

C-7.0 NEW DEVELOPMENT/SIGNIFICANT REDEVELOPMENT

C-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) 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 land development project in its planning stages offers a unique opportunity to limit increases in pollutant loads. **DAMP Section 7.0** links new development and significant redevelopment 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.

C-7.2 Accomplishments

C-7.2.1 New Development/Significant Redevelopment Program

The approach to BMP implementation in the New Development/Significant Redevelopment element of the Program has evolved over the permit terms from a primary focus on water quality to a broader consideration of the hydrologic impacts of land use change comprising concern for changes in peak flow characteristics, and changes in total runoff as well as concern for changes in quality of water. Routine structural and non-structural BMPs implemented during the first two permit terms aimed to minimize the introduction of pollutants into the drainage system. In the third permit term, the Permittees continued to require implementation of routine structural and non-structural BMPs, but they also worked with project proponents to improve site design. The current Fourth Term Permits emphasize use of site design BMPs and bring the concepts of Low Impact Development (LID) and hydromodification control to the forefront.

Low Impact Development is a comprehensive land planning and engineering design approach with a goal of maintaining and enhancing the pre-development hydrologic regime of urban and developing watersheds.

LID Center, 2012

C-7.2.1.1 Development of Program Documentation

A new Model Water Quality Management Plan (WQMP) and companion Technical Guidance Document (TGD) were developed over an eighteen month stakeholder process and approved on March 22, 2011, in the Santa Ana Region and implementation commenced on August 17, 2011. The revised Model WQMP identifies appropriate LID BMPs and alternative compliance programs for new development and significant redevelopment projects. LID BMPs must be selected based on a hierarchy of control

types and sized to capture the maximum feasible portion of the design capture volume using the highest priority control type (e.g., retention). The next lower priority control type (biotreatment) can only be used for any portion of the design capture volume that cannot be feasibly captured by retention BMPs.

In accordance with the Model WQMP, new development and significant redevelopment projects meeting threshold criteria are required to develop and implement a Project WQMP that includes LID and hydromodification control BMPs, where necessary, at the earliest conceptual planning stages of a project for early review. Depending upon the project size and characteristics, runoff controls may include:

- BMP site design measures;
- Implementing LID BMPs on-site;
- Constructing or participating in sub-regional/regional LID systems;
- Implementing hydromodification control BMPs; and
- Using alternative programs or treatment control BMPs.

In addition, the Model WQMP includes more rigorous requirements regarding assessing and abating hydromodification impacts. The effects of hydromodification can be mitigated with the use of LID strategies, site design and hydrologic source controls.

In the Santa Ana Region, hydromodification control is also addressed in Watershed Infiltration and Hydromodification Master Plans (WIHMPs), which are intended to integrate water quality, hydromodification, water supply and habitat protection issues on a watershed basis. A Model WIHMP for the San Gabriel River/Coyote Creek Watershed was submitted to the Santa Ana Regional Water Quality Control Board on May 23, 2011.

A Draft HMP for the San Diego Region was submitted to the San Diego Regional Board on December 16, 2011. The Draft HMP was posted on the San Diego Regional Board's website for public review and comment period, which ended on April 14, 2012. (Note: The San Diego Region Permittees began implementing interim hydromodification criteria on December 16, 2010 and were encouraged in the April 25, 2012 comment letter to immediately implement measures likely to be included in the HMP, in compliance with Permit requirement F.1.h.(4)(d).) Final approval of the HMP, which will provide guidance on determining hydromodification performance criteria and selection of hydromodification control BMPs, is still pending.

C-7.2.1.2 Training

Land developers, project proponents, and associated consultants were provided with refresher training on October 2, 2012, that was presented in collaboration with Building Industry Association- Southern California. Municipal staff, including program managers, planners and plan checkers were provided with refresher training on October 3, 2012. The objective of this training was to provide Project WQMP reviewers and practitioners with an opportunity to review the first year of implementation of the new LID-based Model WQMP. All of the training modules have been posted to the OC Watersheds website (http://www.ocwatersheds.com/WQMP_FAQs.aspx).

C-7.2.1.3 “Help Desk”

The County maintains a “help desk” where project proponents or reviewers can submit questions for technical interpretation and application of New Development/Significant Redevelopment Program documents. During 2012, County staff, with support from their technical consultant, team fielded 31 “help desk” questions.

C-7.2.2 General Plan Assessment and Development Standards Review

Each permit term, the Permittees are required to review their General Plans and related documents 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 all development and redevelopment projects. In October 2009, the Principal Permittee hosted a workshop for the Permittees to provide guidance on assessing their General Plans and development standards review to ensure that LID principles are considered in their review, and considered for inclusion in the General Plan and Local Coastal Plan (if applicable), as appropriate.

C-7.2.3 Enhancements in Assessment Methodologies and Their Role in New Development/Significant Redevelopment

The County, on behalf of the Permittees, participates in a number of collaborative studies and initiatives that are aimed at the further development of assessment techniques and methodologies to support more informed and consistent decision making across Southern California. Some examples of current studies and initiatives affecting New Development/Significant Development include:

SMC -Hydromodification Study

The goal of the project is to support the implementation of hydromodification management measures that could be used to better protect the physical, chemical, and biological integrity of streams and their associated beneficial uses. This project has developed tools to answer the following questions:

- Which streams are at the greatest risk from the effects of hydromodification?
- What are the anticipated effects in terms of increased erosion, sedimentation, or habitat loss, associated with increases in impervious cover?
- What are some potential management measures that could be implemented to offset hydromodification effects and how effective are they likely to be?

This project was conducted in collaboration with researchers from Colorado State University, Fort Collins, and was concluded during 2012-13.

SMC - LID Study

The LID Project is being conducted with partial funding from the State Water Resource Control Board's Consolidated Grants Program, under Proposition 40. The LID Project developed a comprehensive approach to incorporate LID strategies and techniques into the planning and design of public and private sector projects. The LID Project developed a model program for localities in California that are interested in or required to adopt LID strategies and techniques and has attained the following goals:

- Developing interim guidance and training for LID implementation. Four training sessions were held throughout the Southern California region from 2007 through 2008.
- Determining effectiveness of LID for reduction of pollutant loads and hydrologic changes in Southern California. Monitoring results were used to assess the volume and concentration benefits to discharges, the percentage of runoff from various BMPs and LID systems measured, and a review of the soil type.
- Developing guidelines on specifications and standards for Project design and review. The SMC and CASQA finalized the LID Guidance Manual in April 2010 and it is now located on the CASQA web site (www.casqa.org).
- Developing final guidance and training materials using field data. This goal was partially met. The San Bernardino Flood Control District and the SMC have developed final guidance and training materials using the feedback from interim trainings, the literature review, and using the final LID Guidance Manual. However, field data collected as part of this project has yet to be incorporated into the LID Guidance Manual.
- Conducting training workshops in Southern California. In addition to the interim training workshops, final training was provided by online web access to the Manual and presentations that provided manual content and access information.

The SMC and CASQA plan to continue updating the LID Guidance Manual and provide training sessions. An updated monitoring program is currently being developed for the remaining portion of the project.

SMC – LID Barriers Study

While many communities understand the multiple environmental benefits of LID, getting LID projects built has been difficult. In an effort to address the difficulties in LID implementation, the SMC commissioned the Local Government Commission (LGC) to investigate the barriers its members are facing, and to prioritize strategies to remove those barriers. In September 2012, the Local Government Commission generated a final report summarizing research process, research findings, and recommended strategies for overcoming key barriers to LID implementation.

C-7.3 Assessment

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

C-7.3.1 New Development/Significant Redevelopment Program

The new Model WQMP represents a very significant shift in the way that land development is conditioned for water quality protection from mitigation using a “treat and release” approach to an approach that prioritizes on-site runoff retention using LID BMPs. LID BMPs must be selected based on a hierarchy of controls and sized to capture the maximum feasible portion of the design capture volume using the higher priority type control (e.g., retention), before attempting to address the remaining volume with the next lower priority control (biotreatment) and finally off-site retention. Despite establishing a fundamentally different performance standard for Project WQMPs, it is apparent from the feedback at refresher training events that the Santa Ana Region Permittees have effected a seamless transition to the current Model WQMP. This success is attributed to the technical rigor of the Model WQMP and TGD and the effectiveness of the training that has continued to support Model WQMP implementation.

2013-14 Program Focus:

- Provide annual refresher training on the revised New Development/Significant Redevelopment Program for the Santa Ana Region.
- Provide additional training for the implementation of the revised New Development/Significant Redevelopment Program upon approval of the Model WQMP and HMP for the San Diego Region.

Preparing a Project WQMP requires careful consideration be given to site characteristics, availability of off-site retention opportunities, and the condition of downstream receiving waters. Since this information is obtained from multiple sources and is subject to change, advances in web portal technologies offer a significant opportunity to streamline the process of site data compilation. Creating a web portal specifically to assist with Project WQMP preparation is therefore seen as offering a major benefit to both Project WQMP preparers and reviewers.

2013-14 Program Focus:

- Create web portal access to geotechnical information necessary for Project WQMP completion.

Since 2002, a total of 4,477 Project WQMPs have been approved, covering 39,484 acres which represents 9.1% of the area within Orange County subject to subject to the regulatory provisions of the Third and Fourth Term Permits (679.1 square miles). Since preparation of a Project WQMP requires careful consideration of both a site’s soil and geotechnical characteristics and condition of downstream receiving waters

Headline Indicator - Number of WQMPs approved and acreage of development covered: During the 2012-13 reporting period, 34 Final Project WQMPs for Priority Public Projects were approved for a total of 381 acres of development; 178 Final Project WQMPs for Priority Private Projects were approved for a total of 747 acres of development; 28 Final Project WQMPs for Non-priority Public Projects were approved for a total of 47 acres of development; and, 111 Final Project WQMPs for Non-priority Private Projects were approved for a total of 63 acres of development. The total number of Project WQMPs processed in 2012-13 was 351, which covers 1,238 acres of development. This compares to 317 WQMPs processed for 9,114 acres of development in 2011-12; 263 Project WQMPs processed for 1,746 acres of development in 2010-11; 277 Project WQMPs processed for 1,153 acres of development in 2009-10; and, 226 Project WQMPs processed for 5,898 acres of development in 2008-09 (**Table C-7.2 and Figures C-7.1 and C-7.2**).

Level 1: Documenting Stormwater Program Activities

A simple extrapolation of the rate at which land is being developed/re-developed suggests that the necessary transformation of the urban and sub-urban landscape will take in excess of 100 years. Creating regional BMPs therefore represents an opportunity for significantly accelerating this rate. Concurrently, the Santa Ana Watershed Project Authority and Orange County water District have expressed interest in working with the Permittees to identify regional infiltration BMP projects with the dual benefit of meeting the LID and hydromodification provisions of the Permits while augmenting our region’s water supply.

2013-14 Program Focus:

- Coordinate with the Santa Ana Watershed Project Authority and Orange County Water District to identify potential regional infiltration BMP sites and create a model runoff retention credit trading framework.

During the Land Development stakeholder meetings it was recommended that guidance for selecting BMPs be updated and enhanced, particularly with regard to LID BMPs and determining feasibility.

2013-14 Program Focus:

- Develop a library of BMP performance reports.
- Develop standard design checklist/plans/details for selected LID BMPs.
- Coordinate with Riverside and San Bernardino Counties to work toward greater tri-county consistency regarding local regulation of development for water quality protection.

C- 7.4 Summary

With the adoption of the Fourth Term Permits, the New Development/Significant Redevelopment Program has undergone another metamorphosis to an a that emphasizes controlling pollutants at their sources, mimicking pre-development site hydrology, and integrating water quality with hydromodification, water supply, and habitat restoration. The revised Program took effect on August 17, 2011 in the Santa Ana Region and will take effect in late-2013 in the San Diego Region (with the exception of the interim hydromodification requirements, which took effect on December 16, 2010). However, concerns regarding the vulnerability of California's local water supply infrastructure to climate change and other threats are causing the management of wet weather runoff to be re-examined yet again albeit from the perspective of seeking to optimize local groundwater augmentation. The 2013-14 Program Foci are therefore intended to support continued effective implementation of the revised land development program and support further development of an economic feasibility analysis as a first step toward creation of an in-lieu fee and alternative compliance scheme as part of a more integrated water resource management approach for stormwater.

Table C-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
	Document Stormwater Program Activities	Raise Awareness	Change Behavior-	Load Reduction	Runoff Quality	Receiving Water Quality
WQMPs	✓ # of WQMPs approved		^P Implementation of site design BMPs	^P Load reduction associated with BMPs	^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>						

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Table C-7.2: Historical WQMPs and Acreage Covered

Permittee	2008-09		2009-10		2010-11		2011-12								2012-13							
	# of WQMPs Approved	Acreage Covered by WQMP	# of WQMPs Approved	Acreage Covered by WQMP	# of WQMPs Approved	Acreage Covered by WQMP	Priority Projects				Non-Priority Projects				Priority Projects				Non-Priority Projects			
							Final Project WQMP - Public Project		Final Project WQMP - Private Project		Final Project WQMP - Public Project		Final Project WQMP - Private Project		Final Project WQMP - Public Project		Final Project WQMP - Private Project		Final Project WQMP - Public Project		Final Project WQMP - Private Project	
							# Approved	Acrees Covered	# Approved	Acrees Covered	# Approved	Acrees Covered	# Approved	Acrees Covered	# Approved	Acrees Covered	# Approved	Acrees Covered	# Approved	Acrees Covered	# Approved	Acrees Covered
Aliso Viejo	7	80.0	12	120.0	8	60.0	0	0.0	4	30.0	0	0.0	1	1.1	0	0.0	4	31.1	0	0.0	0	0.0
Anaheim	10	30.2	17	48.6	18	62.7	0	0.0	8	30.0	0	0.0	0	0.0	0	0.0	1	1.7	0	0.0	1	1.0
Brea	3	196.5	2	14.8	6	21.0	0	0.0	3	10.9	0	0.0	0	0.0	3	7.75	3	9.70	0	0.0	0	0.0
Buena Park	5	11.0	2	0.0	8	16.8	3	15.4	12	29.1	1	1.0	1	0.4	2	8.9	NA	NA	NA	NA	NA	0.5
Costa Mesa	5	19.0	34	6.9	27	38.4	0	0.0	14	49.5	0	0.0	28	27.9	0	0.0	3	4.8	0	0.0	42	30.0
Cypress	5	21.8	2	1.2	3	4.0	1	1.0	4	3.0	1	0.1	3	0.0	1	0.7	5	6.0	1	0.1	5	0.6
Dana Point	0	0.0	1	0.6	0	0.0	1	1.0	1	1.0	0	0.0	0	0.0	0	0.0	1	0.3	0	0.0	0	0.0
Fountain Valley	1	3.4	3	4.3	2	0.3	0	0.0	5	53.2	0	0.0	3	0.5	1	2.3	2	3.3	0	0.0	0	0.0
Fullerton	6	NA	13	0.0	8	21.0	0	0.0	6	3.2	0	0.0	0	0.0	0	0.0	9	47.4	2	3.8	3	1.2
Garden Grove	3	6.0	6	4.0	2	3.1	1	1.5	10	17.0	0	0.0	1	0.4	NA	NA	NA	NA	NA	NA	NA	NA
Huntington Beach	13	51.0	15	34.4	11	15.1	0	0.0	11	48.2	4	1.5	2	0.6	1	0.7	12	34.8	9	0.1	5	2.4
Irvine	42	5265.0	27	191.1	42	1201.0	4	35.7	35	7882.2	0	0.0	1	0.2	3	11.1	63	437.7	1	17.7	0	0.0
La Habra	25	3.4	29	5.3	27	8.2	0	0.0	2	16.3	2	0.8	11	3.0	1	0.799	2	12.64	1	0.06	2	0.2715
La Palma	NA	0.0	1	0.5	1	0.5	0	0.0	0	0.0	0	0.0	2	1.4	0	0.0	1	9.8	0	0.0	1	0.5
Laguna Beach	7	1.6	4	7.1	3	3.0	0	0.0	4	3.7	0	0.0	0	0.0	0	0.0	2	2.4	0	0.0	0	0.0
Laguna Hills	6	NA	3	13.0	2	5.2	1	1.8	5	4.7	0	0.0	0	0.0	0	0.0	2	5.1	0	0.0	0	0.0
Laguna Niguel	0	0.0	1	4.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	3	25.3	0	0.0	0	0.0
Laguna Woods	1	4.6	0	0.0	DNR	DNR	0	0.0	0	0.0	0	0.0	0	0.0	4	0.0	0	3.0	1	0.0	0	6.5
Lake Forest	3	38.3	3	399.2	3	13.3	1	33.5	5	34.0	0	0.0	5	1.9	0	0.0	5	9.8	0	0.0	2	1.2
Los Alamitos	1	0.2	0	0.0	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	0	0.0	3	7.15	0	0.0	0	0.0
Mission Viejo	6	5.5	5	8.5	10	27.1	3	11.9	1	4.4	0	0.0	9	27.7	1	5.4	0	0.0	0	0.0	10	1.7
Newport Beach	7	8.3	14	44.3	5	24.2	1	12.9	2	1.5	0	0.0	1	0.2	3	28.5	3	9.7	0	0.0	15	3.1
Orange	29	21.0	22	81.0	7	11.9	0	0.0	8	12.7	0	0.0	6	2.1	0	0.0	3	6.3	2	0.3	5	0.3
Pasadena	3	9.0	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	0	0.0	1	0.5	1	11.7	0	0.0
Rancho Santa Margarita	3	11.9	2	5.0	3	4.9	0	0.0	5	8.5	0	0.0	2	0.8	0	0.0	2	3.1	0	0.0	2	1.6
San Clemente	2	0.0	3	4.9	3	9.0	0	0.0	2	3.2	0	0.0	0	0.0	0	0.0	2	1.47	0	0.0	1	0.28
San Juan Capistrano	0	0.0	0	0.0	5	56.8	DNR	DNR	DNR	DNR	DNR	DNR	DNR	DNR	1	14.9	2	3.1	0	0.0	0	0.0
Santa Ana	6	10.0	10	24.1	8	4.1	1	4.0	19	38.0	0	0.0	5	2.2	0	0.0	9	26.0	0	0.0	0	0.0
Seal Beach	5	2.0	0	0.0	1	0.2	1	0.7	6	8.6	0	0.0	2	0.3	1	0.3	4	1.5	0	0.0	0	0.0
Stanton	6	7.7	2	0.2	3	2.5	0	0.0	1	0.2	1	0.6	1	0.2	0	0.0	1	1.8	0	0.0	3	0.2
Tustin	6	33.5	3	0.7	5	2.6	3	39.7	1	0.9	0	0.0	2	0.6	1	1.8	5	10.2	0	0.0	0	0.0
Villa Park	NA	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0	0	0.0
Westminster	7	6.0	4	2.2	5	5.4	0	0.0	6	3.1	0	0.0	2	0.3	2	1.4	7	4.2	0	0.0	4	0.5
Yorba Linda	3	59.5	1	1.0	1	14.7	0	0.0	0	0.0	0	0.0	0	0.0	1	2.0	3	3.5	0	0.0	0	0.0
County of Orange	47	139.4	36	137.7	36	109.0	4	254.0	12	327.0	0	0.0	3	1.4	8	285.0	15	23.0	10	13.0	9	11.0
TOTALS	274	6,045.6	277	1,154.6	263	1,746.2	25	413.0	192	8,624.2	9	4.0	91	73.0	34	381.3	178	747.4	28	46.7	110	62.9

DNR = Did not Report - See individual Permittee FEA
 NA = Not Available
 N/A = Notr. Applicable

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Table C-7.3: Regional/Watershed BMPs and Treatment Control BMPs Approved/Implemented in the 2012-13 Reporting Period

PERMITTEE	Regional or Watershed BMPs in Jurisdiction	Projects approved in the 2012-13 reporting period that are tributary to a regional treatment system	No. of Treatment Control BMPs Approved in 2012-13 Reporting Period
Aliso Viejo	2	0	0
Anaheim	0	0	1
Brea	0	0	17
Buena Park	0	0	2
Costa Mesa	1	0	18
Cypress	0	0	11
Dana Point	0	0	0
Fountain Valley	0	0	0
Fullerton	0	0	51
Garden Grove	0	0	NA
Huntington Beach	0	0	43
Irvine	5	36	34
La Habra	0	0	23
La Palma	0	0	0
Laguna Beach	2	0	0
Laguna Hills	0	0	2
Laguna Niguel	0	0	40
Laguna Woods	0	0	0
Lake Forest	0	0	7
Los Alamitos	0	0	3
Mission Viejo	0	0	3
Newport Beach	13	3	14
Orange	0	0	34
Placentia	0	0	0
Rancho Santa Margarita	0	0	1
San Clemente	10	0	0
San Juan Capistrano	0	0	0
Santa Ana	0	0	42
Seal Beach	0	0	11
Stanton	0	0	12
Tustin	0	0	8
Villa Park	0	0	0
Westminster	0	0	9
Yorba Linda	0	0	NA
County of Orange	NA	NA	17
TOTAL	33	39	403

DNR = Did not Report - See individual Permittee PEA
 NA = Not Available

Figure C-7.1: Historical WQMPs and Acreage Covered

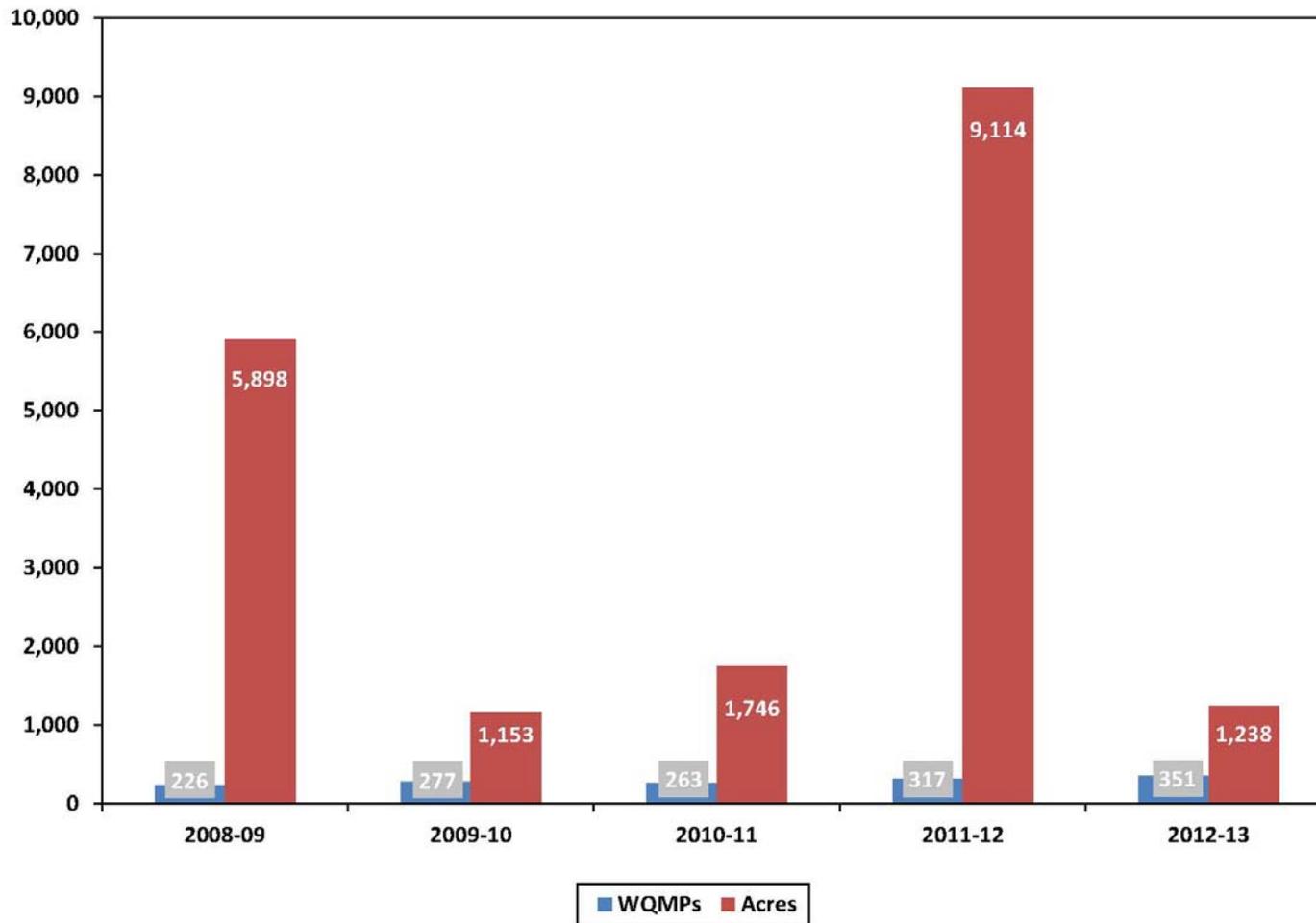


Figure C-7.2: Priority and Non-Priority Project WQMPs Approved in 2012-13

