are swept is at a minimum, biannually.

4. Identification of the total distance of curb-miles swept.

During the Fiscal Year 2010 Reporting Period, the City swept a total of 1,156 curb miles. The brooms were engaged for a total of 180.7 hours.

5. Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping:

The two municipal parking lots in the City's municipal facility inventory are the 17th Street Lifeguard Station parking lot and the City Hall Parking lot. Both are considered to be high trash volume designations and thus, were swept semi-monthly during the Reporting Period.

6. Amount of material (tons) collected from street and parking lot sweeping:

The total amount of material collected from street sweeping activities of municipal areas for Fiscal Year 2009-2010 was 234.5 cubic yards*, or an estimated 117.25 tons. This amount includes all three trash volume categories and parking lot sweeping for the Reporting Period. *Please Note: the Permit requires the material collected to be reported in tons. However, the City's measurements are in cubic yards, and converted to tons for reporting purposes using a 1,000 pound per cubic yard conversion.*

The City coordinates with the 22nd District Agricultural Association (22DAA) (aka Del Mar Fairgrounds) to ensure that additional pollutant loading from the 22DAA facilities does not contribute to pollution in the MS4. Although the City conducts street sweeping along the 22DAA facility, the City requires the 22DAA to provide additional street sweeping on an as-needed basis, especially during its peak seasons – San Diego County Fair and Del Mar Thoroughbred Club racing season. The City does not quantify the amount of sediment and debris that is collected by the DAA sweepings.

4.2.3.3 Pesticide, Herbicide and Fertilizer Management

During the Reporting Period, the City did not make changes to its pesticide, herbicide and fertilizer management implementation. For more details on the City's pesticide, herbicide and fertilizer management implementation please refer to the 2008 JURMP.

The following data and information was collected and is provided to document pesticide, herbicide and fertilizer management activities as required by the Permit and the City's 2008 JURMP.

1. Confirmation that the designated BMPs for pesticides, herbicides, and fertilizers were implemented, or required to be implemented, for municipal areas and activities

The City confirms that during the Reporting Period, designated BMPs for pesticides, herbicides and fertilizers were required to be implemented and implemented for municipal areas and activities.

The City of Del Mar contracts with Aztec Landscaping for all of the maintenance of its municipal landscaped areas including: fertilization, pest control, and herbicide application. All chemicals are applied by licensed contractors and application of any landscaping-related chemicals is done per current San Diego County Department of Agriculture regulations and the City encourages manual weed and pest removal whenever possible; furthermore, any contract employee applying or mixing landscaping-related chemicals is required to possess a valid Qualified Applicators Certificate for Class B as issued by the State Department of Food and Agriculture. To regulate landscaping chemical use in the City, the contract company is required per its contract with the City to submit a proposed fertilization schedule prior to commencement of fertilization and to provide a monthly chemical application report to the City. In Fiscal Year 2009-2010, there were no apparent increases in landscaping-related chemicals as compared to previous years.

As in previous years, the annual Dry Weather Monitoring program included analysis for pesticides. No pesticides were detected in City-wide sampling during this reporting period, providing another validation of the proper use of the chemicals.

4.2.3.4 Sanitary Sewer Program

The City’s sanitary sewer system includes the collection system and various sanitary sewer systems. The sewer system infrastructure includes approximately 24.75 miles of gravity main, 0.07 miles (or approximately 387ft) of force main and 387 service points. Del Mar’s system includes three sewer pump/lift stations, 112 clean out facilities, and approximately 549 manhole structures. These facilities all are required to implement minimum BMPs and for the most part are inspected to verify BMP implementation and compliance. A description of the City’s efforts for these facilities is included below.

Of the approximately 24.75 miles of the sanitary sewer collection system, approximately 19.2 miles were cleaned as part of the regular schedule of inspection and cleaning. Some portions of the collection system were cleaned more than once due to priority and buildup of materials. The City tracks “hot spot” portions of the sewer collection system and depending upon the likelihood of materials build up, will perform cleaning two, three or up to four times per year. No sanitary sewer overflows occurred during the Reporting Period. The Regional Board (via CIWQS) and the San Diego County Department of Environmental Health (via facsimile) verified that there were no reported overflows during Fiscal Year 2009-2010 for the City of Del Mar.

4.2.3.5 Special Events

During the Reporting Period, the City did not make changes to its special events program implementation. For more details on the special events program, please see the 2008 JURMP submitted in March 2008.

Table 4-2 below provides a summary of the major events that were monitored by the City staff. All special events had City staff present that has been trained on Clean Water Program requirements to make observations and implement corrective actions as necessary during the events. In addition to the staff presence during the events, City staff responsible for each venue would inspect and take corrective actions the morning following special events.

Table 4-2: Major Event Summary Table

Event Name	Event Date	Estimated Attendance	Venue	Inspection Date(s) & Comments
Bocce Ball Tournament	7/18/2009	600	North Beach	Post-event inspection by cleanup crews – no spills or incidents reported
Summer Concerts In The Park	7/21/2009	3000	Powerhouse Park	Post-event inspection by cleanup crews – no spills or incidents reported
Summer Concerts In The Park	8/18/2009	3000	Powerhouse Park	Post-event inspection by cleanup crews – no spills or incidents reported
MS Walk	9/11/2009	350	Streets Of Del Mar	Post-event inspection by cleanup crews – no spills or incidents reported
Dog Surf Event	9/13/2009	4000	North Beach	Post-event inspection by cleanup crews – no spills or incidents reported
Summer Concerts In The Park	9/13/2009	3000	Powerhouse Park	Post-event inspection by cleanup crews – no spills or incidents reported
Del Mar Village Assoc. Art Stroll	10/3/2009	4000	Streets Of Del Mar	Post-event inspection by cleanup crews – no spills or incidents reported
MS Bike Ride	10/11/2009	2500	Streets Of Del Mar	Post-event inspection by cleanup crews – no spills or incidents reported
3 Day Breast Cancer Walk	11/20/2009	4000	Streets Of Del Mar	Post-event inspection by cleanup crews – no spills or incidents reported

Event Name	Event Date	Estimated Attendance	Venue	Inspection Date(s) & Comments
Del Mar Village Assoc. Winter Wonderland	12/6/2009	2500	Streets Of Del Mar	Post-event inspection by cleanup crews – no spills or incidents reported
Tour De Cure Bike Ride	4/17/2010	600	Streets Of Del Mar	Post-event inspection by cleanup crews – no spills or incidents reported
La Jolla Half Marathon	4/25/2010	5000	Streets Of Del Mar	Post-event inspection by cleanup crews – no spills or incidents reported
Irongirl 5k And 10k	5/8/2010	3000	Streets Of Del Mar	Post-event inspection by cleanup crews – no spills or incidents reported
SD Century Bike Ride	5/22/2010	1000	Streets Of Del Mar	Post-event inspection by cleanup crews – no spills or incidents reported
Summer Concerts In The Park	6/15/2010	2000	Powerhouse Park	Post-event inspection by cleanup crews – no spills or incidents reported
Summer Solstice	6/17/2010	250	Powerhouse Park	Post-event inspection by cleanup crews – no spills or incidents reported

4.2.3.6 Beach Cleaning

The City's beaches are a vital part of the City's community – not only for the natural settings they provide, but also for the economic sustainability of the City. In an effort to prevent pollutants from entering the Pacific Ocean and causing the potential impairment to the receiving waters, the City implements a regular beach cleaning program.

During the Reporting Period, the beach cleaner was operated two to three times per week during the spring and summer and more frequently for holidays when the beach has the most use. The primary collections for disposal included plastic bottles and paper trash. The collected kelp is sorted and left on the beach.

The City does not track the amount of debris collected from the beaches, as the cleaner dumps the debris at the Public Works Yard into a trash dumpster that is mixed with other refuse and waste.

4.2.3.7 Power Washing

Currently, the City does not regularly schedule power washing activities at specific locations. This activity is conducted in various areas of the City depending on the need and as a result of other maintenance functions. This activity and the BMPs identified in the City's 2008 JURMP are considered to apply citywide for all municipal operations. Power washing may be conducted by City staff or under contract depending on the need.

The City utilizes dry cleaning methods as its primary cleaning method, and the use of power washing is limited. However, the City conducted one (1) power washing activity during the Reporting Period. This activity was conducted on October 12, 2009 at the Del Mar Branch of the County Library. The power washing was used in conjunction with a graffiti removal project. The City confirms that all applicable BMPs were implemented during the power washing. The BMPs include vacuum collection of all wash water and disposal into the sanitary sewer system.

4.3 Municipal Facilities

4.3.1 Source Characterization

During the Reporting Period, there were no additions or deletions to the City's municipal facility inventory. The municipal facilities inventory is located in Appendix 4-A.

In general, the municipal facilities include the following types:

1. MS4 System,
2. Roads and Streets,
3. Public Facilities,
4. Municipal Facilities, and
5. Sanitary Sewer.

Discussion of the stormwater program implementation for these facilities is addressed in Section 4.2.3 above.

The City's roads and streets network includes 747 curb miles of streets and two public parking lots. As described in Section 4.2.3 above, street sweeping is the primary BMP implemented for the roads network.

The City's public facilities primarily include parks and recreational facilities, beaches and the Powerhouse Community Center. All of these facilities are required to implement minimum BMPs and are inspected to verify BMP implementation and compliance. A description of the City's BMP efforts for these facilities is included below.

The City's municipal facilities include the Public Works Yard, City Hall, the Del Mar Fire Station, and various potable water reservoirs. These facilities all are required to implement minimum BMPs and are inspected to verify BMP implementation and compliance. A description of the City's BMP efforts for these facilities is included below.

The City's sanitary sewer system includes approximately 24.75 miles of gravity main, 0.07 miles (or approximately 387ft) of force main and 387 service points. Del Mar's system includes three sewer pump/lift stations, 112 clean out facilities, and approximately 549 manhole structures. The sewer facilities were inspected as a part of the municipal inspections as described below.

4.3.2 Best Management Practice Requirements

During the Reporting Period there were no updates to the BMP requirements for municipal facilities described in the 2008 JURMP. The City confirms that required BMPs were implemented at all facilities.

4.3.3 Inspections

Per the 2008 JURMP, the City formally inspects all high priority municipal sites. Municipal sites are considered to be fixed facilities where high priority municipal activities occur. The streets and road network are routinely inspected under various programs such as street sweeping, streets maintenance, and MS4 inspections. Formal inspection forms are not generated for the general routine inspections performed of these municipal network areas.

The City conducted facility inspections for each of its high priority facilities during Fiscal Year 2009-2010. The purpose of these inspections was to ensure that BMPs (including those for pollution prevention) were

being implemented. Of the high priority municipal areas, 25 are actual municipally operated sites/facilities, while the remainder are networks including streets and roads.

All inspections conducted during Fiscal Year 2009-2010 addressed all of the required inspection steps to determine full compliance by utilizing the City's standard municipal inspection form. The results of the inspections can be found in Appendix 4-B. For each facility, recommendations for follow-up corrective actions were listed if applicable.

4.4 Enforcement

There were no violations or enforcement actions taken at any municipal activities or facilities during Fiscal Year 2009-2010.

4.5 Notable Activities

This Fiscal Year, the City once again applied with the California Department of Conservation for a grant from its Beverage Container Recycling and Litter Reduction Program to assist in the City's litter cleanup efforts. Disbursement of funds is determined by the California Department of Finance and the amount of the grant is contingent on the population of eligible cities or counties applying for the grant. The City of Del Mar was awarded a grant of \$5,000 for Fiscal Year 2009-2010 which was the maximum amount eligible for a jurisdiction of its size. A portion of the grant money was allocated to fund beach clean-up activities as well as to purchase dog nuisance clean-up bags ("Mutt Mitt") for distribution to the general public at City outreach events; the remaining money was allocated to assist in public cleanup days to continue to effectively reduce the amount of trash and debris entering the MS4 and the City's waterways. Due to the State's budget crisis, these monies were not received until June 30, 2010. As such, the grant money will be spent in the next reporting period. The City of Del Mar continued to work with community groups in hosting beach clean-up days, and utilized General Fund monies to purchase the necessary "Mutt Mitts".

4.6 Program Review and Modification

No modifications were made to the Municipal Facilities Component of the 2008 JURMP during this Reporting Period.

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Appendix 4-A
Fiscal Year 2009-2010 City of Del Mar Municipal Facilities Inventory

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Facility Name	Contact Person	Phone Number	Priority	Address No.	Street	Zip Code	HA Name	HA	Description of Area/Activity	Bacteria	Gross Pollutants	Metals	Nutrients	Oil and Grease	Organics	Pesticides	Sediment	Trash
Public Works Yard	Doug Blackstock	(858) 755-3294	High	2240	Jimmy Durante Blvd	92014	San Dieguito	905.11	Public Works Admin building, shops, parking lot, open and covered storage yards. Fueling station, storage, vehicle/equipment cleaning and repair. Temporary storage of trash, recycling and landscape materials. Hazardous waste materials storage.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Del Mar Fire Station	Robert Burron	(858) 755-1522	Non	2220	Jimmy Durante Blvd	92014	San Dieguito	905.11	Building and parking lot. Vehicle storage and cleaning. Hazardous waste materials storage.			Yes		Yes	Yes		Yes	Yes
Community Library	Doug Blackstock	(858) 755-3294	Non	1309	Camino Del Mar	92014	San Dieguito	905.11	Building, parking lot, and landscape maintenance.			Yes	Yes	Yes		Yes		Yes
City Hall	Doug Blackstock	(858) 755-3294	Non	1050	Camino Del Mar	92014	San Dieguito	905.11	Building and landscape maintenance.				Yes			Yes		Yes
City Hall Parking Lot	Doug Blackstock	(858) 755-3294	High	1050	Camino Del Mar	92014	San Dieguito	905.11	Parking and landscaping.			Yes		Yes		Yes		Yes
Main Lifeguard Station	Pat Vergne	(858) 755-1556	High	1700	Coast Blvd	92014	San Dieguito	905.11	Building. First Aid Care. Restroom Facilities. Building and landscape maintenance.	Yes			Yes		Yes		Yes	Yes
Main Lifeguard Station Parking Lot	Doug Blackstock	(858) 755-3294	High	1700	Coast Blvd	92014	San Dieguito	905.11	Parking and landscaping.			Yes		Yes		Yes		Yes
20th Street Lifeguard Station	Pat Vergne	(858) 755-1556	Medium		20th St	92014	San Dieguito	905.11	Building. First Aid Care. Restroom Facilities. Building maintenance.	Yes			Yes		Yes		Yes	Yes
25th Street Lifeguard Station	Pat Vergne	(858) 755-1556	High		25th St	92014	San Dieguito	905.11	Building. First Aid Care. Restroom Facilities. Building and landscape maintenance.	Yes			Yes		Yes		Yes	Yes
Tennis Court Facilities	Doug Blackstock	(858) 755-3294	Non		Court St	92014	San Dieguito	905.11	Tennis courts with parking and access.									Yes
Zuni Water Reservoir	Doug Blackstock	(858) 755-3294	High	627	Zuni Dr	92014	San Dieguito	905.11	Potable water storage tank and equipment maintenance.	Yes			Yes	Yes	Yes			
Crest Water Reservoir	Doug Blackstock	(858) 755-3294	High	706	Crest Rd	92014	San Dieguito	905.11	Potable water storage tank and equipment maintenance.	Yes			Yes	Yes	Yes			
11th Street Water Reservoir	Doug Blackstock	(858) 755-3294	Medium	562	11th St	92014	San Dieguito	905.11	Potable water storage tank and equipment maintenance.	Yes			Yes	Yes	Yes			
Torrey Pines Water Reservoir	Doug Blackstock	(858) 755-3294	High	487	Pine Needles Dr	92014	Penasquitos	906.10	Potable water storage tank and equipment maintenance.	Yes			Yes	Yes	Yes			
Seagrove Park	Doug Blackstock	(858) 755-3294	High	1500	Coast Blvd	92014	San Dieguito	905.11	Public park. Turf, tree and landscape maintenance. Fertilization and pesticide application.	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Powerhouse Community Center	Pat Vergne	(858) 755-1556	High	1630	Coast Blvd	92014	San Dieguito	905.11	Special events, food prep, restrooms. Building and landscape maintenence.	Yes	Yes		Yes	Yes	Yes			Yes
Powerhouse Park	Doug Blackstock	(858) 755-3294	High	1630	Coast Blvd	92014	San Dieguito	905.11	Public park. Turf, tree and landscape maintenance. Fertilization and pesticide application. Restrooms and showers	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Caminito Park	Doug Blackstock	(858) 755-3294	High	1500	Camino Del Mar	92014	San Dieguito	905.11	Public park. Turf, tree and landscape maintenance. Fertilization and pesticide application.	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Minipark	Doug Blackstock	(858) 755-3294	High	1300	Maiden Ln	92014	San Dieguito	905.11	Public park. Turf, tree and landscape maintenance. Fertilization and pesticide application.	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Sea Cliff Park	Doug Blackstock	(858) 755-3294	High	1500	Coast Blvd	92014	San Dieguito	905.11	Public park. Turf, tree and landscape maintenance. Fertilization and pesticide application.	Yes	Yes		Yes		Yes	Yes	Yes	Yes
Riverpath Del Mar	Doug Blackstock	(858) 755-3294	High	2240	Jimmy Durante Blvd	92014	San Dieguito	905.11	Public park. Tree and landscape maintenance.	Yes			Yes		Yes	Yes	Yes	Yes
21st St Sewer Lift Station	Doug Blackstock	(858) 755-3294	High	201	21st St	92014	San Dieguito	905.11	Sanitary sewer pump station. Sewer spills, pump repairs and replacement.	Yes	Yes		Yes	Yes	Yes			
7th St Sewer Lift Station	Doug Blackstock	(858) 755-3294	Medium	120	7th St	92014	San Dieguito	905.11	Sanitary sewer pump station. Sewer spills, pump repairs and replacement.	Yes	Yes		Yes	Yes	Yes			
San Dieguito Sewer Lift Station	Doug Blackstock	(858) 755-3294	High	2110	San Dieguito Dr	92014	San Dieguito	905.11	Sanitary sewer pump station. Sewer spills, pump repairs and replacement.	Yes	Yes		Yes	Yes	Yes			
Winston School Ball Field	Doug Blackstock	(858) 755-3294	Medium	215	9th St	92014	San Dieguito	905.11	Ball field and parking.	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes

New:

Winston School Ball Field

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Appendix 4-B
Summary of Fiscal Year 2009-2010 Municipal Facility Inspections

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**Municipal Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Municipal	Public works administration building, shops, parking lot, open and covered storage yards, Fueling station, storage, vehicle/equipment cleaning and repair. Temporary storage of trash, recycling and landscape materials. Area serves as a hazardous waste materials storage. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	Public Works Yard		Corrective Actions Required:
Address:	2240 Jimmy Durante Blvd		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		No
			Follow Up Inspection Date:
			Corrective Actions Verified:
Inspection Type:	Municipal	Potable water storage tank and equipment maintenance. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	Zuni Water Reservoir		Corrective Actions Required:
Address:	627 Zuni Dr		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		No
			Follow Up Inspection Date:
			Corrective Actions Verified:
Inspection Type:	Municipal	Public Park. Turf, tree, and landscape maintenance, fertilization and pesticide application. Restrooms and showers. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	Powerhouse Park		Corrective Actions Required:
Address:	1630 Coast Blvd		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		No
			Follow Up Inspection Date:
			Corrective Actions Verified:

**Municipal Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Municipal	Potable water storage tank and equipment maintenance. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	11th Street Water Reservoir		Corrective Actions Required:
Address:	562 11th St		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		No
			Follow Up Inspection Date:
			Corrective Actions Verified:
			Corrective Actions Verified:
Inspection Type:	Municipal	Tennis courts with parking and access. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	Tennis Court Facilities		Corrective Actions Required:
Address:	Del Mar, CA		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		No
			Follow Up Inspection Date:
			Corrective Actions Verified:
			Corrective Actions Verified:
Inspection Type:	Municipal	Potable water storage tank and equipment maintenance. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	Crest Water Reservoir		Corrective Actions Required:
Address:	706 Crest Rd		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		No
			Follow Up Inspection Date:
			Corrective Actions Verified:
			Corrective Actions Verified:

**Municipal Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Municipal	Potable water storage tank and equipment maintenance. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	Torrey Pines Water Reservoir		Corrective Actions Required:
Address:	487 Pine Needles Dr		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	Penasquitos (906.10)		Follow Up Inspection Required:
Inspector:	Don Scoles		Follow Up Inspection Date:
			Corrective Actions Verified:
Inspection Type:	Municipal	Building and landscape maintenance. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	City Hall		Corrective Actions Required:
Address:	1050 Camino Del Mar		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		Follow Up Inspection Date:
			Corrective Actions Verified:
Inspection Type:	Municipal	Parking and landscaping. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	City Hall Parking Lot		Corrective Actions Required:
Address:	1050 Camino Del Mar		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		Follow Up Inspection Date:
			Corrective Actions Verified:

**Municipal Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Municipal	Sanitary sewer pump station. Sewer spills, pump repairs and replacement. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		Enforcement Action:
Facility Name:	7th Street Sewer Lift Station		Corrective Actions Required:
Address:	120 7th St		Corrective Actions Required:
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Diegoito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		Follow Up Inspection Date:
			Corrective Actions Verified:
Inspection Type:	Municipal	Sanitary sewer pump station. Sewer spills, pump repairs and replacement. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		Enforcement Action:
Facility Name:	21st Street Sewer Lift Station		Corrective Actions Required:
Address:	201 21st St		Corrective Actions Required:
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Diegoito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		Follow Up Inspection Date:
			Corrective Actions Verified:
Inspection Type:	Municipal	Sanitary sewer pump station. Sewer spills, pump repairs and replacement. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		Enforcement Action:
Facility Name:	San Diegoito Sewer Lift Station		Corrective Actions Required:
Address:	2110 San Diegoito Dr		Corrective Actions Required:
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Diegoito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		Follow Up Inspection Date:
			Corrective Actions Verified:

**Municipal Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Municipal	Public park. Tree and landscape maintenance. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	Riverpath Del Mar		Corrective Actions Required:
Address:	2240 Jimmy Durante Blvd		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		Follow Up Inspection Date:
			Corrective Actions Verified:
Inspection Type:	Municipal	Building, parking lot, and landscape maintenance. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	Community Library		Corrective Actions Required:
Address:	1309 Camino Del Mar		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		Follow Up Inspection Date:
			Corrective Actions Verified:
Inspection Type:	Municipal	Public park. Turf, tree, and landscape maintenance. Fertilization and pesticide application. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		None
Facility Name:	Seagrove Park		Corrective Actions Required:
Address:	1500 Coast Blvd		No
Contact:	Doug Blackstock		Corrective Action Description:
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		Follow Up Inspection Date:
			Corrective Actions Verified:

**Municipal Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings		Enforcement and Follow Up	
Inspection Type:	Municipal	Building and parking lot, vehicle storage and cleaning.	Enforcement Action:	None	
Inspection Date:	3/11/2010	Hazardous waste materials storage. No issues to report.	Corrective Actions Required:	No	
Facility Name:	Del Mar Fire Station		Corrective Action Description:		
Address:	2220 Jimmy Durante Blvd				
Contact:	Robert Burrton				
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:	No	
Inspector:	Don Scoles		Follow Up Inspection Date:		
			Corrective Actions Verified:		
Inspection Type:	Municipal	Public park. Turf, tree, and landscape maintenance.	Enforcement Action:	None	
Inspection Date:	3/11/2010	Fertilization and pesticide application. No issues to report.	Corrective Actions Required:	No	
Facility Name:	Minipark		Corrective Action Description:		
Address:	1300 Maiden Ln				
Contact:	Doug Blackstock				
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:	No	
Inspector:	Don Scoles		Follow Up Inspection Date:		
			Corrective Actions Verified:		
Inspection Type:	Municipal	Public park. Turf, tree, and landscape maintenance.	Enforcement Action:	None	
Inspection Date:	3/11/2010	Fertilization and pesticide application. No issues to report.	Corrective Actions Required:	No	
Facility Name:	Caminito Park		Corrective Action Description:		
Address:	1500 Camino Del Mar				
Contact:	Doug Blackstock		Follow Up Inspection Required:	No	
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Date:		
Inspector:	Don Scoles		Corrective Actions Verified:		

**Municipal Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Municipal	Public park, Turf, tree, and landscape maintenance. Fertilization and pesticide application. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		Corrective Actions Required:
Facility Name:	Sea Cliff Park		Corrective Action Description:
Address:	1500 Coast Blvd		Follow Up Inspection Required:
Contact:	Doug Blackstock		Follow Up Inspection Date:
Hydrologic Area:	San Dieguito (905.11)		Corrective Actions Verified:
Inspector:	Don Scoles		
Inspection Type:	Municipal	Building, first aid care, and restroom facilities. Building maintenance. City of Del Mar Lifeguard Tower/ Beach Activity SWMP needs to be updated and a copy kept at this lifeguard tower.	Enforcement Action:
Inspection Date:	3/11/2010		Corrective Actions Required:
Facility Name:	20th Street Lifeguard Station		Corrective Action Description:
Address:	20th St		Follow Up Inspection Required:
Contact:	Pat Vergne		Follow Up Inspection Date:
Hydrologic Area:	San Dieguito (905.11)		Corrective Actions Verified:
Inspector:	Don Scoles		
Inspection Type:	Municipal	Building, first aid care, and restroom facilities. Building and landscape maintenance. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		Corrective Actions Required:
Facility Name:	25th Street Lifeguard Station		Corrective Action Description:
Address:	25th St		Follow Up Inspection Required:
Contact:	Pat Vergne		Follow Up Inspection Date:
Hydrologic Area:	San Dieguito (905.11)		Corrective Actions Verified:
Inspector:	Don Scoles		

**Municipal Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Municipal	Building, first aid care, and restroom facilities. Building and landscape maintenance. City of Del Mar Lifeguard Tower/ Beach Activity SWMP not on site but at City. Needs to be updated to include 25th St tower bathrooms and be kept on site.	Enforcement Action:
Inspection Date:	3/11/2010		Follow Up Inspection Required:
Facility Name:	Main Lifeguard Station		Follow Up Inspection Date:
Address:	1700 Coast Blvd		Corrective Actions Verified:
Contact:	Pat Vergne		Enforcement Action:
Hydrologic Area:	San Dieguito (905.11)		Corrective Actions Required:
Inspector:	Don Scoles		Corrective Action Description:
Inspection Type:	Municipal	Special events, food preparation, and restroom facilities. Building and landscape maintenance. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		Follow Up Inspection Required:
Facility Name:	Powerhouse Community Center		Follow Up Inspection Date:
Address:	1630 Coast Blvd		Corrective Actions Verified:
Contact:	Pat Vergne		Enforcement Action:
Hydrologic Area:	San Dieguito (905.11)		Corrective Actions Required:
Inspector:	Don Scoles		Corrective Action Description:
Inspection Type:	Municipal	Parking and landscaping. No issues to report.	Enforcement Action:
Inspection Date:	3/11/2010		Follow Up Inspection Required:
Facility Name:	Main Lifeguard Station Parking Lot		Follow Up Inspection Date:
Address:	1700 Coast Blvd		Corrective Actions Verified:
Contact:	Doug Blackstock		Enforcement Action:
Hydrologic Area:	San Dieguito (905.11)		Corrective Actions Required:
Inspector:	Don Scoles		Corrective Action Description:

**Municipal Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up	
Inspection Type:	Municipal	Ballfield and parking. No issues to report.	Enforcement Action:	None
Inspection Date:	3/11/2010		Corrective Actions Required:	No
Facility Name:	Winston School Ballfield		Corrective Action Description:	
Address:	215 9th St			
Contact:	Doug Blackstock			
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:	No
Inspector:	Don Scoles		Follow Up Inspection Date:	
			Corrective Actions Verified:	

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Section 5

Industrial/Commercial Component

5.1 Introduction

The City continued to implement the Industrial and Commercial Component of its 2008 JURMP in Fiscal Year 2009-2010 to prevent and reduce pollutants in runoff from industrial and commercial facilities within the City.

5.2 Stationary Industrial and Commercial Sites/Sources Element

5.2.1 Background

This section focuses on fixed business sources, combining industrial and commercial businesses as defined by their activities. Fixed business sources are defined as businesses that have a stationary location where business activities are conducted. The referenced businesses are those that are identified in Order R9-2007-0001 for inclusion on the City's inventory.

5.2.2 Source Characterization

A watershed-based inventory and prioritization of known industrial and commercial facilities within the City's jurisdiction has been updated for the Fiscal Year 2009-2010 Reporting Period and is included as Appendix 5-A. This inventory is based on multiple sources of information including the City's business license list, the Statewide General Industrial Storm Water database and other sources of information, as appropriate. The current inventory lists 40 stationary business facilities within the City of Del Mar. Of the 40 inventoried stationary facilities the City considers all to be "high" threats to water quality (TTWQ), including one high TTWQ industrial facility.

5.2.3 Best Management Practice Requirements

During the Reporting Period, the City did not make changes to its BMP requirements for the commercial and industrial facilities. The requisite BMPs for all commercial and industrial facilities were required to be implemented through the City's 2008 JURMP and municipal code.

5.2.4 Program Implementation

During Fiscal Year 2009-2010, the City provided notification to owners/operators of industrial and commercial businesses of the applicable BMP requirements. This information was specific to automotive and food establishment businesses. Only five (5) businesses operating within the City of Del Mar did not fall into one of these two categories. These included three (3) animal facilities and one (1) waste management (recycling) site. These notification efforts will continue through Fiscal Year 2010-2011 and will be reported on in the next annual report.

During the Fiscal Year 2009-2010 reporting period, the City of Del Mar implemented its Fats, Oils, and Grease (FOG) program, including modifications to the City's Municipal Code (DMMC Chapters 22.04 and 22.08). The regulations, applicable to food service establishments, limit the amount of fats, oils, and grease entering the private and public sewer system. This limitation, and inspection/enforcement

mechanism, directly affects stormwater discharges by preventing a leading cause of sewer system overflows. The modification of the Municipal Code was adopted by the City Council on July 13, 2010.

5.2.4.1 Inspections

The City performed an inspection of all businesses on the City's industrial and commercial inventory (e.g. one industrial facility and 39 commercial facilities). As discussed above, the City considers all of the businesses on the inventory to be a high TTWQ. Appendix 5-B has a summary of all of the inspections conducted during the Reporting Period.

All inspections conducted during Fiscal Year 2009-2010 addressed all of the required inspection steps to determine full compliance by utilizing the City's standard industrial/commercial inspection form.

During implementation of the inspection program, no businesses were found to be in violation of the City's Municipal Stormwater Ordinance, or the requirements of the Permit. Some businesses were given verbal warnings about potential violations, while others were provided with guidance for proper implementation of BMPs.

Under inspection procedures outlined in the 2008 JURMP, facilities may require follow-up inspections if they are found to be in violation of the City's Municipal Stormwater Ordinance for a BMP-related deficiency. Based on the results of the Fiscal Year 2009-2010 Industrial and Commercial Inspections, five (5) follow-up inspections for potential violations were recommended, and will be conducted during the Fiscal Year 2010-2011 reporting period.

5.2.4.2 Enforcement

The City's enforcement process is to perform a follow-up visit for those businesses found to be out of compliance during inspections. If after the follow-up visit, the business is still out of compliance, the City Code Enforcement is notified and upon a visit, if there is no evidence of compliance, a Notice of Violation (NOV) or citation is issued. Although five (5) businesses were noted as requiring follow-up inspections, during Fiscal Year 2009-2010 no NOV's were issued as a result of the City's inspection program. As noted above, follow-up inspections for these will be conducted during the Fiscal Year 2010-2011 Reporting Period.

In addition to inspection follow-ups, the City also receives complaints or initiates investigations based on staff's observations of stormwater violations. After reviewing the facts of the case, the Code Enforcement Officer or Clean Water Manager determines the level of violation (if any) and may issue an NOV and/or administrative citation as appropriate. The City has made it a policy that education is to play a significant role in the enforcement of stormwater regulations. In most cases, a verbal warning is all that is necessary, and compliance is achieved. However, in some instances, further enforcement action is required. At present, the City does not actively track contacts made with local businesses that result in verbal warnings only. However, during Fiscal Year 2009-2010, seven (7) investigated incidents involving commercial or industrial operations warranted formal NOV and/or issuance of Administrative Citations by the City. Table 5-1 below provides a detail of enforcement actions taken against commercial or industrial operations.

Table 5-1: Commercial/Industrial Activity Enforcement Action Summary

Date	Business	Address	Complaint	Action Taken
07/25/2009	Prudential Realty	1234 Camino del Mar	Common area hosed down by unknown building occupant	Administrative Citation and fine issued \$100.00.
8/16/2010	Bully's North	1404 Camino del Mar	Hose-down of rear of restaurant/loading area – No BMPs implemented.	Administrative Citation and NOV issued with fine of \$200.00
9/25/2010	Bully's North	1404 Camino del Mar	Discharge from irrigation system.	Second violation. Administrative Citation and NOV issued with fine of \$100.00
11/7/2009	Zel's Del Mar	1247 Camino del Mar	Backup of kitchen grease trap, with overflow into parking lot.	NOV issued to new owners, with Clean-up and Abatement Order. No fine levied.
12/9/2009	Batter-Kaye	Vacant Lot on Corner of Jimmy Durante Blvd. and San Dieguito Drive	Sediment discharge from unimproved lot used as illegal parking area.	Administrative Citation and NOV issued with fine of \$200.00. Owners secured site to prohibit future discharges, and installed appropriate BMPs.
4/16/2010	Robert Angelo Properties	944 10 th Street	Sediment discharge to parking lot due to hillside failure.	NOV and Clean-up and Abatement Order issued. Owners repaired hillside and cleaned up parking lot prior to discharge event occurring from site. No further action warranted.
6/7/2010	Rusty's Del Mar	201 15 th Street	Excessive irrigation/overflow from property due to failure to shut off hose	NOV issued after discussion with owners. No fine issued. No further action warranted.

5.3 Mobile Sources Element

5.3.1 Background

This section focuses on mobile business sources; those defined as businesses not having a stationary business location and their business activities are conducted at various locations throughout the City or in some cases, the region. Due to the nature of their activities, mobile businesses are regulated differently than other businesses.

5.3.2 Source Characterization

An inventory of known mobile businesses within the City's jurisdiction was compiled for Fiscal Year 2008-2009 and is included in the Fiscal Year 2008-2009 Annual Report. This inventory is based on the City's business license list. The current inventory lists over 590 mobile businesses operating within the City of Del Mar and, all are presently considered high TTWQ sources. During Fiscal Year 2009-2010, additional sources were added to the inventory. During Fiscal Year 2010-2011, the City will, based on staffing and funding availability, be reviewing this inventory to further refine the prioritization of these mobile businesses and address education and outreach opportunities for these mobile sources.

5.3.3 Best Management Practice Requirements

During the Reporting Period, the City did not make changes to its BMP requirements for the mobile businesses. The most important BMPs for most mobile businesses typically involve non-stormwater discharge control, and spill prevention, control, and cleanup. BMPs for all mobile businesses were required to be implemented in accordance with the 2008 JURMP and the Del Mar Municipal Code.

5.3.4 Program Implementation

During the Fiscal Year 2009-2010 Reporting Period, the City continued to provide notification to owners/operators of mobile business of the BMP requirements applicable to their businesses. New mobile businesses registering with the City for business licenses are required to meet briefly with the Clean Water Manager to discuss the BMP requirements for their businesses. During the Reporting Period, the Clean Water Manager met with ten (10) new mobile businesses owners/operators. During the Fiscal Year 2010-2011 Reporting Period, these practices will be expanded through the development of additional educational materials for mobile businesses. In addition, the City plans to conduct additional targeted outreach to licensed mobile businesses regarding BMP implementation for catering, power washing operations, and mobile auto detailing operations during Fiscal Year 2010-2011.

5.3.4.1 Enforcement

During the Fiscal Year 2009-2010 Reporting Period, the City investigated no public complaints involving mobile businesses. However, during routine patrols of the City by enforcement staff, one (1) mobile business was identified operating without appropriate BMPs and/or causing illegal discharge. Table 5-2 below includes the enforcement action for stormwater violations that was taken against this mobile business during the Fiscal Year 2009-2010 Reporting Period. Please note: Enforcement actions against mobile businesses related to construction operations, including concrete operations, and delivery of goods and materials, are included in Section 3.5.3 above (Construction Component), and are not duplicated here.

Table 5-2: Mobile Business Enforcement Action Summary

Date	Business	Violation Address	Complaint	Action Taken
5/24/2010	Rancho Encinitas Pools & Spas	524 Zuni	Discharge of diatomaceous earth and water from backwashing of pool filter. No business license or BMPs.	Administrative Citation and NOV issued along with Clean-up and Abatement Order. \$200.00 fine levied for failure to implement appropriate BMPs and for illegal discharge. No further action warranted.

Appendix 5-A
Fiscal Year 2009-2010 Industrial and Commercial Facility Inventory
for the City of Del Mar

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Facility Name	Address Number	Street Name	Zip Code	Hydrologic Area	SIC Code	Industrial / Commercial	Principal Products / Services	Potential Pollutants										Tributary to 303(d) Listed	Threat to water quality	Industrial Permit	APN	GIS Mapping
								Bacteria	Gross Pollutants	Heavy Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash						
Americana	1454	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes								No	Yes	No	300-012-04	117.260478	32.959406
Animal And Bird Hospital Of Del Mar (Freeflight)	2132	Camino del Mar	92014	905.11	742	Commercial	Animal and Bird Specialty Services	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	299-100-29	117.264064	32.970172
Board & Brew	1212	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-074-07	117.264631	32.956778
Bruegger's Bagels	1435	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-030-82	117.264856	32.959483
Bully's North	1404	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-012-24	117.265322	32.958647
Zel's Del Mar	1247	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-075-01	117.264242	32.957442
Café Secret	1140	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-092-06	117.264367	32.956122
Chinese Double Happiness	1011	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-410-29	117.263067	32.954683
Crepes & Corks Café	1328	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-012-17	117.265053	32.957989
Del Mar Automotive Services	2201	San Dieguito Dr.	92014	905.11	7538	Commercial	Automotive Services		Yes	Yes			Yes	Yes	Yes	No	Yes	No	299-100-34	117.261772	32.969722	
Del Mar Farmer's Market	1050	Camino del Mar	92014	905.11	5411	Commercial	Grocery Store	Yes	Yes			Yes	Yes	Yes	Yes	No	Yes	No	300-092-03	117.264156	32.955047	
Del Mar German Car Service	155	Carmel Valley Rd.	92014	906.11	7538	Commercial	Automotive Services		Yes	Yes			Yes	Yes	Yes	Yes	Yes	Yes	No	301-032-11	117.259189	32.939311
Del Mar Koi	1105	Camino del Mar	92014	905.11	5999	Commercial	Animal and Bird Specialty Services	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-401-10	117.263542	32.955672
Del Mar Liquor & Deli	1149	Camino del Mar	92014	905.11	5812	Commercial	Grocery Store/Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-400-28	117.263989	32.956333
Del Mar Pizza, Inc.	211	15th Street	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-012-30	117.266017	32.959453
Del Mar Plaza	1555	Camino del Mar	92014	905.11	7389	Commercial	Shopping Center	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-030-86	117.265078	32.960489
Del Mar Rendezvous	1555	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-030-86	117.265111	32.960683
Del Mar Snack Shack	1670	Coast Blvd.	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	299-230-29	117.268125	32.962039
En Fuego, Cantina & Grill	1342	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-012-20	117.265169	32.958272
Eucalyptus Stoneware	2201	San Dieguito Dr.	92014	905.11	3269	Industrial	Pottery Manufacturing			Yes			Yes	Yes	Yes	No	Yes	Yes	299-100-34	117.261978	32.969992	
Harvest Ranch Market	1555	Camino del Mar	92014	905.11	5431	Commercial	Grocery Store	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-030-86	117.265111	32.960683
Il Fornaio Cucina Italiana/Enoteca del Fornaio	1555	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-030-86	117.265111	32.960683
Jake's Del Mar	1660	Coast Blvd.	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	299-230-03	117.268172	32.961903
Jimmy O's	225	15th Street	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	299-091-04	117.265789	32.959494
Kitchen 1540	1540	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	299-310-09	117.265908	32.960325
Sushi Japonese	1101	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-401-10	117.263542	32.955672
Osteria Pescatore Inc.	1201	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-075-06	117.263911	32.956878
Pacifica Del Mar / Pacifica Breeze	1555	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-030-86	117.265111	32.960683
Rose Towing, Inc.	2201	San Dieguito Dr.	92014	905.11	7549	Commercial	Automotive Services		Yes	Yes			Yes	Yes	Yes	No	Yes	No	299-100-34	117.261772	32.969722	
Sbicca American Bistro	215	15th Street	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-012-02	117.265839	32.959194
Seagrove Parking	1601	Coast Blvd.	92014	905.11	7521	Commercial	Automotive Services		Yes	Yes			Yes	Yes	Yes	No	Yes	No	299-230-10	117.267231	32.961722	
Shimbashi Izakaya-Seasonal Japanese Tapas & Sake Bar	1555	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-030-86	117.265111	32.960683
Starbucks Coffee #526	1435	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-030-82	117.264856	32.959483
Stratford Court Café	1307	Stratford Court	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-012-12	117.265339	32.957558
Sunset Parking Services, LLC	1555	Camino del Mar	92014	905.11	7521	Commercial	Automotive Services		Yes	Yes			Yes	Yes	Yes	No	Yes	No	300-030-86	117.265111	32.960683	
The Brigantine	3263	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	298-241-08	117.268814	32.979389
The Curry Comb	1212	Camino del Mar	92014	905.11	5812	Commercial	Animal and Bird Specialty Services	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-074-06	117.264356	32.956808
The Poseiden Restaurant	1670	Coast Blvd.	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	299-230-29	117.018125	32.962039
Waste Management Recycling	2201	San Dieguito Dr.	92014	905.11	5093	Commercial	Waste Removal		Yes	Yes				Yes	Yes	No	Yes	No	299-100-34	117.261939	32.969942	
La Tienda Wine Shop	1342	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-012-20	117.265169	32.958272
Seaside Yogurt	1231	Camino del Mar	92014	905.11	5812	Commercial	Food Establishment	Yes	Yes			Yes	Yes	Yes	Yes	Yes	No	Yes	No	300-075-04	117.264306	32.957186

Changes from FY2009

Café del Mar	→Now "Zel's Del Mar"
Java Kai (plaza)	→Coming soon "Smash Burger"
Matsugawa	→Now "Sushi Japonese"
Yogo Yogurt	→Now "Seaside Yogurt"
Il Fornaio Cucina Italiano	→Now "Il Fornaio Cucina Italiano / Enoteca del Fornaio"

Hotels (Possible Future Inspections)

Best Western Stratford Inn	710 Camino del Mar
Del Mar Inn	720 Camino del Mar
Les Artistes Inn of Del Mar	944 Camino del Mar
Secret Inn	1040 Camino del Mar
L'Auberger Del Mar	1540 Camino del Mar
Del Mar Motel on the Beach	1702 Coast Blvd.

New

La Tienda Wine Shop

Removed

L'Auberger Del Mar (Room Service)

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for reproduction purposes.**

Appendix 5-B
Summary of Fiscal Year 2009-2010 Commercial/Industrial Facility
Inspections

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for reproduction purposes.**

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/1/2010		None
Facility Name:	Il Fornaio Cucina Italiana		Corrective Actions Required:
Address:	1555 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Roberto Gerbino		
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scales		No
			Follow Up Inspection Date:
			Corrective Actions Verified:
<hr/>			
Inspection Type:	Annual Inspection	Grocery store. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/25/2010		None
Facility Name:	Del Mar Liquor & Deli		Corrective Actions Required:
Address:	1149 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Ted Talia		
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scales		No
			Follow Up Inspection Date:
			Corrective Actions Verified:
<hr/>			
Inspection Type:	Annual Inspection	Grocery store. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/26/2010		None
Facility Name:	Harvest Ranch Market		Corrective Actions Required:
Address:	1555 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Bill Pitineo		
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scales		No
			Follow Up Inspection Date:
			Corrective Actions Verified:

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/27/2010		None
Facility Name:	Pacifica Del Mar / Pacifica Breeze		Corrective Actions Required:
Address:	1555 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Chris Idso		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/26/2010		None
Facility Name:	Americana		Corrective Actions Required:
Address:	1454 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Randy Gruber		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/15/2010		None
Facility Name:	Shimbashi Izakaya		Corrective Actions Required:
Address:	1555 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Bob Berry (Shimbashi LLC)		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Food establishment. Previous facility name was Yogo Yogurt. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/15/2010		None
Facility Name:	Seaside Yogurt		Corrective Actions Required:
Address:	1231 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	John Lee		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		No	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/18/2010		None
Facility Name:	Chinese Double Happiness		Corrective Actions Required:
Address:	1011 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	De Gou Li		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		No	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Automotive repair services. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/18/2010		None
Facility Name:	Del Mar Automotive		Corrective Actions Required:
Address:	2201 San Dieguito Dr		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Al Phillips		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		No	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Automotive repair services. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/25/2010		None
Facility Name:	Del Mar German Car Service		Corrective Actions Required:
Address:	155 Carmel Valley Rd		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Ray Duffy		
Hydrologic Area:	Penasquitos (906.10)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/25/2010		None
Facility Name:	Del Mar Pizza, Inc		Corrective Actions Required:
Address:	211 15th Street		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Shaun Argent, Bob Fleet		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/1/2010		None
Facility Name:	Del Mar Rendezvous		Corrective Actions Required:
Address:	1555 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Tony Su		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	

**Business Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Automotive services. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/18/2010		None
Facility Name:	Rose Towing		Corrective Actions Required:
Address:	2201 San Dieguito Rd		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Stacey & Ali Dehbozorgi		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scales		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/25/2010		None
Facility Name:	The Brigantine		Corrective Actions Required:
Address:	3263 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Matt Morton		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scales		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Veterinary clinic. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/26/2010		None
Facility Name:	Animal & Bird Hospital of Del Mar		Corrective Actions Required:
Address:	2132 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Pam Stonebreaker		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scales		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	

**Business Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/26/2010		None
Facility Name:	Bruegger's Bagels		Corrective Actions Required:
Address:	1435 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Paul Abelowitz		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/25/2010		None
Facility Name:	Bully's North		Corrective Actions Required:
Address:	1404 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Sharron Delmonico		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Parking structure. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/1/2010		None
Facility Name:	Sunset Parking Services LLC		Corrective Actions Required:
Address:	1555 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Michael Harth		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Food establishment. Verbal warning issued for lack of secondary containment and cover on recyclable grease container. Follow up inspection is required following corrective actions.	Enforcement Action:
Inspection Date:	4/27/2010		Verbal
Facility Name:	Sbicca American Bistro		Corrective Actions Required:
Address:	215 15th Street		Yes
Business Type:	Commercial		Corrective Action Description:
Contact:	Dan Sbicca		Secondary containment and recyclable grease container needs to be installed by program deadline.
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		Yes
			Follow Up Inspection Date:
			To be completed in early FY 2011
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Pet grooming establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/26/2010		None
Facility Name:	The Curry Comb		Corrective Actions Required:
Address:	1212 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Cathy Wachter		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/26/2010		None
Facility Name:	Jimmy O's		Corrective Actions Required:
Address:	225 15th Street		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Keith Nordling		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Food establishment. Verbal warning issued to clean spills around grease container. Follow up inspection is required following corrective actions.	Enforcement Action:
Inspection Date:	4/19/2010		Verbal
Facility Name:	En Fuego		Corrective Actions Required:
Address:	1342 Camino del Mar		Yes
Business Type:	Commercial		Corrective Action Description:
Contact:	John Wingate		Facility will clean spills around grease container.
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles	Yes	
		Follow Up Inspection Date:	To be completed in early FY 2011
		Corrective Actions Verified:	
<hr/>			
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/16/2010		None
Facility Name:	Starbucks Coffee #526		Corrective Actions Required:
Address:	1435 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Kira Rigoni		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	No
		Follow Up Inspection Date:	
		Corrective Actions Verified:	
<hr/>			
Inspection Type:	Annual Inspection	Marketplace. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/27/2010		None
Facility Name:	Del Mar Farmer's Market		Corrective Actions Required:
Address:	1050 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Jacqueline Winterer		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	No
		Follow Up Inspection Date:	
		Corrective Actions Verified:	

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Food establishment. Verbal warning issued for lack of secondary containment and cover on recyclable grease container. Follow up inspection is required following corrective actions.	Enforcement Action:
Inspection Date:	4/27/2010		Verbal
Facility Name:	Sbicca American Bistro		Corrective Actions Required:
Address:	215 15th Street		Yes
Business Type:	Commercial		Corrective Action Description:
Contact:	Dan Sbicca		Secondary containment and recyclable grease container needs to be installed by program deadline.
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles		Yes
			Follow Up Inspection Date:
			To be completed in early FY 2011
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Pet grooming establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/26/2010		None
Facility Name:	The Curry Comb		Corrective Actions Required:
Address:	1212 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Cathy Wachter		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/26/2010		None
Facility Name:	Jimmy O's		Corrective Actions Required:
Address:	225 15th Street		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Keith Nordling		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Food establishment. Verbal warning issued to clean spills around grease container. Follow up inspection is required following corrective actions.	Enforcement Action:
Inspection Date:	4/19/2010		Verbal
Facility Name:	En Fuego		Corrective Actions Required:
Address:	1342 Camino del Mar		Yes
Business Type:	Commercial		Corrective Action Description:
Contact:	John Wingate		Facility will clean spills around grease container.
Hydrologic Area:	San Dieguito (905.11)		Follow Up Inspection Required:
Inspector:	Don Scoles	Yes	
		Follow Up Inspection Date:	To be completed in early FY 2011
		Corrective Actions Verified:	
<hr/>			
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/16/2010		None
Facility Name:	Starbucks Coffee #526		Corrective Actions Required:
Address:	1435 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Kira Rigoni		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	No
		Follow Up Inspection Date:	
		Corrective Actions Verified:	
<hr/>			
Inspection Type:	Annual Inspection	Marketplace. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/27/2010		None
Facility Name:	Del Mar Farmer's Market		Corrective Actions Required:
Address:	1050 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Jacqueline Winterer		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	No
		Follow Up Inspection Date:	
		Corrective Actions Verified:	

**Business Inspections Summary Table
FY 2009-10**

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/16/2010		None
Facility Name:	Jake's Del Mar		Corrective Actions Required:
Address:	1660 Coast Blvd		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Perry Ustick		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		No	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Parking lot. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/23/2010		None
Facility Name:	Seagrove Parking		Corrective Actions Required:
Address:	1601 Coast Blvd		No
Business Type:	Commercial		Corrective Action Description:
Contact:	John Allen King		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		No	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Shopping area. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/22/2010		None
Facility Name:	Del Mar Plaza		Corrective Actions Required:
Address:	1555 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Amy Schroeder		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		No	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Recycling operations. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/15/2010		None
Facility Name:	Waste Management Recycling		Corrective Actions Required:
Address:	2201 San Dieguito Dr		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Stella Lopez		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/26/2010		None
Facility Name:	Crepes & Corks Café		Corrective Actions Required:
Address:	1328 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Lana Blackwell		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. Verbal warning issued for lack of secondary containment and overhead cover on grease container. Follow up inspection required once necessary materials have been installed.	Enforcement Action:
Inspection Date:	4/1/2010		Verbal
Facility Name:	Board & Brew		Corrective Actions Required:
Address:	1212 Camino del Mar		Yes
Business Type:	Commercial		Corrective Action Description:
Contact:	Ron, Tom Powers		Owner will obtain secondary containment and overhead cover from manufacturer and install as appropriate.
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Animal & bird specialty services. No issues/violations reported. It is recommended that Del Mar Koi be removed from inspection list for next Fiscal Year.	Enforcement Action:
Inspection Date:	3/25/2010		None
Facility Name:	Del Mar Koi		Corrective Actions Required:
Address:	1101 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Junie Young		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/22/2010		None
Facility Name:	Kitchen 1540		Corrective Actions Required:
Address:	1540 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Raul Sandoval		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/2/2010		None
Facility Name:	Café Secret		Corrective Actions Required:
Address:	1140 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	John Halper		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Food establishment. Establishment closed in late April. New restaurant will be moving in. No issues/violations reported.	Enforcement Action:
Inspection Date:	4/23/2010		None
Facility Name:	Giorgio's Osteria del Pescatore		Corrective Actions Required:
Address:	1201 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Jorge A Vasquez Ramirez		
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			No
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. Verbal warning issued for lack of secondary containment and to clean the grease off the area surrounding the grease collection container. Follow up inspection is required following corrective actions.	Enforcement Action:
Inspection Date:	4/15/2010		Verbal
Facility Name:	The Poseidon Restaurant		Corrective Actions Required:
Address:	1670 Coast Blvd		Yes
Business Type:	Commercial		Corrective Action Description:
Contact:	Tom Ranglas		Facility will ask New Leaf to provide grease containment, and will clean the area surrounding the grease collection container.
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			Yes
			Follow Up Inspection Date:
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. Verbal warning issued for lack of secondary containment and cover on grease container as well as the need for grease on the ground to be cleaned. Follow up inspection is required following corrective actions.	Enforcement Action:
Inspection Date:	4/15/2010		Verbal
Facility Name:	Del Mar Snack Shack		Corrective Actions Required:
Address:	1670 Coast Blvd		Yes
Business Type:	Commercial		Corrective Action Description:
Contact:	Tom Ranglas		Facility will ask New Leaf to provide grease containment, and will clean the grease from the ground.
Hydrologic Area:	San Dieguito (905.11)		
Inspector:	Don Scoles		Follow Up Inspection Required:
			Yes
			Follow Up Inspection Date:
		Corrective Actions Verified:	

Business Inspections Summary Table FY 2009-10

General Information		General Description of Findings	Enforcement and Follow Up
Inspection Type:	Annual Inspection	Stoneware manufacturer; industrial permit issued in 2002. No issues/violations reported.	Enforcement Action:
Inspection Date:	3/25/2010		None
Facility Name:	Eucalyptus Stoneware		Corrective Actions Required:
Address:	2201 San Diegoito Dr		No
Business Type:	Industrial		Corrective Action Description:
Contact:	Alison Young		
Hydrologic Area:	San Diegoito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		No	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Hotel establishment. No issues/ violations reported.	Enforcement Action:
Inspection Date:	4/14/2010		None
Facility Name:	Stratford Court Café		Corrective Actions Required:
Address:	1307 Stratford Court		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Gregg Sonken		
Hydrologic Area:	San Diegoito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		No	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	
Inspection Type:	Annual Inspection	Food establishment. No issues/ violations reported.	Enforcement Action:
Inspection Date:	4/1/2010		None
Facility Name:	Sushi Japoné		Corrective Actions Required:
Address:	1101 Camino del Mar		No
Business Type:	Commercial		Corrective Action Description:
Contact:	Akira Konishi		
Hydrologic Area:	San Diegoito (905.11)		
Inspector:	Don Scoles	Follow Up Inspection Required:	
		No	
		Follow Up Inspection Date:	
		Corrective Actions Verified:	

Section 6

Residential Component



6.1 Introduction

Section 6 of this JURMP Annual Report provides information that the City of Del Mar determined is relevant to the implementation of the Residential Component for this Reporting Period. The program was developed with the intent to reduce residential discharges of pollutants to the MS4 to the maximum extent practical and prevent residential discharges to the MS4 from causing or contributing to an exceedance of water quality standards.

6.2 Source Characterization

Section 8.2 of the 2008 JURMP provided a list of residential areas and activities that were designated as a high threat to water quality (TTWQ). No modifications in Section 8.2 of the 2008 JURMP have been recorded during this Reporting Period.

6.3 Best Management Practice Requirements

Section 8.3 of the 2008 JURMP identifies updated BMP requirements for residential areas and activities, including pollution prevention methods to be encouraged, and provides a list of minimum BMPs that were required to be implemented when high TTWQ residential activities are conducted within the City of Del Mar. No modifications in Section 8.3 of the 2008 JURMP have been recorded during this Reporting Period. During Fiscal Year 2009-2010, the designated BMPs were required to be implemented for residential areas and activities.

6.4 Program Implementation

Section 8.4 of 2008 JURMP described the Residential education including the Regional Education Program and the local educational outreach program prepared by the City which incorporated the strategy and tools used by the City of Del Mar Clean Water Program staff to require and encourage residents to implement the designated minimum BMPs. No modifications in Section 8.4 of the 2008 JURMP have been recorded during this Reporting Period.

The City continues to implement and facilitate proper management and disposal of used oil and household hazardous materials as described in Section 8.4.3 of the 2008 JURMP. During this Reporting Period, the City's contractor, PSC Environmental Services, LLC, continued to provide, curbside pick-up and drop-off of household hazardous waste for City of Del Mar residents. Table 6-1 below provides a summary of the HHW collection for Fiscal Year 2009-2010 as compared to the three (3) previous reporting periods.

Table 6-1: Household Hazardous Waste Program Summary Table

Fiscal Year	Pick-up Service Users	Drop-off Service Users	Total Users	Total Weight of HHW Disposal	Waste Oil Disposal
Fiscal Year 2009-2010	43	17	60	6,686 lbs	15.9 gal
Fiscal Year 2008-2009	96	16	112	12,542 lbs	6.9 gal*
Fiscal Year 2007-2008	130	34	164	11,698 lbs	50 gal
Fiscal Year 2006-2007	104	31	135	12,845 lbs	ND

* The specific amount of waste oil collected was not tracked by the City's contractor. This number represents participation by residents in the program, and is estimated based on participation multiplied by the total amount collected.

The City of Del Mar also continued collaboration efforts with other Copermitees in the implementation of the Regional Residential Education Program during Fiscal Year 2009-2010. The City of Del Mar provides funds for the Regional Residential Education Program in collaboration with the other Copermitees primarily through cost-sharing contributions to support the program activities. A complete discussion of the Regional Education Program can be found in the Regional Urban Runoff Management Program, submitted to the Regional Board under separate cover.

6.5 Oversight of Residential Areas and Activities

During Fiscal Year 2009-2010 the City continued to utilize a combination of residential education, complaint investigation and code enforcement as methods for oversight of residential areas and activities as noted in the 2008 JURMP (Sections 8.3 and 8.4). The City evaluated the methods for oversight of residential areas and activities and deemed it complete and functional. Therefore, no changes were made or have been identified during this reporting period.

6.6 Enforcement Measures for Residential Areas and Activities

Section 8.5 of the 2008 JURMP provides a description of the general process for applying enforcement for residential areas and activities urban runoff related violations. No modifications in Section 8.5 of the 2008 JURMP were recorded during this Reporting Period.

All reports of alleged illegal discharges are investigated by the City, and appropriate is action taken. As indicated in Section 8.5 of the 2008 JURMP, education plays a significant role in the enforcement of stormwater regulations as it relates to residential activities. During the Reporting Period, 55 calls were received by the Clean Water Manager's Office regarding alleged illegal discharges from residential activities, not related to construction activities. The majority of these calls related to allowable discharges from foundation drains and other residential activities allowed under Section B.2 of the Municipal Permit and allowed under the City's Stormwater Management and Discharge Control Ordinance (Chapter 11.30 of the Del Mar Municipal Code). However, three (3) of these calls resulted in the issuance of Notices of Violation (NOVs), Written Warnings, or Administrative Citations to residents as a result of substantial over-irrigation or other illegal activities. The remainder of the calls resulted in no further action after investigation, or a verbal warning issued. Table 6-2 below contains a summary of the residential complaints received, not related to construction operations, during this Reporting Period. Please note:

enforcement actions related to Construction Activities in residential areas are documented in Section 3 of this Annual Report and are not duplicated here.

Table 6-2: Residential Area Enforcement Action Summary

Date	Residential Address	Complaint	Action Taken
7/28/2009	415 Stratford Court	Irrigation runoff due to hose being left on for more than two hours.	Repeat offense. Written Warning and NOV issued. Administrative penalties of \$200.00 levied.
08/06/2009	1151 Lunetta	Resident seen hosing down driveway and allowing runoff to enter MS4.	Warning issued to resident, with subsequent written NOV. Clean Water Manager met with resident after incident to explain program and requirements. No further action was warranted, and no fines were levied.
08/13/2009	415 Stratford Court	Discharge from over-Irrigation	Third offense. Written Warning and NOV issued, with fines of \$400.00 levied. Discussions with property owner regarding resident held, and action was taken by owner to insure that discharges would stop. No further action warranted.

6.7 Notable Activities

This section describes the notable activities conducted to manage urban runoff from residential areas and activities by the City. During this Reporting Period the City of Del Mar began working on coordinated outreach related to emergency water conservation activities with stormwater requirements. During Fiscal Year 2009-2010, staff from the Del Mar Public Works Department and Clean Water Program jointly conducted outreach, including public workshops to the residents of Del Mar, to fully inform them of the requirements for water conservation and to prevent discharges, including low-flow or drip irrigation, metering, etc. During July 2010, a workshop on water conservation was sponsored by the City of Del Mar and was attended by more than 60 residents. Included in the workshop was lengthy discussions relating to irrigation runoff and its impact on water quality. The workshop was also videotaped and aired on the City's local cable channel as part of the City's on-going education and outreach efforts.

6.8 Residential Component Effectiveness Assessment

A complete assessment of the effectiveness of the City's implementation of its 2008 JURMP, including the Residential Component, is included as Chapter 11 of this Annual Report.

6.9 Program Review and Modification

No modifications were made to the Residential Component of the 2008 JURMP during this Reporting Period.

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Section 7

Illicit Discharge Detection and Elimination Component



This section of the Annual Report would describe all the notable activities conducted to manage illicit discharges and connections. In accordance with requirements of Addendum No. 2 to Order R9-2007-0001, which was adopted by the Regional Board on September 10, 2008, the City of Del Mar will submit the entire Fiscal Year 2009-2010 Illicit Discharge Detection and Elimination (IDDE) Component and its attachments no later than December 15, 2010.

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Section 8

Education Component



This section provides a description of education efforts conducted by the City for each target audience to satisfy the requirements under Section J.3.a.(3)(g) of the Permit.

8.1 Introduction

Section D.5 and J.3.a(g) of the Permit identifies a comprehensive educational program designed to measurably increase awareness within target audiences with respect to urban runoff, its impacts on receiving waters, and the rules and regulations under local, State, and federal law. The City of Del Mar's 2008 JURMP outlined a reporting format that varies slightly from standardized regional format. The reason for the difference in the reporting format is the intent for this section to be consistent with the specified order of general and specific education requirements for the various target audiences in the Permit. As a built-out coastal community, with extremely limited number of industrial dischargers, the focus of education in the City of Del Mar is on the residential sector, food establishments, construction and redevelopment, and mobile businesses ("service by vehicle"). A description of education efforts conducted during the reporting period for each target community is provided below.

8.2 Staff Training Element

Education efforts were conducted for municipal departments and personnel. Section 10.3 of the 2008 JURMP described content, form and frequency of education efforts to be conducted with municipal departments and personnel as required under Permit section J.3.a.(3)(g)iii.. No modifications in Section 10.3 of the 2008 JURMP have been recorded during this Reporting Period. However, the City is presently reviewing the training requirements as outlined in the 2008 JURMP and may make modifications during Fiscal Year 2010-2011.

During the Reporting Period, 100% of all staff received some training on stormwater topics, including specific training focused on Permit requirements. To accomplish this, educational handouts/pamphlets were distributed to staff along with their biweekly paychecks, in addition to the face-to-face training opportunities. The City of Del Mar held one (1) focused training sessions to educate field staff on job-specific stormwater principals and requirements, including the required "pre-wet season" training for construction inspections held for planning and code enforcement staff. 100% of the staff from the Planning and Community Development Department, the Code Enforcement Division, and the City Engineer's Office attended these trainings. The Clean Water Manager also hosted a workshop on the revised SUSMP requirements which was attended by staff from Planning and Community Development, Engineering, and Public Works.

As an ongoing part of staff training, the Clean Water Manager regularly attended the weekly Planning and Community Service Department Staff Meetings, where he provided feedback on project-specific stormwater issues and gave staff direction on JURMP and SUSMP implementation. In addition, the Clean Water Manager regularly attended the City's weekly Executive Team Meetings to ensure that Departmental and City Management were kept abreast of issues related to program implementation. Lastly, the Clean Water Manager informally met with the City's Park Ranger, Community Service Officer(s), Code Enforcement Officer, and Code Enforcement Technician on a regular basis to provide clarification of stormwater BMP requirements under the Permit and the City's Stormwater Management and Discharge Control Ordinance. As part of the City's procedures for hiring of full-time/permanent staff,

all new employees view and discuss the City’s “Clean Water Video.” Developed in April 2008, this 12 minute video, entitled “The Del Mar Clean Water Program: Keeping the Water Clean for You!” highlights the municipal programs conducted by the City, and provides a complete overview of the Permit elements.

Lastly, public meetings and forums were utilized to ensure that the elected members of the City Council were educated on specific permit requirements and program elements they would encounter as part of the discretionary review and public hearing processes. Table 8-1, below provides a list of municipal staff trainings conducted during the Reporting Period.

Table 8-1: Staff Education and Training Summary

Date.	How Conducted	Conducted By	Education Topic	Attendees
09/29/2009	Planning and Community Development Staff Training Session	Clean Water Manager	Overview of JURMP Construction Inspection Requirements (“Wet Season”)	Departmental Staff & Line Management
3/16/2010	Staff Workshop/Training Session	Clean Water Manager	Discussion on New SUSMP Requirements and Development of SUSMP Forms	Department Staff & Line Management – Planning and Engineering
06/18/2010	Paystub Insert	Clean Water Manager	Overview of Field Requirements for Operations – “Clean Water Begins With You!”	City Wide
Weekly	Planning and Community Development Weekly Staff Meeting Discussions	Clean Water Manager	Project Specific Stormwater Discussion	Departmental Staff & Management
Weekly	Executive Meeting Discussions	Clean Water Manager	Misc. Program Issues Relating to Stormwater	Executive and Departmental Management
Ongoing	In-service/Field Training	Clean Water Manager	Stormwater Enforcement Issues	Community Service Officer(s); Park Ranger; Code Enforcement Officer; Code Enforcement Technician
Ongoing	On-Demand Webcast	Clean Water Manager (Via Webcast)	Overview of City’s Clean Water Program and the Municipal Permit Requirements	All New Hires - Permanent

8.3 Educational Outreach Element

This section describes education efforts conducted for each target community by the City of Del Mar. Section 10.4 of the 2008 JURMP described the program which aimed at educating project applicants, developers, contractors, property owners, community planning groups, and other responsible parties. No modifications in Section 10.4 of the 2008 JURMP have been recorded during this Reporting Period.

8.3.1 Media Use in Outreach Activities

The City of Del Mar developed a 12 minute video in April 2008 in an effort to reach and educate a wide audience about the Clean Water Program and regulatory requirements. This video, entitled “The Del Mar Clean Water Program: Keeping the Water Clean for You!” highlights the municipal programs conducted by the City, and provides a complete overview of the Permit elements. The video continues to remain

available “on-demand” on the City of Del Mar website (www.delmar.ca.us/cleanwater.htm), and was made into DVD’s for distribution to public groups, residents, and schools. In addition, the video has been used for discussions at City Council Meetings and during staff training. During the Reporting Period, the Clean Water Video was reviewed more than 258 times via the City’s Website. In addition, the City distributed 20 copies of the DVD to community groups and other jurisdictions. Table 8.3-1 below provides a breakdown by month on the number of times the video was viewed on the City’s website during the Fiscal Year 2009-2010 Reporting Period.

Table 8-2: Clean Water Video Webcast Summary

Month	Number of Views
Jul-09	12
Aug-09	17
Sep-09	25
Oct-09	17
Nov-09	18
Dec-09	18
Jan-10	29
Feb-10	28
Mar-10	34
Apr-10	16
May-10	27
Jun-10	17
TOTAL VIEWS	258

Another ongoing effort the City conducted to try to reach a wide audience includes the live broadcast of all public workshops and hearings related to the City’s Clean Water Program on Del Mar Television (DMTV). The public workshops and hearings are then replayed the next day in a standard timeslot. DMTV can be viewed on Time Warner Public Access Channel 24 within the 92014 zip code, and reaches approximately 2,000 subscribers in this area. Recently DMTV was made available to North County Time Warner Digital Cable customers, where it can now be viewed through Digital Cable on Time Warner Channel 130, which reaches approximately 65,000 subscribers. In addition, DMTV is streamed live 24 hours per day, 7 days per week on the DMTV website: www.delmartv.com. During Fiscal Year 2009-2010, both the Clean Water Program Workshop held in May 2008 and the “Being Waterwise” Water Conservation Workshop held in July 2009, were rebroadcast numerous times to ensure the public was adequately informed about the program and its responsibilities. Table 8-3 below provides a listing of all broadcasts of workshops related to the Clean Water Program.

Table 8-3: Fiscal Year 2009-2010 Public Workshop & Hearing Broadcast Summary

Date	Event Type	Presenter	Topic	Public Involvement Mechanism
7/13/2009	City Council Hearing	Staff	Modification of DMMC 22.04/22.08 for Fats, Oils, and Grease Controls at Food Establishments	Noticed Public Hearing
7/14/2009	Replay: City Council Hearing of 7/13/2009	Staff	Modification of DMMC 22.04/22.08 for Fats, Oils, and Grease Controls at Food Establishments	Rebroadcast of Noticed Public Hearing
7/15/2009	Replay: City Council Hearing of 7/13/2009	Staff	Modification of DMMC 22.04/22.08 for Fats, Oils, and Grease Controls at Food Establishments	Rebroadcast of Noticed Public Hearing
7/25/2009	Being Waterwise: Del Mar Water Conservation Workshop	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Noticed Public Workshop and Forum
7/27/2009	City Council Hearing	Staff and Citizen's Advisory Committee Chair/Vice Chair	Ad Hoc Water Conservation Citizens' Advisory Committee Progress Report; Amendment of DMMC to prevent fishing, diving, swimming in upper San Dieguito Lagoon.	Noticed Public Hearing
7/28/2009	Replay: City Council Hearing of 7/17/2009	Staff and Citizen's Advisory Committee Chair/Vice Chair	Ad Hoc Water Conservation Citizens' Advisory Committee Progress Report; Amendment of DMMC to prevent fishing, diving, swimming in upper San Dieguito Lagoon.	Rebroadcast of Noticed Public Hearing
7/29/2009	Replay: City Council Hearing of 7/17/2009	Staff and Citizen's Advisory Committee Chair/Vice Chair	Ad Hoc Water Conservation Citizens' Advisory Committee Progress Report; Amendment of DMMC to prevent fishing, diving, swimming in upper San Dieguito Lagoon.	Rebroadcast of Noticed Public Hearing
9/2/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/3/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/4/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/5/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/6/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum

Date	Event Type	Presenter	Topic	Public Involvement Mechanism
9/9/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/10/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/11/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/12/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/13/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/16/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/17/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/18/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/19/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/20/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/23/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum

Date	Event Type	Presenter	Topic	Public Involvement Mechanism
9/24/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/25/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/26/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
9/27/09	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/2/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/4/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/5/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/9/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/11/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/12/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/16/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum

Date	Event Type	Presenter	Topic	Public Involvement Mechanism
10/18/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/19/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/23/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/25/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/26/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
10/30/2009	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
12/7/2009	City Council Hearing	Staff	Los Peñasquitos Lagoon TMDL Presentation and MOU Approval	Noticed Public Hearing
12/8/2009	Replay: City Council Hearing of 12/7/2009	Staff	Los Peñasquitos Lagoon TMDL Presentation and MOU Approval	Rebroadcast of Noticed Public Hearing
12/9/2009	Replay: City Council Hearing of 12/7/2009	Staff	Los Peñasquitos Lagoon TMDL Presentation and MOU Approval	Rebroadcast of Noticed Public Hearing
1/6/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
1/7/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
1/13/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
1/14/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum

Date	Event Type	Presenter	Topic	Public Involvement Mechanism
1/20/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
1/21/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
1/27/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
1/28/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
4/5/2010	City Council Hearing	Staff and Citizen's Advisory Committee Chair/Vice Chair	Report on Del Mar Greenway (SB1177) – Creating buffer for San Dieguito Lagoon and River; Annual Report from Lagoon Committee	Noticed Public Hearing
4/6/2010	Replay: City Council Hearing of 4/5/2010	Staff and Citizen's Advisory Committee Chair/Vice Chair	Report on Del Mar Greenway (SB1177) – Creating buffer for San Dieguito Lagoon and River; Annual Report from Lagoon Committee	Rebroadcast of Noticed Public Hearing
4/7/2010	Replay: City Council Hearing of 4/5/2010	Staff and Citizen's Advisory Committee Chair/Vice Chair	Report on Del Mar Greenway (SB1177) – Creating buffer for San Dieguito Lagoon and River; Annual Report from Lagoon Committee	Rebroadcast of Noticed Public Hearing
4/19/10	City Council Hearing	Clean Water Manager and City Engineer	Modifications to the City's Stormwater Management and Discharge Control Ordinance; Report from the Water Conservation Citizen's Advisory Committee; Modifications to the Regional Copermittee MOU relating.	Noticed Public Hearing
4/20/10	Replay: City Council Hearing of 4/19/2010	Clean Water Manager and City Engineer	Modifications to the City's Stormwater Management and Discharge Control Ordinance; Report from the Water Conservation Citizen's Advisory Committee; Modifications to the Regional Copermittee MOU relating.	Rebroadcast of Noticed Public Hearing
4/21/10	Replay: City Council Hearing of 4/19/2010	Clean Water Manager and City Engineer	Modifications to the City's Stormwater Management and Discharge Control Ordinance; Report from the Water Conservation Citizen's Advisory Committee; Modifications to the Regional Copermittee MOU relating.	Rebroadcast of Noticed Public Hearing
5/3/2010	City Council Hearing	Staff and Citizen's Advisory Committee Chair/Vice Chair	Modifications to DMMC 11.30 (Stormwater Management and Discharge Control) codifying New Regional Board Requirements; Report of Water Conservation Committee	Noticed Public Hearing

Date	Event Type	Presenter	Topic	Public Involvement Mechanism
5/4/2010	Replay: City Council Hearing of 5/3/2010	Staff and Citizen's Advisory Committee Chair/Vice Chair	Modifications to DMMC 11.30 (Stormwater Management and Discharge Control) codifying New Regional Board Requirements; Report of Water Conservation Committee	Rebroadcast of Noticed Public Hearing
5/5/2010	Replay: City Council Hearing of 5/3/2010	Staff and Citizen's Advisory Committee Chair/Vice Chair	Modifications to DMMC 11.30 (Stormwater Management and Discharge Control) codifying New Regional Board Requirements; Report of Water Conservation Committee	Rebroadcast of Noticed Public Hearing
5/17/2010	City Council Hearing	Staff	Second Reading of DMMC 11.30 Modifications; Disbanding of Water Conservation Advisory Committee; Grant Funding authorization for vector and water quality grants	Noticed Public Hearing
5/18/2010	Replay: City Council Hearing of 5/17/2010	Staff	Second Reading of DMMC 11.30 Modifications; Disbanding of Water Conservation Advisory Committee; Grant Funding authorization for vector and water quality grants	Rebroadcast of Noticed Public Hearing
5/19/2010	Replay: City Council Hearing of 5/17/2010	Staff	Second Reading of DMMC 11.30 Modifications; Disbanding of Water Conservation Advisory Committee; Grant Funding authorization for vector and water quality grants	Rebroadcast of Noticed Public Hearing
6/4/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
6/6/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
6/11/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
6/13/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
6/14/2010	City Council Hearing	Staff	Ongoing discussion of SB1177 (Del Mar Greenway) creating a water quality buffer for the San Dieguito Lagoon and River	Noticed Public Hearing
6/15/2010	Replay: City Council Hearing of 6/14/2010	Staff	Ongoing discussion of SB1177 (Del Mar Greenway) creating a water quality buffer for the San Dieguito Lagoon and River	Rebroadcast of Noticed Public Hearing
6/16/2010	Replay: City Council Hearing of 6/14/2010	Staff	Ongoing discussion of SB1177 (Del Mar Greenway) creating a water quality buffer for the San Dieguito Lagoon and River	Rebroadcast of Noticed Public Hearing

Date	Event Type	Presenter	Topic	Public Involvement Mechanism
6/18/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
6/20/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
6/25/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum
6/27/10	Replay: Being Waterwise: Del Mar Water Conservation Workshop (Original Workshop 7/25/2009)	Professional Speakers and Staff	Water Efficient Landscaping, including ways to prevent stormwater runoff	Rebroadcast of Noticed Public Workshop and Forum

In addition to the televised and webcast workshops and hearings, DMTV regularly broadcasts public service announcements (PSAs) related to stormwater. Shorter PSAs, including ThinkBlue San Diego PSA's produced by the City of San Diego are aired in-between scheduled programs an average of 2-3 times per day, 365 days per year. In addition Del Mar TV Productions has created several PSAs which began airing in Fiscal Year 2009-2010. Table 8-4 below provides a summary of the PSAs aired during Fiscal Year 2009-2010 on Del Mar TV.

Table 8-4: Fiscal Year 2009-2010 Clean Water PSA Summary

Program or PSA	Source	Number of Airings
City of Del Mar's Clean Water Program: Keeping the Water Clean for You!	Del Mar Clean Water Program	17
Help Keep Del Mar Clean: Ocean and Beaches	Del Mar TV Production	20
Caring for our Valuable Oceans	Del Mar TV Production	18
Clean Water Tip and Information Cards	DMTV Community Bulletin Board	Airs daily every 5 minutes between 12pm-3pm & 12am-9am
ThinkBlue San Diego! (Various)	City of San Diego Stormwater Program	Airs daily 2-3 times per day

8.3.2 Additional Educational Outreach by Target Audience

As indicated above, the City of Del Mar made a concerted effort to reach out to the residents and the general public regarding the Clean Water program through media and public workshops. Table 8-5 below provides a summary description of the education efforts conducted to reach target audiences including the general public, residents, school children and commercial and mobile business owners and operators.

Table 8-5: Educational and Outreach Efforts by Target Audience

Date.	Activity	Conducted By	Education Topic	Target Audience
5/2/2010	Outreach Booth: Fiesta de Los Peñasquitos	Staff and Regional Copermittees	General Watershed and Stormwater Information	General Public, Residents, and School-aged Children
6/19/2010	Outreach Booth: San Diego County EnviroFair Flower and Garden Pavilion	Staff and Regional Copermittees	General Watershed and Stormwater Information	General Public, Residents, and School-aged Children
March – April 2009	Outreach as Part of Commercial Inspections	Staff and Consultants	Commercial Specific BMPs and Regulations	“High Risk” Commercial Operators
Ongoing	Outreach to Mobile Businesses	Staff	Mobile Business Specific BMPs and Regulations	“High Risk” Commercial Operators – Mobile

8.4 Outreach Component Effectiveness Assessment

A complete assessment of the effectiveness of the City’s implementation of its 2008 JURMP, including the Education Component, is included as Chapter 11 of this Annual Report.

8.5 Program Review and Modification

Section 10.11 of 2008 JURMP described proposed or required modifications to the program after each annual assessment of the Education Component’s effectiveness. While no specific modifications in Section 10.11 of the 2008 JURMP have been recorded during this Reporting Period, staff has identified several areas for specific education and outreach focus for the upcoming Fiscal Year 2010-2011, based on a review of program activities conducted during this Reporting Period, the extent of which will be dependent on funding and staff availability. Details on the implementation of these items will be discussed in the following Annual Report. Table 8-6 below contains a list of focused education and outreach identified for Fiscal Year 2010/2011.

Table 8-6: Focused Outreach by Target Audience for Fiscal Year 2010-2011

Targeted Audience	Format of Outreach	Education Topic
Commercial Businesses: Mobile Operators	Continued Direct One-on-One Training of City-licensed mobile operators, with distribution of written materials and guidance	JURMP and Focused BMP Requirements for Mobile Businesses
Commercial Business: Restaurants	Public workshops and one-on-one staff training for local restaurateurs in cooperation with Del Mar Village Association (DMVA)	Requirements for Restaurants, including staff training and documentation
Residential Community	Public Workshops and Flyers/Bill Inserts	Water conservation and its effect on water quality pollution (i.e. adjusting irrigation sprays, use of hose to clean impermeable surfaces, etc.)

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Section 9

Public Participation Component



This section of the JURMP Annual Report provides a description of public participation efforts conducted by the City, and the steps that were conducted to include public participation in the implementation of City of Del Mar's JURMP.

9.1 Local Participation Element

During Fiscal Year 2009-2010 the City continued to encourage and provide multiple opportunities for, public participation in all aspects of its Clean Water Program.

9.1.1 General Public Feedback Mechanisms

The City continues to maintain an active website (www.delmar.ca.us) which provides the public with opportunities to contact City staff directly, and find information regarding any of the City's programs. The Clean Water Program has its own webpage that is updated as needed (<http://www.delmar.ca.us/Government/dept/Pages/CleanWater.aspx>) and allows the public to contact the Clean Water Manager and Code Enforcement Officer to report potential violations of the City's Stormwater Management and Discharge Control Ordinance (Section 11.30 of the Del Mar Municipal Code). The webpage also allows the public to ask questions regarding water use and runoff, and download information on the City's JURMP, and contains links to the Citizen's Complaint Form, the City's various BMP Manuals, the City's Clean Water video, and the Regional Board's website and the Permit itself.

The City also continues to maintain a specific e-mailbox and hotline for reporting issues. This email address (CleanWater@delmar.ca.us) and hotline (858) 755-9313 x172 are directly answered by the City's Clean Water Manager. Every attempt is made to respond to any inquiry by the close of the next business day. When inquiries are made from areas within the 92014 zip code, but outside the City's jurisdiction (i.e. the "Del Mar Heights" portion of the City of San Diego), City of Del Mar staff attempt to respond to the complaint directly, and notify City of San Diego staff for follow-up.

The City continues to provide opportunities for the general public to become involved with the implementation of the JURMP, by working with the community in reducing pollutant discharge through recycling opportunities, eliminating off-site drainage, and other activities aimed at protecting water quality through the reduction of water waste.

9.1.2 Formal Public Hearings and Workshops

The general public is given the opportunity to provide testimony and provide feedback on issues related to the Clean Water Program at regular meetings and workshops held by the Del Mar City Council, the Del Mar Planning Commission, and other City Committees. This can include public testimony on development planning and capital improvement projects relating to the project-specific implementation of stormwater controls. All testimony, concerns, and input are then referred to staff for review, comment, and action as appropriate.

During the Fiscal Year 2009-2010 Reporting Period, the Del Mar City Council held 30 public meetings (including public workshops) in which the general public was given the opportunity to provide feedback on the Clean Water Program, or on any topics they wished to bring before the elected officials of the City.

During the Reporting Period, there were sixteen (16) specific agenda items relating to the Clean Water Program and/or the implementation of the JURMP, not including development project-specific items. To reach the widest audience possible, these hearings and workshops are streamed live over the internet, broadcast live on DelMarTV (Time Warner Cable Channels 19 & 24), replayed in their entirety the two days following the hearing on DelMarTV, and available on-demand through the City’s website. Table 8-3 in the previous chapter includes a list of broadcast dates of the hearings during the Reporting Period. Table 9-1 below provides a list of the specific City Council Agenda items relating to the Clean Water Program, JURMP, or other water quality related issues for the Fiscal Year 2009-2010 Reporting Period.

Table 9-1: Fiscal Year 2009-2010 Del Mar City Council Agenda Items Relating to the Clean Water Program

Hearing Date	Agenda Item	Subject
7/13/2009	Item 09	Second Reading and Adoption of an Ordinance amending Chapters 22.04 and 22.08 of the Del Mar Municipal Code establishing Fats, Oils and Grease Control Regulations
7/13/2009	Item 12	Professional Engineering Services Contracts to provide City Engineering and As-Needed Engineering Services, including water quality support services.
7/27/2009	Item 13	Ad-Hoc Water Conservation Citizens’ Advisory Committee Progress Report by Committee Secretary Rick Ehrenfeld
12/7/2009	Item 08	Los Peñasquitos Lagoon Total Maximum Daily Load (TMDL) Development Project Memorandum of Understanding (MOU).
4/5/2010	Item 08	Approval of the City of Del Mar Sanitary Sewer Management Plan
4/5/2010	Item 18	Direction to Council Representatives and Staff regarding Senator Kehoe’s proposed Senate Bill 1177 – Del Mar Greenway designed to place a water quality protection buffer along the San Dieguito Lagoon (Crawford/Hilliard).
4/19/2010	Item 02	Presentation of recommendations by the Ad Hoc Water Conservation Citizens’ Advisory Committee on the implementation of the State Model Water Efficient Landscape Ordinance by the City of Del Mar.
4/19/2010	Item 09	Resolution to Approve the First Amendment to the 2007 National Pollutant Discharge Elimination System San Diego Regional Stormwater Copermittees Memorandum of Understanding (MOU), dated March 18, 2010.
4/19/2010	Item 12	An Ordinance amending Del Mar Municipal Code (DMMC) Chapter 11.30 relating to Stormwater Management and Discharge Control to comply with the requirements of the San Diego Regional Water Quality Control Board Order R9-2007-0001.
5/3/2010	Item 07	Second Reading and Adoption of an changes to the Stormwater Management and Discharge Control Ordinance.
5/17/2010	Item 12	Resolution disbanding the Ad Hoc Water Conservation Citizens’ Advisory Committee (Hilliard/Mosier) [Continued from May 3, 2010]
6/14/2010	Item 13	Discussion of Amended Senate Bill 1177 (Kehoe) Del Mar Greenway (Crawford/Hilliard).

In November 2008, the Del Mar City Council established the Ad-Hoc Citizen’s Water Conservation Citizen’s Advisory Committee, staffed by the City’s Clean Water Manager. The Committee was tasked specifically with the review of the City’s ordinances relating to water conservation and landscape planning. This includes reviewing the City’s Stormwater Management and Discharge Control Ordinance. The Committee met biweekly, beginning in March 2009, and is actively looking at issues such as resident education and outreach with regard to overwatering and irrigation runoff, and water conservation techniques which will have a direct impact on urban runoff. Recommendations from the Advisory Committee were presented to Council and included several revisions to the Del Mar Municipal Code

which address irrigation runoff prevention beyond the requirements of the Municipal Permit and current Stormwater Management and Discharge Control Ordinances. Staff has been directed to implement as many of their recommendations as feasible, and bring the modifications to the Municipal Code back to Council in Fiscal Year 2010-2011.

9.1.3 Staff as Feedback Mechanism

As indicated in the 2008 JURMP, the City of Del Mar believes that City staff are the public at work. More importantly, field staff are the eyes and ears of the City, interacting with the general public during their day-to-day work. Staff is continually encouraged to report violations and provide feedback to the City's Clean Water Manager on the implementation of the JURMP, and can provide valuable information on which systems and programs are working and suggestions on improving the programs. Often, it is field staff that identifies potential issues and/or violations and reports them to the Clean Water Manager, enabling program staff to address it in a prompt manner. During Fiscal Year 2009-2010 the City continued to utilize and encourage staff feedback and reporting of potential violations, with more than 2 dozen reports coming to the Clean Water Manager from field staff during the Reporting Period.

9.2 Regional Participation Element

The City continues to participate and facilitate public participation through regional workgroups and public outreach such as Project Clean Water, the Regional Management Meetings, and the Regional Stormwater Hotline. Staff from the City utilized the Regional Hotline on at least four (4) separate occasions during this Reporting Period to provide information to the City of San Diego on stormwater runoff in the MS4 system outside of the City of Del Mar's jurisdictional boundaries. In addition, the City regularly refers callers from the "Del Mar Heights" portion of the City of San Diego and other areas within the 92014 zip code, but outside of the City of Del Mar jurisdictional boundaries, to the regional stormwater hotlines. In addition, when City of Del Mar residents use the Regional Stormwater Hotline to report problems or ask questions, City of San Diego and County of San Diego staff manning the hotlines are able to promptly refer the issues to the Clean Water Manager for follow-up.

9.3 Program Review and Modification

No modifications in Section 11 of the 2008 JURMP were recorded during the Fiscal Year 2008-2009 Reporting Period.

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Section 10

Fiscal Analysis Component



Section 12 of 2008 JURMP provided a strategy for effectively conducting a fiscal analysis of the Program in its entirety. The fiscal analysis strategy in the 2008 JURMP included the expenditures (such as capital, operation and maintenance, education, and administrative expenditures) necessary to accomplish the activities of the Program. No modifications in Section 12 of the 2008 JURMP were made during this Reporting Period.

On January 29, 2009, the San Diego Municipal Copermittees adopted the “Standardized Fiscal Method and Format” which provides a model for the City of Del Mar and other Copermittees to perform the review and annual reporting as required in Order R9-2007-0001, Section G. This methodology and reporting format became effective in January 31, 2010. The “Standardized Fiscal Analysis Method and Format” (Fiscal Analysis Method) was collaboratively developed and adopted by the Copermittees in January 2009 in accordance with sections G, J.1.a(3)(k) and J.1.c(1)(d) of the Permit. The Fiscal Analysis Method document was submitted to the San Diego RWQCB on January 31, 2009, as Attachment 1 of the “Regional Urban Runoff Management Plan (RURMP) Annual Report for 2008-2009.”

As required, the City of Del Mar is utilizing the format and guidelines described in the Fiscal Analysis Method for this reporting period. This section of the Annual Report provides a fiscal analysis of the City’s urban runoff management programs which meets all requirements of the Permit.

10.1 General Budget Information

10.1.1 Clean Water Program Budget

The City of Del Mar Clean Water Program is a multi-departmental program, funded as an enterprise fund in the City’s Annual Budget. Enterprise funds account for operations that are financed and operated in a manner similar to private businesses, with the costs of providing the services recovered largely through user fees. Fund 55 (“The Clean Water Fund”), is one of three (3) enterprise funds in the City’s budget, and was added to the City’s budget in Fiscal Year 2003-2004 to account for the mandated costs of the City’s responsibilities Municipal Permit.

The City of Del Mar Operating and Capital Improvement Budgets for Fiscal Year 2009-2010 and Fiscal Year 2010-2011 were presented to the Del Mar City Council in a series of public workshops held in May and June 2009, and was adopted by the City Council at a public hearing held on June 22, 2009. Appendix 10-A presents the Final Adopted budgets for Fiscal Year 2009-2010 & Fiscal Year 2010-2011.

For the Fiscal Year 2009-2010 Reporting Period, the final amended budget for Fund 55 totaled \$471,141.00, or approximately 4.1% of the total City of Del Mar budget for General Operations and Maintenance of \$11.4 million. Table 10-1 below provides a breakdown of program budget by major budget category for Fiscal Year 2009-2010. Actual program expenditures during Fiscal Year 2009-2010 totaled \$429,083.00 for NPDES related-activities. Appendix 10-B contains a complete report of the final adjusted budget and expenditures for Fiscal Year 2009-2010.

Table 10-1: Budget Summary – Clean Water Fund 55

Fund Account		Adopted Budget Fiscal Year 2009- 2010	Description/Comments
55-5220	Clean Water Engineering	\$82,200	Engineering contractual services including: Program management (Fiscal Year 2008) water quality testing, development and distribution of educational materials, fees to agencies (Fiscal Year 2008), and engineering services.
55-5530	Clean Water Planning	\$30,303	Active enforcement of Clean water regulations including project plan review, permitting, construction monitoring and plan review of BMPs.
55-5536	Clean Water Code Enforcement	\$29,657	Active in-field enforcement clean water regulations, including response to resident complaints
55-5539	Clean Water Program Management	\$196,050	Beginning mid-year Fiscal Year 2008, all program management and reporting activities, fees to agencies, and interaction with regional Copermittee groups.
55-5840	Public Works (General)	\$16,527	Provides for administration and general support for all clean water programs for property and facilities, including supervision of maintenance staff.
55-5841	Flood Control & Drainage	\$4,351	Provides for necessary monitoring, water quality testing, and labor associated with program requirements when Flood Control pumps are operated.
55-5845	Street Maintenance	\$85,851	Provides for a portion of sidewalk and street cleaning including street sweeping and storm drain maintenance within the City limits of Del Mar. Also covers costs with testing, recording contents, and recovering all deposited materials that otherwise would discharge to the beach, river, or lagoon.
55-5847	Street Landscaping	\$18,258	Provides for landscape supervision, documentation, and controls for the Clean Water aspects of the street landscaping for medians, islands, street ends, and other street related areas. The program also provides for improved litter control, pesticide and fertilization monitoring and reporting.
55-5848	Park Maintenance	\$12,944	Provides for park maintenance supervision, documentation, and controls for the Clean Water aspects of the landscaping for parks and open space areas. The program also provides for improved litter control, pesticide and fertilization monitoring and reporting.
Total Clean Water Program Budget – Fund 55		\$476,141	

10.2 Fiscal Analysis Methods

The City of Del Mar utilized the format and guidelines included in the Fiscal Analysis Method for reporting purposes; however, given the City's financial accounting methods, a few modifications were necessary. These adjustments are described below.

10.3 Fiscal Analysis Results

The City's Fiscal Year 2009-2010 jurisdictional (JURMP), watershed, (WURMP), and regional (RURMP) projected expenditures and actual expenditures for the implementation of the Municipal Permit requirements are summarized in Table 10-2 below.

10.3.1 JURMP Expenditures

The City of Del Mar utilized the expenditure categories detailed in the Fiscal Analysis Method for jurisdictional reporting. However, due to the implementation overlap of some of the City's municipal permit components; it is difficult to separate out individual component costs. As a result, the expenditures for residential, education, and public participation are reported as one expenditure category. Additionally, since the City does not explicitly track expenditures by municipal permit component for its budgeting purposes, in many cases estimated percentages were utilized to allocate expenditures into the appropriate municipal permit component categories.

A total of \$388,062 was projected to be expended in Fiscal Year 2009-2010 for the implementation of JURMP activities, and a total of \$352,041 was actually expended in Fiscal Year 2009-2010. An overview of the expenditures reflected in JURMP activity components is described below.

10.3.1.1 Administration

Activities identified in this component represent labor and non-labor expenditures for materials, supplies, equipment, or tools that are not otherwise incorporated into other expenditure categories, general administrative functions (e.g., program planning, budgeting, staff supervision), and program assessment and reporting

10.3.1.2 Development Planning

Activities identified in this component represent labor and non-labor expenditures related to issuance or oversight of permits or of plans (e.g., permit counter support, plan checks, permit or application processing), project planning and engineering (e.g. project design specifications, capital improvement projects).

10.3.1.3 Construction

Activities identified in this component represent labor and non-labor expenditures related to construction site inspections and enforcement.

10.3.1.4 Municipal

Activities identified in this component represent labor and non-labor expenditures related to maintenance inspections of streets, roads, catch basins and inlets, open channels, and the MS4, municipal facility inspections, street and parking lot sweeping, catch basins and inlets, open channels, and MS4 cleaning, and municipal BMP implementation. Since the City of Del Mar conducts all fire fighting training outside of the City, and no non-emergency fire fighting flows occurred during the Reporting Period, the City does

not currently track expenditures relating non-emergency fire fighting flows. Any costs associated with preparing for these flows are included in the municipal component.

Table 10-2: Fiscal Year 2009-2010 Expenditure Summary by Program Component

Component Description	Fiscal Year 2009-2010 Projected Expenditures	Fiscal Year 2009-2010 Actual Expenditures
Jurisdictional Component		
Administration	69,073	49,153
Development Planning	45,104	43,320
Construction	13,332	15,357
Municipal (Including Non-Emergency Fire Flows)	129,396	122,370
Industrial and Commercial	17,901	14,759
Residential, Education, and Public Participation	45,556	38,476
IDDE	76,702	68,635
Jurisdictional Total	388,062	352,041
Watershed Component		
San Dieguito Watershed	30,602	28,729
Los Peñasquitos Watershed	32,452	25,176
Watershed Total	63,054	53,904
Regional Component		
Total Copermittee Cost Share for Del Mar	19,065	16,534
Additional Regional Costs	5,960	6,604
Regional Total	25,025	23,138
Total Costs	\$476,141	\$429,083

10.3.1.5 Industrial and Commercial

Activities identified in this component represent labor and non-labor expenditures related to evaluation and enforcement of program requirements at industrial and commercial sites or sources (e.g. routine inspections and complaint investigations).

10.3.1.6 Residential, Education, and Public Participation

Activities identified in these components represent labor and non-labor expenditures related to investigation and enforcement of residential areas or activities, staffing outreach events, development and production of outreach materials, and any expenditures associated with waste collection and recycling (e.g. HHW, used oil).

10.3.1.7 Illicit Discharge Detection and Elimination

Activities identified in this component represent labor and non-labor expenditures related to the identification and elimination of illicit discharges or connections, enforcing the City of Del Mar's storm water ordinance, and any expenditures related to monitoring programs (e.g. Dry weather monitoring, coastal storm drain monitoring, special investigations, field or sampling equipment, materials and supplies).

10.3.2 WURMP Expenditures

The City of Del Mar utilized the expenditure categories (administration, watershed activities, cost share contribution, and other) detailed in the Fiscal Analysis Method for watershed reporting. The watershed expenditures included in this report only capture City of Del Mar expenditures and do not account for any expenditure disbursed by other Copermittees included in the watershed(s).

A total of \$63,054 was projected to be expended in Fiscal Year 2009-2010 for the implementation of WURMP activities, and a total of \$53,904 was actually expended in Fiscal Year 2009-2010. The amounts also include costs for the implementation of applicable TMDLs (Los Peñasquitos Lagoon Sediment TMDL development), which are considered Special Studies.

10.3.3 RURMP Expenditures

The City of Del Mar utilized the expenditure categories (administration, cost share contribution, regional activities, and other) detailed in the Fiscal Analysis Method for regional reporting. The regional expenditures included in this report only capture City of Del Mar expenditures and do not account for any expenditure disbursed by other Copermittees in the region. A total of \$25,025 was projected to be expended in Fiscal Year 2009-2010 for the implementation of RURMP activities, and a total of \$23,138 was actually expended.

10.4 Funding Sources

To ensure adequate funding for the Clean Water Program, the City uses a combination of user fees, grant funding, and general fund monies. This section identifies the three (3) sources of funding for the Clean Water Program: (1) The Clean Water Service Charge; (2) City of Del Mar General Fund; and (3) grant monies and community partnerships, and provides a discussion of each of these funding sources.

10.4.1 Clean Water Service Charge

In 2003, the City of Del Mar City Council created and adopted a user fee, called the Clean Water Service Charge, to offset the costs of the program. Initially, the rate was adopted to collect \$100,000.00 of the estimated \$300,000.00 for the program, with an escalator to achieve full cost recovery by 2009. Mid-way through the five-year schedule, on July 24, 2006, the California Supreme Court published a decision in the case of Bighorn-Desert View Water Agency v. Verjil (2006) 39 Cal. 4th 205, which held that consumption-based rates such as water and sewer rates are subject to the notice and hearing

requirements of California Constitution, Article XIII D, Section 6 (commonly known as "Proposition 218"). Therefore, on January 22, 2007 and February 5, 2007, the Del Mar City Council held public hearings to receive written protests to comply with Proposition 218. No majority protest was received; and the Council ratified the previously approved five-year rate schedule, including the City's Clean Water Service Charge. However, the adopted rate increases did not account for the actual increases in the costs associated program requirements.

As an additional measure to obtain voter approval of the five-year rate schedule for the City's Clean Water Service Charge, the Council directed staff on April 2, 2007 to start the process to perform a mail ballot election procedure. During the process of researching the mail ballot election procedures and the current rates, it became apparent that the process would immediately need to be repeated to set the Fiscal Year 2009-2010 rates and charges, since the current five-year rate schedule was due to expire in June of 2009. Due to the additional costs incurred in complying with the new requirements of the 2007 Permit, increases to the Clean Water Service Charge were proposed, including an annual 5% rate escalator. All monies appropriated as part of the Clean Water Service Charge are directly identified for the Clean Water Program, and pursuant to law, may not be used by the City for any other purpose.

During the Fiscal Year 2008-2009 Reporting Period, in compliance with Proposition 218, both the majority protest hearing and mail ballot process were conducted for the proposed increases. Both the ratification of the existing rate structure (required by Proposition 218), and the new rates, including the rate escalator, passed by more than 62%. As a result of the passage of the Clean Water Service Charge, the City will continue to have a secure funding source for the Clean Water Program, outside of general fund monies. Based on current water allocations for the City of Del Mar, the projected revenues from the Clean Water Service Fee will be \$471,068.89 in Fiscal Year 2010-2011.

10.4.2 General Fund Monies

The City of Del Mar General Fund accounts for all the revenues received by the City that are not designated for a specific purpose either by the City Council, State or Federal requirements, or special requirements such as those associated with bond debt. The City monitors the General Fund dollars most closely because these revenues fund the backbone of City government. The major sources of General Fund revenues include property tax, sales tax, transient occupancy tax, and parking fees and fines.

During Fiscal Year 2009-2010, \$38,431, or approximately 11% of the overall program expenditures was funded out of General Fund monies. This is a significant reduction from previous years. It is the hope of the City that the Clean Water Service Fee collected is sufficient to cover all costs associated with the program, and that General Fund monies may be freed up for other services, including special projects. However, the City is committed to ensuring that the necessary funds to meet all permit requirements is available, should the Clean Water Service Fee not cover all costs of the program.

10.4.3 Grant Monies and Community Partnerships

In an attempt to find alternatives to the use of General Fund monies to fund the Clean Water Program, the City of Del Mar continues to look for appropriate grants from the State of California and the Federal Government to assist in funding program elements and special projects. As part of the California Beverage Container Recycling and Litter Reduction Act, the California Department of Conservation (DOC) distributes a portion of the California Refund Value (CRV) monies collected on sales of aluminum, glass, plastic and bi-metal beverage containers to jurisdictions to assist in programs aimed at beverage container recycling and litter cleanup activities. Incorporated cities and counties and unincorporated counties in California, as identified by the California Department of Finance, are eligible to receive funding under this program, with funding amounts dependent on population.

As with previous years, for Fiscal Year 2009-2010, the City applied for, and received, a DOC grant for \$5,000 under this program (the maximum amount the City was eligible for). These funds were earmarked for litter and beach cleanup activities, and used to providing doggie cleanup bags (“mutt mitt stations”) at various locations throughout the city's parks and beaches. In addition, a portion of the funds were used to maintain/purchase a beach cleaner to help reduce any litter going into the ocean and the storm drain system. However, due to the State’s budget crisis, payment of these grant monies was held up, and not distributed until June 2010. As such, these revenues were not available for Fiscal Year 2009-2010, and are included in the Fiscal Year 2010-2011 budget. Moreover, the DOC has not renewed the program for Fiscal Year 2010-2011, and the future of the program is uncertain at this time. The City will continue to monitor this grant opportunity, and should it become available, will apply as it has in the past. In the interim, the City will continue to use budgeted program monies to cover this shortfall.

In addition to grant monies, the City of Del Mar is actively developing community partnerships with community groups and non-profit organizations to identify private funding sources and assistance to offset costs of implementing special projects and education/outreach activities as part of the program. The City will continue this strategy in an effort to fund projects and opportunities which arise outside of the normal permit-required activities that have a direct benefit on water quality.

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Appendix 10-A
Budget and Expenditures for Fiscal Year 2009-2010
City of Del Mar Clean Water Fund (Fund 55)

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Expenditure Status Report
 City of Del Mar
 7/1/2009 through 6/30/2010

expstat.rpt
 09/23/2010 4:31PM
 Periods: 1 through 13

55 CLEAN WATER

<u>Account Number</u>	<u>Adjusted Appropriation</u>	<u>Expenditures</u>	<u>Year-to-date Expenditures</u>	<u>Year-to-date Encumbrances</u>	<u>Balance</u>	<u>Prct Used</u>
5220 ENGINEERING SERVICES						
5220.3200 CONTRACTUAL SERVICES	10,500.00	9,476.95	9,476.95	0.00	1,023.05	90.26
5220.3210 CITY ENGINEER	71,700.00	56,181.21	56,181.21	0.00	15,518.79	78.36
Total ENGINEERING SERVICES	82,200.00	65,658.16	65,658.16	0.00	16,541.84	79.88
5530 PLANNING						
5530.1000 SALARIES . PERMANENT	13,144.00	13,140.42	13,140.42	0.00	3.58	99.97
5530.1200 EE BENEFITS	4,584.00	4,514.72	4,514.72	0.00	69.28	98.49
5530.1205 WORKERS COMPENSATION	95.00	95.20	95.20	0.00	-0.20	100.21
5530.1400 OVERTIME	0.00	0.00	0.00	0.00	0.00	0.00
5530.2300 OPERATING SUPPLIES	0.00	0.00	0.00	0.00	0.00	0.00
5530.3200 CONTRACTUAL SERVICES	12,480.00	12,477.60	12,477.60	0.00	2.40	99.98
5530.3700 MEMBERSHIPS/SUBSCRIPTIONS	0.00	0.00	0.00	0.00	0.00	0.00
5530.3800 MEETINGS/TRAVEL	0.00	0.00	0.00	0.00	0.00	0.00
5530.3801 TRAINING & EDUCATION	0.00	0.00	0.00	0.00	0.00	0.00
Total PLANNING	30,303.00	30,227.94	30,227.94	0.00	75.06	99.75
5536 CODE ENFORCEMENT						
5536.1000 SALARIES . PERMANENT	15,241.00	13,818.15	13,818.15	0.00	1,422.85	90.66
5536.1200 EE BENEFITS	6,521.00	5,451.24	5,451.24	0.00	1,069.76	83.60
5536.1205 WORKERS COMPENSATION	395.00	315.97	315.97	0.00	79.03	79.99
5536.1310 PART TIME PLANNING	6,800.00	4,150.59	4,150.59	0.00	2,649.41	61.04
5536.1400 OVERTIME	0.00	0.00	0.00	0.00	0.00	0.00
5536.2131 VEHICLE MATERIALS/SUPPLIES	0.00	0.00	0.00	0.00	0.00	0.00
5536.2800 GAS & OIL	0.00	0.00	0.00	0.00	0.00	0.00
5536.3200 CONTRACTUAL SERVICES	0.00	0.00	0.00	0.00	0.00	0.00
5536.3801 TRAINING & EDUCATION	700.00	349.00	349.00	0.00	351.00	49.86
Total CODE ENFORCEMENT	29,657.00	24,084.95	24,084.95	0.00	5,572.05	81.21
5539 CLEAN WATER MANAGEMENT						
5539.1000 SALARIES . PERMANENT	111,916.00	106,665.87	106,665.87	0.00	5,250.13	95.31
5539.1200 EE BENEFITS	35,170.00	32,252.34	32,252.34	0.00	2,917.66	91.70

Expenditure Status Report
 City of Del Mar
 7/1/2009 through 6/30/2010

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 Periods: 1 through 13

55 CLEAN WATER

<u>Account Number</u>	<u>Adjusted Appropriation</u>	<u>Expenditures</u>	<u>Year-to-date Expenditures</u>	<u>Year-to-date Encumbrances</u>	<u>Balance</u>	<u>Prct Used</u>
5539.1205 WORKERS COMPENSATION	924.00	885.44	885.44	0.00	38.56	95.83
5539.2131 VEHICLE MATERIALS/SUPPLIES	0.00	0.00	0.00	0.00	0.00	0.00
5539.2300 OPERATING SUPPLIES	500.00	81.54	81.54	0.00	418.46	16.31
5539.2800 GAS & OIL	0.00	0.00	0.00	0.00	0.00	0.00
5539.3000 ADVERTISING, PRINTING & PUB	2,600.00	257.90	257.90	0.00	2,342.10	9.92
5539.3200 CONTRACTUAL SERVICES	18,500.00	14,698.75	14,698.75	0.00	3,801.25	79.45
5539.3205 INVESTMENT FEES	0.00	0.00	0.00	0.00	0.00	0.00
5539.3700 MEMBERSHIPS/SUBSCRIPTIONS	225.00	225.00	225.00	0.00	0.00	100.00
5539.3800 MEETINGS/TRAVEL	400.00	91.18	91.18	0.00	308.82	22.80
5539.3801 TRAINING & EDUCATION	500.00	349.00	349.00	0.00	151.00	69.80
5539.4800 ASSESSMENTS	25,315.00	22,241.92	22,241.92	0.00	3,073.08	87.86
Total CLEAN WATER MANAGEMENT	196,050.00	177,748.94	177,748.94	0.00	18,301.06	90.67
5840 PW.GENL & ADMIN						
5840.1000 SALARIES . PERMANENT	10,307.00	11,739.18	11,739.18	0.00	-1,432.18	113.90
5840.1200 EE BENEFITS	3,536.00	3,379.70	3,379.70	0.00	156.30	95.58
5840.1205 WORKERS COMPENSATION	93.00	91.89	91.89	0.00	1.11	98.81
5840.1400 OVERTIME	10.00	0.00	0.00	0.00	10.00	0.00
5840.1803 OUTSIDE CLERICAL	0.00	0.00	0.00	0.00	0.00	0.00
5840.2000 BUILDING MAINTENANCE/REPAIR	25.00	0.00	0.00	0.00	25.00	0.00
5840.2100 EQUIPMENT MAINTENANCE/REPAIR	12.00	29.28	29.28	0.00	-17.28	244.00
5840.2131 VEHICLE MATERIALS/SUPPLIES	32.00	17.10	17.10	0.00	14.90	53.44
5840.2133 VEHICLE CONTRACTUAL SERVICES	80.00	94.26	94.26	0.00	-14.26	117.83
5840.2140 COMPUTER MAINTENANCE	0.00	0.00	0.00	0.00	0.00	0.00
5840.2300 OPERATING SUPPLIES	120.00	269.25	269.25	0.05	-149.30	224.42
5840.2400 UNIFORMS	18.00	10.85	10.85	4.61	2.54	85.89
5840.2600 SMALL TOOLS & EQUIPMENT	59.00	21.27	21.27	0.00	37.73	36.05
5840.2800 GAS & OIL	200.00	207.96	207.96	0.00	-7.96	103.98
5840.3000 ADVERTISING, PRINTING & PUB	6.00	0.00	0.00	0.00	6.00	0.00
5840.3200 CONTRACTUAL SERVICES	1,746.00	1,496.44	1,496.44	0.00	249.56	85.71
5840.3205 INVESTMENT FEES	0.00	3.17	3.17	0.00	-3.17	0.00
5840.3300 UTILITIES	85.00	91.65	91.65	0.00	-6.65	107.82
5840.3400 TELEPHONE	60.00	58.38	58.38	0.00	1.62	97.30
5840.3600 PROPERTY/EQUIPMENT RENTAL	20.00	16.36	16.36	0.00	3.64	81.80

55 CLEAN WATER

Account Number	Adjusted Appropriation	Expenditures	Year-to-date Expenditures	Year-to-date Encumbrances	Balance	Prct Used
5840.3700 MEMBERSHIPS/SUBSCRIPTIONS	7.00	17.00	17.00	0.00	-10.00	242.86
5840.3800 MEETINGS/TRAVEL	10.00	0.95	0.95	0.00	9.05	9.50
5840.3801 TRAINING & EDUCATION	5.00	3.10	3.10	0.00	1.90	62.00
5840.3900 AUTO ALLOWANCE	96.00	96.00	96.00	0.00	0.00	100.00
5840.4950 BAD DEBT	0.00	344.29	344.29	0.00	-344.29	0.00
5840.5500 VEHICLES	0.00	0.00	0.00	0.00	0.00	0.00
5840.5800 DEPRECIATION	0.00	2,266.95	2,266.95	0.00	-2,266.95	0.00
Total PW.GENL & ADMIN	16,527.00	20,255.03	20,255.03	4.66	-3,732.69	122.59
5841 FLOOD CONTROL/DRAINAGE						
5841.1000 SALARIES . PERMANENT	2,599.00	2,550.41	2,550.41	0.00	48.59	98.13
5841.1200 EE BENEFITS	1,069.00	1,016.14	1,016.14	0.00	52.86	95.06
5841.1205 WORKERS COMPENSATION	55.00	56.47	56.47	0.00	-1.47	102.67
5841.1400 OVERTIME	15.00	0.00	0.00	0.00	15.00	0.00
5841.2300 OPERATING SUPPLIES	100.00	226.58	226.58	0.00	-126.58	226.58
5841.2400 UNIFORMS	20.00	18.09	18.09	11.04	-9.13	145.65
5841.3200 CONTRACTUAL SERVICES	493.00	77.75	77.75	0.00	415.25	15.77
Total FLOOD CONTROL/DRAINAGE	4,351.00	3,945.44	3,945.44	11.04	394.52	90.93
5845 STREET MAINTENANCE						
5845.1000 SALARIES . PERMANENT	43,069.00	42,890.07	42,890.07	0.00	178.93	99.58
5845.1200 EE BENEFITS	17,484.00	17,078.70	17,078.70	0.00	405.30	97.68
5845.1205 WORKERS COMPENSATION	933.00	952.77	952.77	0.00	-19.77	102.12
5845.1300 SALARIES . SEASONAL	0.00	0.00	0.00	0.00	0.00	0.00
5845.1400 OVERTIME	1,729.00	209.53	209.53	0.00	1,519.47	12.12
5845.2000 BUILDING MAINTENANCE/REPAIR	50.00	0.00	0.00	0.00	50.00	0.00
5845.2100 EQUIPMENT MAINTENANCE/REPAIR	300.00	366.92	366.92	0.00	-66.92	122.31
5845.2131 VEHICLE MATERIALS/SUPPLIES	4,893.00	2,348.72	2,348.72	0.00	2,544.28	48.00
5845.2133 VEHICLE CONTRACTUAL SERVICES	2,700.00	1,292.10	1,292.10	0.00	1,407.90	47.86
5845.2300 OPERATING SUPPLIES	2,323.00	3,692.28	3,692.28	0.63	-1,369.91	158.97
5845.2400 UNIFORMS	665.00	570.82	570.82	121.26	-27.08	104.07
5845.2600 SMALL TOOLS & EQUIPMENT	792.00	265.62	265.62	0.00	526.38	33.54
5845.2800 GAS & OIL	4,000.00	2,599.62	2,599.62	0.00	1,400.38	64.99
5845.3000 ADVERTISING, PRINTING & PUB	100.00	0.00	0.00	0.00	100.00	0.00

Expenditure Status Report
City of Del Mar
7/1/2009 through 6/30/2010

expstat.rpt
09/23/2010 4:31PM
Periods: 1 through 13

55 CLEAN WATER

Account Number	Adjusted Appropriation	Expenditures	Year-to-date Expenditures	Year-to-date Encumbrances	Balance	Prct Used
5845.3200	4,772.00	5,189.02	5,189.02	0.00	-417.02	108.74
5845.3300	1,267.00	959.62	959.62	0.00	307.38	75.74
5845.3400	300.00	329.56	329.56	0.00	-29.56	109.85
5845.3700	74.00	101.97	101.97	0.00	-27.97	137.80
5845.3800	200.00	29.13	29.13	0.00	170.87	14.57
5845.3801	200.00	27.51	27.51	0.00	172.49	13.76
5845.5500	0.00	0.00	0.00	0.00	0.00	0.00
Total	85,851.00	78,903.96	78,903.96	121.89	6,825.15	92.05
5847						
5847.1000	5,239.00	5,236.46	5,236.46	0.00	2.54	99.95
5847.1200	2,149.00	2,117.07	2,117.07	0.00	31.93	98.51
5847.1205	112.00	116.10	116.10	0.00	-4.10	103.66
5847.1400	150.00	0.00	0.00	0.00	150.00	0.00
5847.2100	20.00	0.00	0.00	0.00	20.00	0.00
5847.2200	100.00	0.00	0.00	0.00	100.00	0.00
5847.2300	80.00	9.30	9.30	0.00	70.70	11.63
5847.2400	30.00	50.82	50.82	13.24	-34.06	213.53
5847.2600	10.00	0.00	0.00	0.00	10.00	0.00
5847.3200	6,640.00	5,743.81	5,743.81	0.00	896.19	86.50
5847.3300	3,635.00	3,424.83	3,424.83	0.00	210.17	94.22
5847.3600	93.00	0.00	0.00	0.00	93.00	0.00
Total	18,258.00	16,698.39	16,698.39	13.24	1,546.37	91.53
5848						
5848.1000	1,040.00	1,020.19	1,020.19	0.00	19.81	98.10
5848.1010	0.00	0.00	0.00	0.00	0.00	0.00
5848.1200	429.00	406.61	406.61	0.00	22.39	94.78
5848.1205	23.00	22.55	22.55	0.00	0.45	98.04
5848.1400	103.00	0.00	0.00	0.00	103.00	0.00
5848.2200	200.00	43.53	43.53	0.00	156.47	21.77
5848.2300	165.00	189.82	189.82	0.00	-24.82	115.04
5848.2400	12.00	7.19	7.19	3.34	1.47	87.75
Total	8,288.00	7,889.01	7,889.01	0.00	398.99	95.19

55 CLEAN WATER

Account Number	Adjusted Appropriation	Year-to-date Expenditures	Year-to-date Expenditures	Year-to-date Encumbrances	Balance	Prct Used
5848.3300 UTILITIES	2,684.00	2,270.71	2,270.71	0.00	413.29	84.60
Total PARK MAINTENANCE	12,944.00	11,849.61	11,849.61	3.34	1,091.05	91.57
5890 NON-DEPARTMENTAL						
5890.3205 INVESTMENT FEES	0.00	0.00	0.00	0.00	0.00	0.00
5890.5997 EQUIPMENT REPLACEMENT	0.00	2,603.55	2,603.55	0.00	-2,603.55	0.00
5890.5999 CAPITALIZED EXPENDITURES	0.00	-2,603.55	-2,603.55	0.00	2,603.55	0.00
Total NON-DEPARTMENTAL	0.00	0.00	0.00	0.00	0.00	0.00
5999 TRANSFERS OUT						
5999.5908 TRANSFER OUT EXPENDITURE	0.00	0.00	0.00	0.00	0.00	0.00
Total TRANSFERS OUT	0.00	0.00	0.00	0.00	0.00	0.00
Total CLEAN WATER	476,141.00	429,372.42	429,372.42	154.17	46,614.41	90.21
Grand Total	476,141.00	429,372.42	429,372.42	154.17	46,614.41	90.21

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Appendix 10-B
Final Adopted Budget for Fiscal Years 2009-2010 & 2010-2011
City of Del Mar Clean Water Fund (Fund 55)

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PROGRAM: CLEAN WATER ENGINEERING**ACCT #55-5220**

This program provides technical assistance to the Clean Water Program in compliance with the San Diego Regional Water Quality Control Board Municipal Stormwater Permit. Engineering contractual services include costs for preparation of annual reports, water quality testing, education and outreach, and engineering services. These services are administered under contract with outside firms.

	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
Employee Services	\$0	\$0	\$0	\$0	\$0
Maintenance & Operations	0	0	0	0	0
Contractual Services	185,677	289,461	85,500	82,200	82,200 (1)
Debt Service	0	0	0	0	0
Capital Outlay	0	0	0	0	0
GRAND TOTAL	\$185,677	\$289,461	\$85,500	\$82,200	\$82,200
POSITIONS (FTE)	0	0	0	0	0

(1) Increased costs for implementation of this State and federally-mandated stormwater program evolved over the requirements of the 2001 Permit. As a result, in Fiscal Year 2007-2008, the City hired a full-time Clean Water Manager to take over general administration and day-to-day activities for the Clean Water Program. Because of the scope of the program requirements, outside consultants are still utilized for their technical expertise in monitoring and assessment, and to assist on an as-needed basis. These costs also include laboratory fees and costs associated with the monitoring program required under the Municipal Permit.

PROGRAM: CLEAN WATER PLANNING **ACCT #55-5530**

The Planning Department assists in the active enforcement of the Clean Water regulations as per the Municipal Stormwater Permit issued by the Regional Water Quality Control Board. Responsibilities include project and plan review, permitting, construction monitoring, and implementation of best management practices.

	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
Employee Services	\$18,359	\$27,992	\$37,533	\$17,822	\$31,752 (1)
Maintenance & Operations	0	0	0	0	0
Contractual Services	0	0	0	7,800	0
Debt Service	0	0	0	0	0
Capital Outlay	0	0	0	0	0
GRAND TOTAL	\$18,359	\$27,992	\$37,533	\$25,622	\$31,752
POSITIONS (FTE)	0.25	0.25	0.25	0.16	0.24 (1)

(1) For purposes of review of projects and permitting and construction monitoring, eight percent of the Planning Director's time and four percent of the time for five planning staff are charged to this account.

PROGRAM: CLEAN WATER CODE ENFORCEMENT **ACCT # 55-5536**

Active code enforcement is required as part of the Clean Water regulations under the Municipal Stormwater Permit issued by the San Diego Regional Water Quality Control Board. The City's Code Enforcement Officer and Code Enforcement Technician assist the Clean Water Manager in this regard.

	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
Employee Services	\$23,513	\$7,971	\$25,794	\$28,958	\$29,815 (1)
Maintenance & Operations	0	0	150	700	150
Contractual Services	0	0	5,040	0	0
Debt Service	0	0	0	0	0
Capital Outlay	0	0	0	0	0
GRAND TOTAL	\$23,513	\$7,971	\$30,984	\$29,658	\$29,965
POSITIONS (FTE)	0.25	0.25	0.25	0.25	0.25

(1) 25 percent of the City's full-time code enforcement officer and 40 percent of the part-time code enforcement technician/clerk are charged to this program to comply with the requirements for active code enforcement.

PROGRAM: CLEAN WATER PROGRAM MANAGEMENT **ACCT #55-5539**

In Fiscal Year 2007-2008, the City hired a full-time Clean Water Manager to take over general administration and day-to-day activities for the Clean Water Program. Because of the scope of the program requirements, outside consultants are still utilized for their technical expertise on an as-needed basis. Management costs include fees to agencies, development and distribution of educational materials, and general compliance activities with the Municipal Stormwater Permit.

	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
Employee Services	\$0	\$59,997	\$150,467	\$148,011	\$150,124 (1)
Maintenance & Operations	0	1,090	\$2,690	\$38,840	\$27,840 (2)
Contractual Services	0	5,410	\$43,085	\$9,200	\$12,500 (3)
Debt Service	0	0	0	0	0
Capital Outlay	0	0	0	0	0
GRAND TOTAL	\$0	\$66,497	\$196,242	\$196,051	\$190,464
POSITIONS (FTE)	0.00	1.00	1.00	1.00	1.00

(1) 100 percent of the City's full-time Clean Water Manager is charged to this account.

(2) Maintenance and Operations fees include assessments from outside agencies, including the State of California, permit fees, in addition to general operational costs.

(3) Contractual service costs under program management include programmatic implementation contracts which are not a part of engineering services. These costs include implementation programs required under the Watershed Urban Runoff Management Program and special studies.

PROGRAM: CLEAN WATER PUBLIC WORKS **ACCT #55-5840**

Provides administration and general support for all Clean Water programs for property and building. Also provides for supervision of maintenance staff as it relates to the program and administers associated contracts.

	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
Employee Services	\$10,478	\$10,702	\$11,090	\$13,946	\$14,176
Maintenance & Operations	2,874	2,650	1,043	835	835
Contractual Services	1,735	1,298	1,648	1,746	1,790
Debt Service	0	0	0	0	0
Capital Outlay	0	34	330	0	0
GRAND TOTAL	\$15,087	\$14,684	\$14,111	\$16,527	\$16,801
POSITIONS (FTE)	0.10	0.10	0.10	0.12	0.12

PROGRAM: CLEAN WATER FLOOD CONTROL **ACCT #55-5841**

This program provides the needed monitoring, water quality testing, and labor associated with the Clean Water (NPDES) program requirements when the Flood Control pumps are in operation.

	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
Employee Services	3,676	3,576	3,959	3,738	3,867
Maintenance & Operations	471	243	562	120	124
Contractual Services	275	412	464	493	506
Debt Service	0	0	0	0	0
Capital Outlay	0	0	0	0	0
GRAND TOTAL	\$4,422	\$4,231	\$4,985	\$4,351	\$4,497
POSITIONS (FTE)	0.05	0.05	0.05	0.05	0.05

PROGRAM: CLEAN WATER STREET MAINTENANCE **ACCT #55-5845**

This program provides for a portion of the sidewalk and street cleaning including street sweeping and storm drain maintenance within the City limits of Del Mar. Special activities include testing, recording contents and recovering all deposited materials that otherwise would discharge to the beach, river, or lagoon.

	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
Employee Services	\$61,659	\$60,998	\$64,492	\$63,216	\$65,429
Maintenance & Operations	18,410	15,225	22,648	17,864	18,236
Contractual Services	6,801	8,258	9,289	620	1,000 (1)
Debt Service	0	0	0	0	0
Capital Outlay	0	422	3,744	0	0
GRAND TOTAL	\$86,870	\$84,903	\$100,173	\$81,700	\$84,665
POSITIONS (FTE)	0.80	0.80	0.80	0.80	0.80

(1) Fiscal Year 2006-2007 amounts reflect 50 percent of contract costs with ARC of San Diego for litter removal shared with the Gas Tax Fund's Street Maintenance program. For Fiscal Year 2009-2010, the Community Services Department will assume the duty of litter removal from the bus stop and arterial roadways.

PROGRAM: CLEAN WATER LANDSCAPING **ACCT #55-5847**

This program provides for landscape supervision, documentation and controls for the Clean Water aspects of the street landscaping for the City of Del Mar's street medians, islands, street ends and other street related areas. The program also provides for improved litter control, pesticide and fertilization monitoring and reporting for the NPDES permit requirements.

	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
Employee Services	\$7,617	\$7,565	\$7,918	\$7,599	\$7,811
Maintenance & Operations	3,845	3,604	4,050	3,968	4,068
Contractual Services	5,720	4,561	7,073	6,640	7,301
Debt Service	0	0	0	0	0
Capital Outlay	0	0	0	0	0
GRAND TOTAL	\$17,182	\$15,730	\$19,041	\$18,207	\$19,180
POSITIONS (FTE)	0.10	0.10	0.10	0.10	0.10

PROGRAM: CLEAN WATER PARK MAINTENANCE**ACCT #55-5848**

This program provides for park maintenance supervision, documentation and controls for the Clean Water aspects of the landscaping for Del Mar's parks, open spaces, building landscaping, and other street related areas. It also provides for improved litter control, pesticide and fertilization monitoring, and reporting for the NPDES permit requirements.

	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
Employee Services	\$1,465	\$1,933	\$1,622	\$1,595	\$1,651
Maintenance & Operations	1,804	2,535	3,487	3,061	3,138
Contractual Services	4,703	14,229	18,103	8,288	9,000
Debt Service	0	0	0	0	0
Capital Outlay	0	0	0	0	0
GRAND TOTAL	\$7,972	\$18,697	\$23,212	\$12,944	\$13,789
POSITIONS (FTE)	0.02	0.02	0.02	0.02	0.02

**CITY OF DEL MAR
FISCAL YEARS 2009-2010 AND 2010-2011
EXPENDITURE DETAIL**

FUND: 55 CLEAN WATER PROGRAM

ACCOUNT	DESCRIPTION	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
	ENGINEERING					
55-5220-3200	CONTRACTUAL SERVICES	31,600	36,966	10,500	10,500	10,500
55-5220-3210	CITY ENGINEER	154,077	252,495	75,000	71,700	71,700
	CONTRACT SERVICES	185,677	289,461	85,500	82,200	82,200
	ENGINEERING	185,677	289,461	85,500	82,200	82,200
	PLANNING					
55-5530-1000	SALARIES - PERMANENT	13,161	20,464	27,398	13,144	23,440
55-5530-1200	EMPLOYEE BENEFITS	4,692	6,899	9,264	4,584	7,808
55-5530-1205	WORKERS' COMPENSATION	506	629	871	95	504
	EMPLOYEE SERVICES	18,359	27,992	37,533	17,822	31,752
55-5530-2300	OPERATING SUPPLIES	-	-	-	-	-
55-5530-3700	MEMBERSHIPS & SUBSCRIPTIONS	-	-	-	-	-
55-5530-3800	MEETINGS & TRAVEL	-	-	-	-	-
55-5530-3801	TRAINING & EDUCATION	-	-	-	-	-
	MAINTENANCE & OPERATIONS	-	-	-	-	-
55.5530.3200	CONTRACTUAL SERVICES	-	-	-	7,800	-
	PLANNING	18,359	27,992	37,533	25,622	31,752
	CODE ENFORCEMENT					
55-5536-1000	SALARIES - PERMANENT	13,656	5,239	14,870	15,241	15,241
55-5536-1200	EMPLOYEE BENEFITS	4,964	2,254	5,792	6,521	6,667
55-5536-1205	WORKERS' COMPENSATION	855	478	1,352	395	1,106
55-5536-1310	PART TIME PLANNING	2,863	-	3,780	6,800	6,800
55-5536-1400	OVERTIME	1,175	-	-	-	-
	EMPLOYEE SERVICES	23,513	7,971	25,794	28,958	29,815
55-5536-2131	VEHICLE MAINTENANCE	-	-	-	-	-
55-5536-2800	GAS & OIL	-	-	-	-	-
55-5536-3801	TRAINING & EDUCATION	-	-	150	700	150
	MAINTENANCE & OPERATIONS	-	-	150	700	150
55-5536-3200	CONTRACTUAL SERVICES	-	-	5,040	-	-
	CODE ENFORCEMENT	23,513	7,971	30,984	29,658	29,965
	CLEAN WATER MANAGEMENT					
55-5539-1000	SALARIES - PERMANENT	-	43,703	111,916	111,916	111,916
55-5539-1200	EMPLOYEE BENEFITS	-	14,829	34,770	35,170	35,619
55-5539-1205	WORKERS' COMPENSATION	-	1,465	3,781	924	2,588
55-5539-1310	PART TIME PLANNING	-	-	-	-	-
55-5539-1400	OVERTIME	-	-	-	-	-
	EMPLOYEE SERVICES	-	59,997	150,467	148,011	150,124
55-5539-2131	VEHICLE MAINTENANCE	-	-	-	-	-
55-5539-2300	OPERATING SUPPLIES	-	677	500	500	500
55-5539-2800	GAS & OIL	-	-	-	-	-
55-5539-3000	ADVERTISING, PRINTING, PUBLISHING	-	-	-	2,600	1,600
55-5539-3700	MEMBERSHIPS & SUBSCRIPTIONS	-	-	490	225	225
55-5539-3800	MEETINGS AND TRAVEL	-	-	850	400	400
55-5539-3801	TRAINING & EDUCATION	-	413	850	500	300
55-5539-4800	ASSESSMENTS	-	-	-	34,615	24,815
	MAINTENANCE & OPERATIONS	-	1,090	2,690	38,840	27,840
55-5539-3200	CONTRACTUAL SERVICES	-	5,410	43,085	9,200	12,500
	CLEAN WATER MANAGEMENT	-	66,497	196,242	196,051	190,464

**CITY OF DEL MAR
FISCAL YEARS 2009-2010 AND 2010-2011
EXPENDITURE DETAIL**

FUND: 55 CLEAN WATER PROGRAM

ACCOUNT	DESCRIPTION	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
	PUBLIC WORKS				-	-
55-5840-1000	SALARIES - PERMANENT	7,156	7,559	8,006	10,307	10,307
55-5840-1200	EMPLOYEE BENEFITS	2,436	2,587	2,772	3,536	3,598
55-5840-1205	WORKERS' COMPENSATION	886	515	302	93	259
55-5840-1400	OVERTIME	-	4	10	10	11
55-5840-1803	OUTSIDE CLERICAL	-	37	-	-	-
	EMPLOYEE SERVICES	10,478	10,702	11,090	13,946	14,176
55-5840-2000	BUILDING MAINT & REPAIR	45	28	69	25	25
55-5840-2100	EQUIP/RADIO MAINT & REPAIR	19	22	10	12	12
55-5840-2131	VEHICLE MAINTENANCE	35	26	46	32	33
55-5840-2133	VEHICLE CONTRACTUAL SERVICES	118	99	103	80	80
55-5840-2140	COMPUTER MAINTENANCE	-	-	-	-	-
55-5840-2300	OPERATING SUPPLIES	132	314	299	120	120
55-5840-2400	UNIFORMS	8	10	15	18	18
55-5840-2600	SMALL TOOLS & EQUIPMENT	97	41	41	59	60
55-5840-2800	GAS & OIL	209	235	210	200	200
55-5840-3000	ADVERTISING & PRINTING	-	-	6	6	-
55-5840-3300	UTILITIES	81	80	69	85	87
55-5840-3400	TELEPHONE	40	58	85	60	61
55-5840-3600	PROPERTY/EQUIPMENT RENTAL	15	16	24	20	21
55-5840-3700	MEMBERSHIPS & SUBSCRIPTIONS	5	4	7	7	7
55-5840-3800	MEETINGS & TRAVEL	26	17	41	10	10
55-5840-3801	TRAINING & EDUCATION	4	69	18	5	5
55-5840-3900	AUTO ALLOWANCE	-	-	-	96	96
55-5840-5800	DEPRECIATION	2,040	1,631	-	-	-
	MAINTENANCE & OPERATIONS	2,874	2,650	1,043	835	835
55-5840-3200	CONTRACTUAL SERVICES	1,735	1,298	1,648	1,746	1,790
55-5840-5500	VEHICLES	-	34	330	-	-
	CAPITAL OUTLAY	-	34	330	-	-
	PUBLIC WORKS	15,087	14,684	14,111	16,527	16,801
	<u>FLOOD CONTROL & DRAINAGE</u>					
55-5841-1000	SALARIES - PERMANENT	2,350	2,384	2,539	2,599	2,599
55-5841-1200	EMPLOYEE BENEFITS	929	955	1,031	1,069	1,100
55-5841-1205	WORKERS' COMPENSATION	397	222	227	55	153
55-5841-1400	OVERTIME	-	15	162	15	15
	EMPLOYEE SERVICES	3,676	3,576	3,959	3,738	3,867
55-5841-2300	OPERATING SUPPLIES	447	218	521	100	103
55-5841-2400	UNIFORMS	24	25	41	20	21
	MAINTENANCE & OPERATIONS	471	243	562	120	124
55-5841-3200	CONTRACTUAL SERVICES	275	412	464	493	506
	FLOOD CONTROL & DRAINAGE	4,422	4,231	4,985	4,351	4,497

**CITY OF DEL MAR
FISCAL YEARS 2009-2010 AND 2010-2011
EXPENDITURE DETAIL**

FUND: 55 CLEAN WATER PROGRAM

ACCOUNT	DESCRIPTION	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
	<u>STREET MAINTENANCE</u>					
55-5845-1000	SALARIES - PERMANENT	39,593	40,985	42,173	43,069	43,069
55-5845-1200	EMPLOYEE BENEFIT	15,143	15,734	16,868	17,484	17,973
55-5845-1205	WORKERS' COMPENSATION	6,727	3,825	3,764	933	2,615
55-5845-1300	SALARIES -SEASONAL	-	-	-	-	-
55-5845-1400	OVERTIME	196	454	1,687	1,729	1,772
	EMPLOYEE SERVICES	61,659	60,998	64,492	63,216	65,429
55-5845-2000	BUILDING MAINT & REPAIR	472	345	797	50	52
55-5845-2100	EQUIP/RADIO MAINT & REPAIR	238	269	206	300	308
55-5845-2131	VEHICLE MATERIALS & SUPPLIES	5,026	4,494	4,774	4,893	5,016
55-5845-2133	VEHICLE CONTRACTUAL SERVICES	2,637	2,252	6,972	2,700	2,700
55-5845-2300	OPERATING SUPPLIES	2,644	2,285	2,266	2,323	2,381
55-5845-2400	UNIFORMS	277	274	649	665	682
55-5845-2600	SMALL TOOLS & EQUIPMENT	1,271	516	773	792	812
55-5845-2800	GAS & OIL	4,548	3,491	3,605	4,000	4,100
55-5845-3000	ADVERTISING & PRINTING	-	-	113	100	100
55-5845-3300	UTILITIES	857	830	1,236	1,267	1,299
55-5845-3400	TELEPHONE	328	280	721	300	300
55-5845-3700	MEMBERSHIPS/SUBSCRIPTIONS	69	36	72	74	76
55-5845-3800	MEETINGS/TRAVEL	-	153	309	200	205
55-5845-3801	TRAINING	43	-	155	200	205
	MAINTENANCE & OPERATIONS	18,410	15,225	22,648	17,864	18,236
55-5845-3200	CONTRACTUAL SERVICES	6,801	8,258	9,289	620	1,000
55-5845-5500	VEHICLES	-	422	3,744	-	-
	CAPITAL OUTLAY	-	422	3,744	-	-
	STREET MAINTENANCE	86,870	84,903	100,173	81,700	84,665
	<u>STREET LANDSCAPING</u>					
55-5847-1000	SALARIES - PERMANENT	4,866	5,041	5,078	5,198	5,198
55-5847-1200	EMPLOYEE BENEFIT	1,929	2,015	2,062	2,140	2,201
55-5847-1205	WORKERS' COMPENSATION	822	467	454	111	309
55-5847-1400	OVERTIME	-	42	324	150	103
	EMPLOYEE SERVICES	7,617	7,565	7,918	7,599	7,811
55-5847-2100	EQUIP MAINT & REPAIR	-	-	23	20	21
55-5847-2200	GENERAL MAINT & REPAIR	675	-	117	100	102
55-5847-2300	OPERATING SUPPLIES	53	177	167	80	82
55-5847-2400	UNIFORMS	57	58	72	30	31
55-5847-2600	SMALL TOOLS & EQUIPMENT	-	-	34	10	10
55-5847-3300	UTILITIES	3,060	3,369	3,546	3,635	3,726
55-5847-3600	PROPERTY/EQUIPMENT RENTAL	-	-	91	93	96
	MAINTENANCE & OPERATIONS	3,845	3,604	4,050	3,968	4,068
55-5847-3200	CONTRACTUAL SERVICES	5,720	4,561	7,073	6,640	7,301
	STREET LANDSCAPING	17,182	15,730	19,041	18,207	19,180

**CITY OF DEL MAR
FISCAL YEARS 2009-2010 AND 2010-2011
EXPENDITURE DETAIL**

FUND: 55 CLEAN WATER PROGRAM

ACCOUNT	DESCRIPTION	ACTUAL 2006-2007	ACTUAL 2007-2008	AMENDED 2008-2009	ADOPTED 2009-2010	ADOPTED 2010-2011
	<u>PARK MAINTENANCE</u>				-	-
55-5848-1000	SALARIES - PERMANENT	940	953	1,016	1,040	1,040
55-5848-1200	EMPLOYEE BENEFITS	366	885	413	429	441
55-5848-1205	WORKERS' COMPENSATION	159	89	93	23	65
55-5848-1400	OVERTIME	-	6	100	103	105
	EMPLOYEE SERVICES	1,465	1,933	1,622	1,595	1,651
55-5848-2200	GENERAL MAINT & REPAIR	221	19	350	200	205
55-5848-2300	OPERATING SUPPLIES	119	460	464	165	169
55-5848-2400	UNIFORMS	7	10	54	12	12
55-5848-3300	UTILITIES	1,457	2,046	2,619	2,684	2,752
	MAINTENANCE & OPERATIONS	1,804	2,535	3,487	3,061	3,138
55-5848-3200	CONTRACTUAL SERVICES	4,703	14,229	18,103	8,288	9,000
	PARK MAINTENANCE	7,972	18,697	23,212	12,944	13,789
TOTAL CLEAN WATER FUND		359,082	463,669	511,781	467,259	473,313

Section 11

Effectiveness Assessment



11.1 Introduction

The City of Del Mar conducts an annual effectiveness assessment of its JURMP implementation. At a minimum, and as described in Permit Section I.1, this annual effectiveness assessment includes:

1. Specific assessment of the effectiveness of each of the following:
 - Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;
 - Implementation of each major component of the JURMP (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination, and Education); and
 - Implementation of the JURMP as a whole.
2. Identification of, and the use of measurable targeted outcomes, assessment measures and assessment methods for each of the items listed above.
3. The use of outcome levels 1-6 (as defined in Attachment C of the Permit) to assess the effectiveness of each of the items listed in Section 1 above, where applicable and feasible.
4. The use of monitoring data and analysis from the Receiving Waters Monitoring Program to assess the effectiveness each of the items listed in list item number 1 above, where applicable and feasible.
5. The use of Implementation Assessment, Water Quality Assessment, and Integrated Assessment, where applicable and feasible (as defined in Attachment C of the Permit)

This component evaluates the progress of the City's program towards the overall goal of reducing pollutants associated with stormwater and urban runoff. The objectives of the assessment component are to assess the performance of the City's JURMP, assess the effectiveness of improving receiving water quality, and identify changes that will increase the effectiveness of the program.

In the past, the RWQCB has noted deficiencies in the effectiveness assessment strategy for nearly all the Copermittees in the region; therefore a regional effort was started and continues to improve upon standardizing a process of effectiveness assessment. The Copermittees continued to meet during the permit cycle to develop a more appropriate strategy. The standardized reporting and assessment structure is planned to be implemented during the Fiscal Year 2010-2011 reporting period and will be included in the next annual report.

A guidance document was prepared by the Copermittees and submitted to the RWQCB on October 16, 2003, titled "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs". This guideline presents a comprehensive assessment strategy that initially focuses on programmatic assessments and moves toward water quality-based assessments to determine program effectiveness. More specifically, it addresses six levels of assessment:

1. Compliance with Activity-based Permit Requirements

2. Changes in Knowledge/Awareness
3. Behavioral Changes
4. Load Reductions
5. Changes in Discharge Quality
6. Changes in Receiving Water Quality

The City has begun adopting this assessment strategy and will more fully adopt it as the regional program strategy becomes available. The levels of assessment have been limited to four rather than six this year because there is limited data available to assess all six levels on a jurisdictional basis. The City believes that levels 5 & 6 are more appropriately assessed at the watershed level.

The first level is Level 1: Compliance with Activity-based Permit Requirements, and includes the assessment tables from the JURMP. Level 2 and 3 are combined and discuss the program strengths (accomplishment and outcomes) for each component. Level 4: Load Reductions, is partially addressed this year. Level 5 and 6 are combined to present a water quality assessment and at this time are addressed only at a regional level. The strategy uses both quantitative and qualitative measures of program effectiveness.

11.2 Effectiveness Assessment Results

11.2.1 Compliance with Activity-Based Permit Requirements (Level 1)

The table in Appendix 11-A summarizes the activities that have been tracked by the program to demonstrate compliance with the Permit and the City's JURMP.

11.2.2 Changes in Knowledge/Awareness and Behavioral Changes (Levels 2 & 3)

The City has begun the process of collecting information necessary to gauge the changes in knowledge and awareness with respect to urban runoff. The City hopes to assess the changes in knowledge and awareness through questions posed to commercial and industrial dischargers. Any results of the assessment will be included in future JURMP Annual Reports.

In general, City staff have found that knowledge and awareness with respect to urban runoff at construction activities is relatively high. Therefore, the City intends to provide more of a focus on BMP implementation rather than awareness for construction activities in order to utilize its resources and staff efficiently.

11.2.3 Load Reductions (Level 4)

Due to the lack of regionally standardized accurate load reduction estimating tools and methods, only limited load reductions have been assessed for the program. At this time the City does not have the means to accomplish load reductions beyond the collected information directly related to physical removal of materials (e.g., debris, sediments, etc.). As regional standards are developed, the City will participate in collection of standardized information and perform further load reduction estimates. The load reduction information available is summarized in the table in Appendix 11-A.

11.2.4 Significant Activities Assessment

In Table 11-1 below, the identified significant activities are listed along with the measured outcomes from Fiscal Year 2009-2010 implementation. The City's assessment demonstrates effectiveness for all significant activities.

Table 11-1: Effectiveness Assessment – Significant Activities, Methods, Measures and Targeted Outcomes

Component	Significant Activity	Method	Measure	Level	Targeted Outcome	Result	Program Effective? YES/NO				
							Compliance Level 1	Knowledge Change Level 2	Behavior Change Level 3	Load Reduction Level 4	
Land Development	1. Post construction BMP inspection: inspections performed/inspections required.	Confirmation	Performed /Required	Compliance (1)	100%	Not applicable yet	Yes	N/A	N/A	N/A	
	1. Were all required inspections performed during the wet season?	Confirmation	Performed /Required	Compliance (1)	100%	100%	Yes	N/A	N/A	N/A	
Construction	1. Were all required inspections performed during the fiscal year?	Confirmation	Performed /Required	Compliance (1)	100%	100%					
	2. Were all required catch basin inspections performed?	Confirmation	Performed /Required	Compliance (1)	100%	100%					
Municipal	3. How much debris was removed from the MS4 prior to the rainy season?	Direct Measure	Tons	Load Reduction (4)	N/A	43.2	Yes	N/A	N/A	Yes	
	4. How much debris was removed from street sweeping activities?	Direct Measure	Tons	Load Reduction (4)	N/A	117.25					
	5. Were all special events applications reviewed for potential coverage under City requirements?	Confirmation	# Reviewed /Total	Compliance (1)	100%	100%					

Effectiveness Assessment

Component	Significant Activity	Method	Measure	Level	Targeted Outcome	Result	Program Effective? YES/NO			
							Compliance Level 1	Knowledge Change Level 2	Behavior Change Level 3	Load Reduction Level 4
Commercial-Industrial	1. Were all inspections performed as required?	Confirmation	Performed /Required	Compliance (1)	100%	100%	Yes	No	No	N/A
IDDE	1. Were all urban runoff related complaints responded to and resolved?	Confirmation	# Responses /Total Complaints	Compliance (1)	100%	100%	Yes	N/A	N/A	N/A
Education	1. Were changes in knowledge demonstrated or verified (i.e. quizzes?)	Analysis	Average Score Before/After	Knowledge Change (2)	%Change	N/A	N/A at this time	N/A at this time	N/A	N/A

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Appendix 11-A
Fiscal Year 2009-2010 Permit Component Compliance Table

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FISCAL YEAR 2009-2010 CITY OF DEL MAR PERMIT COMPLIANCE TABLE

No.	Compliance Item	Outcome Level	Assessment Method	Confirmation and/or result	Section / Appendix
1	A description of any amendments to the General Plan, the environmental review process, development project approval processes, or development project requirements.	1	Confirmation	No Changes	2.2
2	Confirmation that all development projects were required to undergo the Copermittee's urban runoff approval process and meet the applicable project requirements, including a description of how this information was tracked.	1	Confirmation	Confirmed	2.4.1
3	A listing of the development projects to which SUSMP requirements were applied.	1	Confirmation	See Appendix 2-A for listing	
4	Confirmation that all applicable SUSMP BMP requirements were applied to all priority development projects, including a description of how this information was tracked.	1	Confirmation	Confirmed	2.4.1
5	At least one example of a priority development project that was conditioned to meet SUSMP requirements and a description of the required BMPs.	1	Confirmation	Not Applicable for FY 2009/2010 - No PDP projects	
6	A listing of the priority development projects which were allowed to implement treatment control BMPs with low removal efficiency rankings, including the feasibility analyses which were conducted to exhibit that more effective BMPs were infeasible.	1	Confirmation	None	
7	An updated treatment control BMP inventory.	1	Confirmation	See Appendix 2-D	
8	The number of treatment control BMPs inspected, including a summary of inspection results and findings.	1	Confirmation	1	2.4.1
9	A description of the annual verification of operation and maintenance of treatment control BMPs, including a summary of verification results and findings.	1	Confirmation	See Section 2.4.1	
10	Confirmation that BMP verification was conducted for all priority development projects prior to occupancy, including a description of how this information was tracked.	1	Confirmation	Confirmed	2.4.1
11	A listing of any projects which received a SUSMP waiver.	1	Confirmation	No Waiver Program In Place - No waivers issued	
12	A description of implementation of any SUSMP waiver mitigation program.	1	Confirmation		
13	A description of Hydromodification Management Plan (HMP) development collaboration and participation.	1	Confirmation	See Section 2.4.1	
14	A listing of development projects required to meet HMP requirements, including a description of hydrologic control measures implemented.	1	Confirmation		
15	A listing of priority development projects not required to meet HMP requirements, including a description of why the projects were found to be exempt from the requirements.	1	Confirmation	Since the interim HMP requirements took effect, there have been no development projects that trigger HMP requirements	
16	A listing of development projects disturbing 50 acres or more, including information on whether Interim Hydromodification Criteria were met by each of the projects, together with a description of hydrologic control measures implemented for each applicable project.	1	Confirmation		
17	The number of violations and enforcement actions (including types) taken for development projects, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	1	Confirmation / Tabulation	None	2.4.1
18	A description of notable activities conducted to manage urban runoff from development projects	1	Confirmation	None	2.4.2

Development Planning

FISCAL YEAR 2009-2010 CITY OF DEL MAR PERMIT COMPLIANCE TABLE

No.	Compliance Item	Outcome Level	Assessment Method	Confirmation and/or result	Section / Appendix
1	Confirmation that all construction sites were required to undergo the Copermittee's construction urban runoff approval process and meet the applicable construction requirements, including a description of how this information was tracked.	1	Confirmation	Confirmed	3.5
2	Confirmation that a regularly updated construction site inventory was maintained, including a description of how the inventory was managed.	1	Confirmation	Confirmed	3.2
3	A description of modifications made to the construction and grading ordinances and approval processes.	1	Confirmation	Completed changes in FY 2008	3.3
4	Confirmation that the designated BMPs were implemented, or required to be implemented, for all construction sites.	1	Confirmation	Confirmed	3.4
5	Confirmation that a maximum disturbed area for grading was applied to all applicable construction sites.	1	Confirmation	Since the maximum disturbed area and advanced treatment requirements took effect, no projects have triggered these requirements	3.5.1
6	A listing of all construction sites with conditions requiring advanced treatment, together with confirmation that advanced treatment was required at such construction sites.	1	Confirmation		3.5.2
7	For each construction site within each priority category (high, medium, and low), identification of the period of time (weeks) the site was active within the rainy season, the number of inspections conducted during the rainy season, and the number of inspections conducted during the dry season, and the total number of inspections conducted for all sites.	1 & 3	Confirmation / Tabulation / Inspection	See Section 3.5.3 and Appendix 3-C	
8	A description of the general results of the inspections.	1	Confirmation	Confirmed	3.5.3
9	Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.	1	Confirmation	Confirmed	3.5.3
10	The number of violations and enforcement actions (including types) taken for construction sites, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	1	Confirmation / Tabulation	NOV = 6 Citation = 6	3.5.3
11	A description of notable activities conducted to manage urban runoff from construction sites.	1	Confirmation		3.5.4

Construction

FISCAL YEAR 2009-2010 CITY OF DEL MAR PERMIT COMPLIANCE TABLE

No.	Compliance Item	Outcome Level	Assessment Method	Confirmation and/or result	Section / Appendix
1	Any updates to the municipal inventory and prioritization.	1	Confirmation	See Section 4.2.1 and Appendix 4-A	4.2.2
2	Confirmation that the designated BMPs were implemented, or required to be implemented, for municipal areas and activities, as well as special events.	1	Confirmation	Confirmed	4.2.3
3	A description of inspections and maintenance conducted for municipal treatment controls.	1	Confirmation	Section 4.2.3	
4	Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned.	1 / 3	Tabulation / Inspection	Inventory = 284 Inspected = 284 Catch Basins/Inlets Cleaned = 284	4.2.3
5	Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.	1	Tabulation	Total Distance of MS4 pipes = 5.87 miles Total Distance Inspected ~ 3,500 feet Total Distance cleaned ~ 2,500 feet	4.2.3
6	Identification of the total distance (miles) of open channels, the distance of open channels inspected, the distance of open channels found with anthropogenic litter, and the distance of open channels cleaned.	1	Tabulation	Open Channels = 2.85 miles Inspected = 2.85 miles Cleaned ~ 1 mile	4.2.3
7	Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category.	4	Quantification	Catch Basins/Inlets = 38.5 tons MS4 Pipes = 0.3 tons Open Channels = 7.1 tons	4.2.3
8	Identification of any MS4 facility found to require inspection less than annually following two years of inspection, including justification for the finding.	1	Confirmation	None at this time	
9	Confirmation that the designated BMPs for pesticides, herbicides, and fertilizers were implemented, or required to be implemented, for municipal areas and activities.	1	Confirmation	Confirmed	4.2.3
10	Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	1	Tabulation	5.7 miles	4.2.3
11	Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	1	Tabulation	14.5 miles	4.2.3
12	Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	1	Tabulation	31.2 miles	4.2.3
13	Identification of the total distance of curb-miles swept.	1	Tabulation	1,156 miles	4.2.3

Municipal

FISCAL YEAR 2009-2010 CITY OF DEL MAR PERMIT COMPLIANCE TABLE

		Lots = 2			
		Swept = 2 times per month		4.2.3	
14	Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping.	1	Confirmation		
15	Amount of material (tons) collected from street and parking lot sweeping.	4	Quantification	Street and Parking Lot Sweeping = 117.25 tons	4.2.3
16	A description of efforts implemented to prevent and eliminate infiltration from the sanitary sewer to the MS4	1	Confirmation	See Section 4.2.3	
17	Identification of the number of sites requiring inspections, the number of sites inspected, and the frequency of the inspections.	3	Inspection	Sites requiring inspections = 25 Sites inspected = 25 Frequency of inspections = IX per year	4.3.3
18	A description of the general results of the inspections.	1	Confirmation	See Appendix 4-B	
19	Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.	1	Confirmation	Confirmed	4.3.3
20	The number of violations and enforcement actions (including types) taken for municipal areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	1	Confirmation / Tabulation	None	4.4
21	A description of notable activities conducted to manage urban runoff from municipal areas and activities.	1	Confirmation / Tabulation	None	4.5

Municipal (continued)

FISCAL YEAR 2009-2010 CITY OF DEL MAR PERMIT COMPLIANCE TABLE

No.	Compliance Item	Outcome Level	Assessment Method	Confirmation and/or result	Section / Appendix
1	Any updates to the industrial and commercial inventory.	1	Confirmation	See Section 5.2.2 and Appendix 5-A	5.2.3
2	Confirmation that the designated BMPs were implemented, or required to be implemented, for industrial and commercial sites/sources.	1	Confirmation	Confirmed	5.2.4
3	A description of efforts taken to notify owners/operators of industrial and commercial sites/sources of BMP requirements, including mobile businesses.	1	Confirmation	Through inspections and investigations	Appendices 5-A and 5-B
4	Identification of the total number of industrial and commercial sites/sources inventoried and the total number inspected.	1 / 3	Confirmation / Inspection / Tabulation	As of June 30th, 2010 the City's inventory includes 1 industrial and 39 commercial facilities 40 sites were inspected	
5	Justification and rationale for why the industrial and commercial sites/sources inspected were chosen for inspection.	1	Confirmation	See Section 5.2.4	
6	Confirmation that all inspections conducted addressed all the required inspection steps to determine full compliance.	1	Confirmation	Confirmed	5.2.4
7	Identification of the number of third party inspections conducted.	1	Confirmation	None	
8	Identification of efforts conducted to verify third party inspection effectiveness.	1	Confirmation	None	
9	A description of efforts implemented to address mobile businesses.	1	Confirmation	See Section 5.3	
10	The number of violations and enforcement actions (including types) taken for industrial and commercial sites/sources, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	1	Confirmation / Tabulation	NOV = 7 Citation = 5 Verbal Warning = 0	5.2.4
11	A description of steps taken to identify non-filers and a list of non-filers (under the General Industrial Permit) identified by the Copermittees.	1	Confirmation	None - Only 1 Industrial Business in the City	
12	A description of notable activities conducted to manage urban runoff from industrial and commercial sites/sources.	1	Confirmation	None	

Industrial and Commercial

FISCAL YEAR 2009-2010 CITY OF DEL MAR PERMIT COMPLIANCE TABLE

No.	Compliance Item	Outcome Level	Assessment Method	Confirmation and/or result	Section / Appendix
1	Identification of the high threat to water quality residential areas and activities that were focused on.	1	Confirmation	See Section 6.2	
2	Confirmation that the designated BMPs were implemented, or required to be implemented, for residential areas and activities.	1	Confirmation	Confirmed	6.3
3	A description of efforts implemented to facilitate proper management and disposal of used oil and other household hazardous materials.	1	Confirmation	Section 6.4	
4	Types and amounts of household hazardous wastes collected, if applicable.	1	Confirmation	Section 6.4	
5	A description of any evaluation of methods used for oversight of residential areas and activities, as well as any findings of the evaluation.	1	Confirmation	Section 6.5	
6	The number of violations and enforcement actions (including types) taken for residential areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	1	Confirmation	NOV = 3 Citation = 2 Verbal Warning = 0	6.6
7	A description of collaboration efforts taken to develop and implement the Regional Residential Education Program.	1	Confirmation	See Section 6.4	
8	A description of notable activities conducted to manage urban runoff from residential areas and activities	1	Confirmation	See Section 6.7	

Residential

FISCAL YEAR 2009-2010 CITY OF DEL MAR PERMIT COMPLIANCE TABLE

No.	Compliance Item	Outcome Level	Assessment Method	Confirmation and/or result	Section / Appendix
1	A description of education efforts conducted for each target community.	1	Confirmation	Section 8	Section 8
2	A description of how education efforts targeted underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges.	1	Confirmation	Section 8.3	Section 8.3
3	A description of education efforts conducted for municipal departments and personnel.	1	Confirmation	Section 8.2	Section 8.2
4	A description of education efforts conducted for the new development and construction communities.	1	Confirmation	Section 8.3	Section 8.3
5	A description of jurisdictional education efforts conducted for residents, the general public, and school children.	1	Confirmation	Section 8.3	Section 8.3

Education

FISCAL YEAR 2009-2010 CITY OF DEL MAR PERMIT COMPLIANCE TABLE

No.	Compliance Item	Outcome Level	Assessment Method	Section / Appendix
1	A description of public participation efforts conducted.	1	Confirmation	Section 9
2	An assessment of the effectiveness of the Jurisdictional Urban Runoff Management Program	1	Confirmation	Section 11
3	A description of any efforts conducted to reduce pollutant discharges from non-emergency fire fighting flows.	1	Confirmation	See Section 13
4	A fiscal analysis of the Copermittee's urban runoff management programs	1	Confirmation	Section 10
5	A description of any special investigations conducted.	1	Confirmation	Section 12
6	A description of any proposed revisions to the JURMP.	1	Confirmation	Section 14

Miscellaneous

Section 12

Special Projects



This section provides a description of special projects conducted, or participated in, by the City of Del Mar during the Fiscal Year 2009-2010 Reporting Period. Special projects may include water quality studies, BMP pilot studies, surveys and other data collection activities to better understand the program's operations and effectiveness. Special projects may also be undertaken as requirements under other mandates like 13267 letters, TMDLs, etc. and implemented either solely by the City or in collaboration with other agencies or non-profit organizations. Special studies may be funded by grants or from the City's Clean Water Fund. Regardless, of the funding sources, these projects or studies may be scheduled in advance or be undertaken as the need arises during the course of the reporting year.

During this Reporting Period, the City of Del Mar continued its participation in the development process for the Los Peñasquitos Sediment Total Maximum Daily Load (TMDL), and the implementation of the Residential Area Runoff Assessment Program conducted by Weston Solutions, Inc. on behalf of the Regional Copermittee Monitoring Workgroup, as part of the Regional Source Identification Monitoring Residential Area Runoff Assessment. This Section provides a brief discussion of the City's involvement in these programs. No other special investigations took place during the Reporting Period.

12.1 Lagoon TMDL Studies: Los Peñasquitos Lagoon Sediment TMDL

During the Fiscal Year 2009-2010 Reporting Period, the City actively participated in the Los Peñasquitos Lagoon TMDL development by taking part in the Regional Board driven coordination process.

During the Fiscal Year 2008-2009 Reporting Period, the Regional Board approached some of the Los Peñasquitos watershed dischargers and asked for them to participate in the lagoon TMDL development process. As a part of this process, the City has been attending meetings with the Regional Board and other dischargers to discuss a problem statement, points of compliance and other TMDL related topics. The City is actively following the process, and will continue to provide input and review documents produced during the process. As the TMDL development continues, the City will participate in the development as resources allow.

12.2 Regional Source Identification Monitoring Residential Area Runoff Assessment

During the spring of 2009, the City of Del Mar was one of two jurisdictions selected as subject sites for the 2008-2009 Regional Source Identification Monitoring Program. The Del Mar site was selected as a subject site for the Fiscal Year 2010-2011 program as well. The Source Identification Program is required under Regional Board Order R9-2007-0001 as part of the Receiving Waters and Urban Runoff Monitoring and Reporting Program.

The goal of the study for Fiscal Year 2010-2011 is to collect dry weather and wet weather residential land use discharge data in San Diego County and to build on the data collected during the 2008-2009 and 2009-2010 Source Identification Programs. These data can then be used by Copermittees for the development of effective strategies to reduce dry weather nuisance flows and potentially reduce pollutant loads in wet weather runoff from residential areas, one of the most common land uses in the San Diego region.

As part of the study, flow monitoring and water quality sampling was conducted from April 1, 2009 through June 30, 2009. Water quality sampling was conducted during all three sampling events. In addition to providing one of the study areas, the City worked with Weston Solutions to obtain the necessary clearances to work in the City, and worked with the Copermittee Monitoring Workgroup to ensure the success of the program. Detailed discussion and information on the Regional Source Identification Monitoring program, including the Residential Area Runoff Assessment was included in Annual Regional Monitoring Report provided by the County of San Diego under separate cover.

12.3 Other Special Investigations or Studies

No other special investigations took place during the Reporting Period. For the upcoming Fiscal Year 2010-2011 Reporting Period, the City is reviewing potential study areas to address dry weather flows resulting from foundation drains and irrigation runoff from residential areas in the south end of the City. Implementation of these studies will depend entirely on availability of resources and funding.

Section 13

Non-Emergency Fire Fighting Flows



This section provides a description of any efforts by the City of Del Mar conducted to reduce pollutant discharges from non-emergency fire fighting flows (i.e. flows from controlled or practice blazes and maintenance activities) determined to be a significant source of pollutants to waters of the U.S.

As discussed in Section 4 of this JURMP Annual Report, Section 6.19 of the 2008 JURMP described the City's program to reduce pollutants from non-emergency fire fighting flows. During this Reporting Period, all training sessions were held at Regional Training facilities outside the City of Del Mar, and any vehicle maintenance (including washing) was conducted in accordance with Section 6.19 of the 2008 JURMP. No non-emergency fire fighting flow from training or other maintenance activities occurred during Fiscal Year 2009-2010 which would require any additional efforts to reduce pollutant discharges.

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Section 14

JURMP Revisions



During Fiscal Year 2009-2010 no revisions to the 2008 JURMP were made by the City of Del Mar. As discussed in previous Annual Reports, prior to January 2008, the Clean Water Program was managed by an outside consulting firm. As part of his responsibilities, the Clean Water Manager is tasked with reviewing the City's Program, and looking for ways to be more efficient and cost effective at meeting the Permit requirements. This continues to be a priority for the City, and the Clean Water Manager, in conjunction with the City's consulting team, is presently reviewing the 2008 JURMP and modifications required to implement the new Hydromodification Plan (HMP) requirements, as well as working with each Department to find better, more efficient ways, to document and implement the Clean Water Program requirements. As the result of work done during Fiscal Year 2009-2010, the City has identified some areas where more efficient methods can be employed and is working to integrate them into the program during the next JURMP update. Any necessary changes to the 2008 JURMP as a result of new procedures, and as the result of the introduction of the adopted Final HMP requirements, will be documented in the Fiscal Year 2010-2011 Annual Report.

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Section 15

Conclusions and Recommendations



During the Fiscal Year 2009-2010 Reporting Period, the City of Del Mar implemented the Municipal Permit requirements and the activities described in the City's 2008 JURMP. The City continues to support a comprehensive stormwater management program, which is evident in, and reflected by, the City's efforts to implement its JURMP. This Annual Report documents the City's efforts to implement various JURMP programs such as education, inspections, inventories, monitoring, and public participation. These activities and their compliance are reflected in Permit Component Tables contained in the Effectiveness Assessment addressed in Section 11 of this Annual Report.

In addition to the activities identified in the Permit Component Tables, the City has been involved in several other regional efforts including:

- Continued contributions to the San Dieguito and Los Peñasquitos WURMP implementation;
- Los Peñasquitos Lagoon TMDL development; and
- Co-chairing the Regional Copermittees' Municipal Workgroup

This section draws conclusions from the collected data contained in this Annual Report, and makes appropriate recommendations based on the review of program implementation during the Fiscal Year 2009-2010 Reporting Period.

15.1 Recommendations and Program Modifications

The City's Clean Water Program continued to evolve during the Fiscal Year 2009-2010 Reporting Period. As indicated in the City's 2008 JURMP, the program will require periodic revision. The City remains committed to working with its staff, other Copermittees and the Regional Board to improve and adapt its plan and make all efforts necessary to comply with the Permit requirements and to make improvements to water quality. As lessons are learned, and as a result of City staff input, modifications may be required to make sure that the City's program continues to be effective.

As described in Section 14 of this Annual Report, the City did not make modifications to its program.

Some of the key recommendations for program implementation during Fiscal Year 2010-2011 are as follows:

- Continue implementation of the City's 2008 JURMP;
- Modify staff training to address all employees – including seasonal staff – consideration may be given to electronic training sessions;
- Continue improvements to activity/document tracking systems;
- In depth assessment of the operating procedures as related to the City's 2008 JURMP – focusing particularly on field implementation of the requirements, and whether the efficiency of implementation can be improved;
- Continue to engage and involve the community in the program implementation; and

- Continue to coordinate with the Regional Copermittees for consistent approaches to program implementation.

15.2 Conclusions

As evidenced in the Permit Component Tables, the City has largely been successful at implementing its clean water program. With continued review and modifications of its 2008 JURMP, and ongoing input on the implementation of its program, the partnership between residents, local businesses, and City staff will continue to allow the City to work diligently in protecting its waterways, and improve water quality at its beaches and lagoons.