

7.0 NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT

7.1 Introduction

One of the most important responsibilities of local government is to provide a decision making and approval processing framework for new development and re-development. This framework ensures that (1) development occurs in an orderly and organized fashion in a manner that reflects the vision and needs of the community, (2) environmental issues associated with development are assessed, and (3) provides a regulatory framework to ensure that standards set by the jurisdiction are implemented.

Since the inception of the Program, it has been recognized that the incorporation of BMPs into a development project in its planning stages offers a unique opportunity to limit increases in pollutant loads. **DAMP Section 7.0** links new development BMP design, construction and operation to the earlier phases of new development project planning, encompassed by the jurisdictional General Plans environmental review and development permit approval processes.

7.2 Accomplishments

7.2.1 New Development/Significant Redevelopment Program

In 1993, the New Development/Construction Task Force, comprised of representatives from the Principal Permittee, Building Industry Association (BIA), Association of General Contractors (AGC) and Civil Engineers & Land Surveyors of California (CELSOC), completed a report - *Best Management Practices For New Development Including Nonresidential Construction Projects (1-5 acres)* - that provided the basis for requiring the incorporation of structural and non-structural BMPs into development. This report was the basis of the New Development component of the DAMP during the First and Second Term Permits.

The requirements of the Third Term permits significantly increased the complexity of the new development provisions of the DAMP. These provisions provide a framework and a process for integrating watershed protection/stormwater quality management principles into the Permittees' General Plans, environmental review processes, and development permit approval processes. The new development provisions also cover initial project planning and project design, construction and completion, including requirements for the selection, design and long-term maintenance of permanent BMPs. Specifically, the new development provisions require the Permittees to:

- Assess the need to revise and update General Plans to include watershed and stormwater quality and quantity management considerations.
- Review CEQA processes for potential stormwater quality impacts and mitigation.
- Review development planning/permit approval process for stormwater protection principles.

- Develop and implement a model Water Quality Management Plan (WQMP) (also referred to as a Standard Urban Stormwater Mitigation Plan – SUSMP) to address impact from new development and significant redevelopment.

For the area of Orange County within the San Diego Regional Water Quality Control Board jurisdiction of Orange County (area south of El Toro Rd.), each municipality was required by the Permit to develop a Local WQMP, based on the model WQMP, to oversee new development and significant redevelopment within their local jurisdiction. These Local WQMPs were finalized for implementation on August 13, 2003.

For the area of Orange County within the Santa Ana Regional Water Quality Control Board jurisdiction of Orange County (area north of El Toro Rd.), the Model WQMP explains the requirements placed upon all new development and significant redevelopment projects. The Model WQMP underwent a lengthy public review process and was approved for implementation by the Executive Officer of the Santa Ana Regional Water Quality Control Board on September 30, 2003.

During the 2004-05 reporting period, 551 Project WQMPs were processed for 3,227 acres of development. Since 1997, a total of 3,193 Project WQMPs have been approved, covering 27,287 acres which represents approximately 6% of the area within Orange County subject to the Third Term Permits.

- Conduct education or training.

Five training modules have been developed and have been given:

1. General Plan Issues;
2. New Development/Significant Program Management;
3. Project Planning and Design: Environmental Review, Planning and Permitting and WQMP Development;
4. Stormwater BMP Effectiveness and Applicability for Orange County, and
5. Stormwater Treatment: How it Works (Or Does It?).

7.2.2 California Sustainable Watershed/Wetland Information Manager (CalSWIM)

CalSWIM (<http://calswim.org/>) is an Orange County Storm Water Program and University of California, Irvine (Departments of Engineering and Informatics) initiative to develop a web-based expert system and prototype database designed to support cost-effective and scientifically justifiable decisions regarding the monitoring, management, and alteration of coastal urban wetlands and their associated watersheds. Initiated in 2004, CalSWIM currently delivers:

- Forecasting and now-casting of nutrient levels, sediment supply, indicator bacteria, and pathogens in the Newport Bay Watershed, and

- Targeted evaluation of management decisions that affect the habitat quality and ecological function of coastal wetlands, and/or that directly bear on pollutants of concern.

7.2.3 Hydromodification

Hydromodification arises from changes in the volume, magnitude and duration of flows that can occur coincident with urbanization and is evident in the landscape as channel incision and bank erosion in the upper and middle portions of a watershed and as aggradation and increased channel meandering in the downstream areas of the watershed. In 2005, the Permittees supported, through the Stormwater Monitoring Coalition (SMC) and California Stormwater Quality Association (CASQA), a workshop that was convened to provide an overview of the key technical and managerial issues associated with hydromodification in S. California (see Stein and Zaleski, 2005¹).

7.3 **Assessment**

The current and potential program effectiveness assessment outcome levels for the New Development / Significant Redevelopment Program are presented in **Table 7.1**.

7.3.1 New Development/Significant Redevelopment Program

CEQA review processes were reviewed for adequacy early in the period of the Third Term Permits. However, in preparing the ROWD, a number of Permittees commented that the overall planning approval process for projects needs to more effectively ensure that water quality protection is considered in the earliest phases of project consideration through further elaboration of the preliminary or conceptual WQMP concept in the DAMP.

ROWD Commitment:

- Prepare guidance documentation and clarify requirements for the preliminary or conceptual Project WQMP.

The Model WQMP identifies BMPs for new development and significant redevelopment projects that are subject to WQMP requirements pursuant to **DAMP Section 7**. Depending upon the project size and characteristics, these BMPs include Site Design BMPs, applicable Source Control BMPs and Project-based Treatment Control BMPs (and/or participation in an approved regional or watershed management program).

¹ Managing Runoff to Protect Natural streams: The Latest Developments on Investigation and Management of Hydromodification in California; Stein and Zaleski, SCCWRP Technical Report 475, December 2000.

The requirement for new developments/significant redevelopment projects to prepare a WQMP has been an established part of the planning approval process (See **Table 7.2**) since the **1993 DAMP** and all Permittees certified they were implementing this part of the Program in 1997. While there is considerable variation in the level of activity between the Permittees, this variability can be attributed to the availability of land for development/redevelopment within a particular jurisdiction. Indeed, the County of Orange and the cities of Irvine and Anaheim, with large swathes of undeveloped land, show the highest numbers of WQMPs processed.

Headline Indicator - Number of WQMPs processed and the area (acreage) to which BMPs have been applied: During the 2004-05 reporting period, 551 WQMPs were processed for 3,227 acres of development compared to 461 WQMPs processed for 1,595 acres of development in 2003-04, and 391 WQMPs processed for 2,836 acres of development in 2002-03 (**Table 7.2; Figure 7.1**).

Level 1: Implement Program

Headline Indicator - Number of BMPs Implemented: A total of 5,061 BMPs were implemented in the 2004-05 reporting period. This total represents a 129% increase in the total number of BMPs implemented in 2003-04 (2,201) and a 112% increase from the total number of BMPs implemented in 2002-03 (2,389) (**Figure 7.2**).

Level 3: Behavior Change

During the Third Term Permit term, the structural source controls used most often were: common area efficient irrigation systems and landscape design, filtration, storm drain stenciling, and trash storage area. The non-structural source controls used most often include: employee training, common area litter control, common area landscape management, street sweeping, education, BMP maintenance, and activity restrictions. The most common treatment control BMPs that have been implemented include catch basin screens, catch basin filters, and stormwater treatment units (hydro-dynamic separators).

In preparing the ROWD, a number of Permittees have commented that (1) the guidance for selecting BMPs needs to be updated and enhanced, particularly with regard to treatment control BMPs, (2) there is a possible inconsistency in provisions regarding site prioritization, and (3) adjacent municipal stormwater programs have more effective provisions regarding the consideration of Site Design BMPs.

DAMP Modification:

- Revise *Model WQMP Table 7.II.6* for latest information on BMPs and clarity.
- Evaluate and revise (as necessary) prioritization provisions for Countywide consistency.

ROWD Commitment:

- Develop recommendations (through cooperative Stormwater Monitoring Coalition project) for incorporation of LID techniques into resource and water quality protection requirements.
- Develop library of BMP performance reports.
- Develop standard design checklist/plans/details for selected Source Control and Treatment Control BMPs.
- Develop recommendations for enhanced Model WQMP language regarding Site Design BMPs.
- Develop and implement BMPs for architectural uses of copper and zinc.

In 2005 the Santa Ana Regional Board formally approved the Irvine Ranch Water District's Natural Treatment System as a regional treatment control BMP for a portion of the Newport Bay Watershed. The project is significant for it being the first expression in the area under the jurisdiction of the Santa Ana RWQCB of a regional approach to stormwater treatment.

ROWD Commitment:

- Evaluate the NTS approval process and develop recommendations for streamlining regulatory agency approval of regional Treatment Control BMPs.

The New Development/Significant Redevelopment component of the Program ends with permit close-out and the BMPs transition to the Existing Development component. The Permittees believe that the BMP approach to stormwater management is most effectively sustained by ensuring the longevity of the WQMP through successive ownerships. Additionally, the Permittees requested additional guidance on recording WQMPs in a manner that would enable them to enforce the approved WQMP against subsequent property owners and ensure ongoing

responsibility for BMP maintenance.

ROWD Commitment:

Prepare guidance and training as needed on the recordation process (timing and appropriate documents to use) and develop recommendations for appropriate methods to employ to enable the Permittees to enforce the approved WQMP against subsequent property owners.

Training: Both the Permittees and RWQCB staff has identified a need for updated and additional training regarding WQMP review and approval.

ROWD Commitment:

- Prepare a training schedule and curriculum including defined expertise and competencies for staff with WQMP review and approval responsibilities.
- Prepare a workshop schedule and curriculum for the private sector on WQMP preparation.

7.3.2 California Sustainable Watershed/Wetland Information Manager (CalSWIM)

This initial development and deployment of CalSWIM has focused on Newport Bay, the regionally important tidal saltwater marsh. However, CalSWIM will in the future be extended with an open and scalable architecture to facilitate its rapid redeployment at other coastal urban wetland sites in southern California and elsewhere.

7.3.3 Hydromodification

While the major development projects in Orange County have now been entitled, the Permittees recognize that hydromodification is an emerging issue of concern as the future regulation and management of runoff from urban areas is increasingly considered with respect to the overarching objective of the CWA i.e. maintenance of the chemical, physical and biological integrity of the nation's waters.

DAMP Modification:

- Revise *Model WQMP Section 7.II -3.2.4 Identify Hydrologic Conditions of Concern* to incorporate additional information from hydromodification study.

7.4 Summary

The Third Term Permits have required the Permittees to develop and implement a significantly revised SUSMP- equivalent program for new development/significant redevelopment. This effort was completed Countywide by the end of 2003 and has resulted in an enhanced a WQMP program that, since 1997, has resulted in a total of 3,193 approved Project WQMPs. While the WQMP program is long-established, the review points to a possible continuing emphasis on pollution prevention BMPs and less progress regarding Site Design BMPs using LID approaches. Consequently, the development of additional training and technical support documentation on these approaches is being proposed as an area for further development. In addition, the Permittees have provisionally identified an opportunity, possibly through a Notice of Transfer of Responsibility, recordation, or other means, to enhance efficacy of the WQMP. This opportunity will be the future subject of a formal recommendation to the Permittees.

Table 7.1: Current and Potential Outcome Levels (New Development/Significant Redevelopment)

Development Program Component	Effectiveness Assessment Outcome Levels					
	Level 1	Level 2	Level 3	Level 4	Level 5	Level 6
	Implement Program	Increase Awareness	Behavior Change	Load Reduction	Runoff Quality	Receiving Water Quality
WQMPs	✓ # of WQMPs approved		^P # BMPs implemented	^P Load reduction associated with BMPs		
Training	✓ Track number/type of training sessions	^P Surveys show improved knowledge				
<p><u>Key:</u> ✓ = Currently Achieved Outcome Level ^P = Potentially Achievable Outcome Level</p>						

SECTION 7.0, NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT

Table 7.2: Historical WQMPs and Acreage Covered

Permittee	2002-03		2003-04		2004-05	
	# of WQMPs Approved	Acreage Covered by WQMP	# of WQMPs Approved	Acreage Covered by WQMP	# of WQMPs Approved	Acreage Covered by WQMP
Aliso Viejo	1	23	3	NA	8	60
Anaheim	38	100	16	41	33	67
Brea	2	NA	5	NA	6	58
Buena Park	14	NA	8	NA	3	18
Costa Mesa	27	93	10	3	157	38
Cypress	11	14	22	NA	8	76
Dana Point	NA	NA	6	NA	1	121
Fountain Valley	5	37	2	NA	5	9
Fullerton	18	145	23	65	10	NA
Garden Grove	28	NA	21	NA	18	42
Huntington Beach	19	133	16	104	20	110
Irvine	87	NA	120	NA	100	485
La Habra	7	NA	0	0	2	1
La Palma	0	0	0	0	2	3
Laguna Beach	0	NA	11	NA	12	22
Laguna Hills	2	NA	6	NA	8	9
Laguna Niguel	2	NA	3	NA	1	21
Laguna Woods	NA	NA	4	NA	3	21
Lake Forest	16	40	7	26	4	8
Los Alamitos	0	0	4	NA	NA	NA
Mission Viejo	8	236	10	246	5	10
Newport Beach	NA	NA	18	NA	15	25
Orange	3	11	14	116	10	58
Placentia	0	NA	0	0	2	3
Rancho Santa Margarita	0	0	4	NA	4	4
San Clemente	10	277	22	146	4	329
San Juan Capistrano	8	85	10	NA	9	102
Santa Ana	19	61	23	NA	12	28
Seal Beach	0	0	2	NA	1	NA
Stanton	NA	NA	6	NA	7	3
Tustin	3	1	9	105	4	5
Villa Park	0	0	0	0	0	0
Westminster	8	8	15	17	13	10
Yorba Linda	6	145	14	234	20	187
County of Orange	49	1,426	27	491	44	1,294
TOTALS	391	2,836	461	1,595	551	3,227

NA = Not Available

Figure 7.1: Historical WQMPs and Acreage Covered

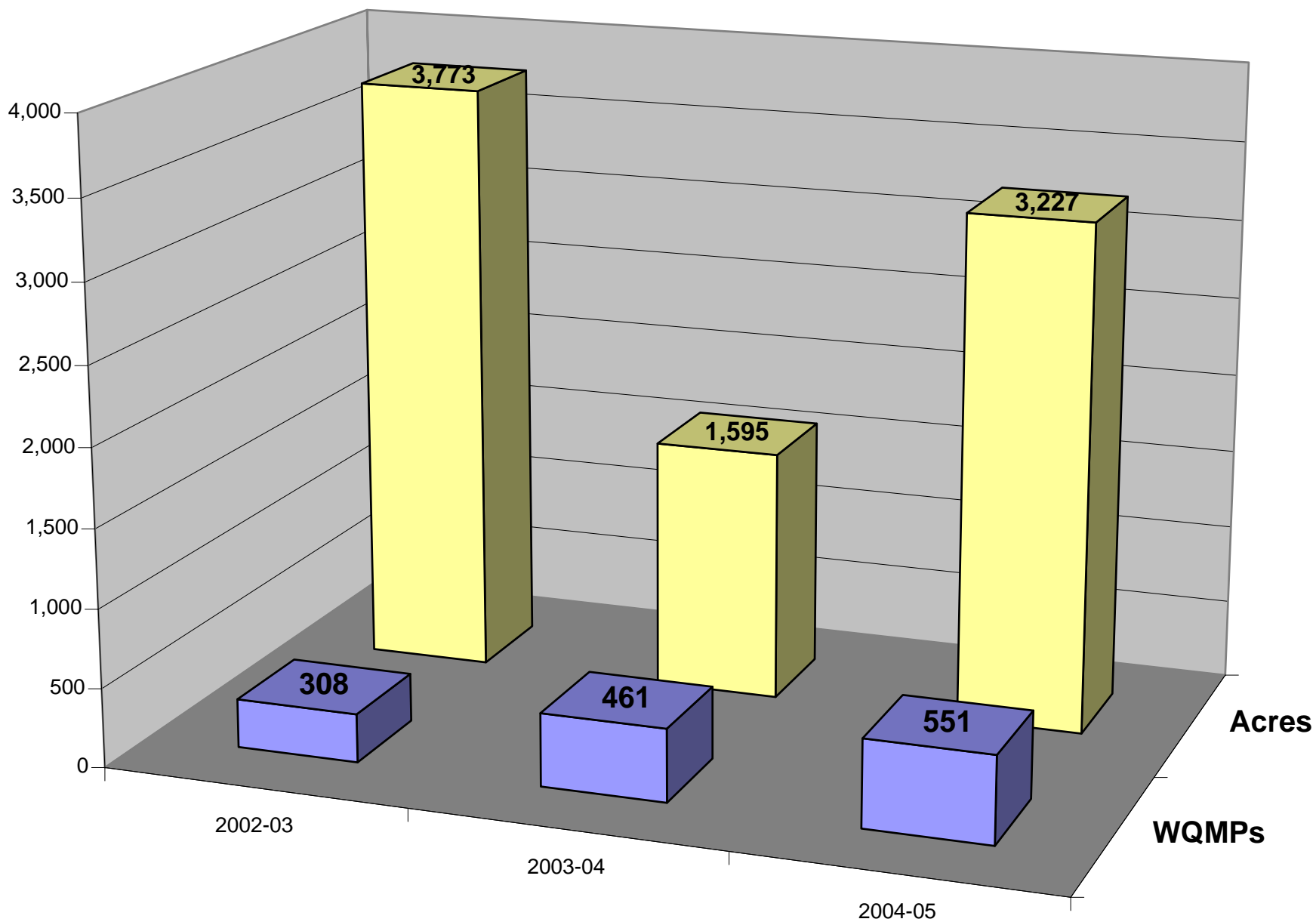


Figure 7.2: Structural and Non-Structural Source Control BMPs Implemented

