

WHITEWATER RIVER REGION WATER QUALITY MANAGEMENT PLAN GUIDANCE DOCUMENT

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1.0 Introduction

This 2014 Whitewater River Region Water Quality Management Plan (WQMP)¹ Guidance document has been developed to assist project proponents in complying with requirements to address **post-construction** Urban Runoff from New Development and Redevelopment projects under the jurisdiction of the local land use authority, and is an appendix to Whitewater River Watershed Stormwater Management Plan (SWMP). This Whitewater River Region WQMP Guidance document replaces the 2009 Whitewater River Region WQMP.

The 2014 Whitewater River Region WQMP Guidance document is intended to provide guidelines for desert-appropriate, project-specific post-construction Best Management Practices (BMPs) and for regional and sub-regional Treatment Control and Low Impact Development (LID)/Site Design BMPs. It addresses the management of Urban Runoff quantity and quality to help protect Receiving Waters. This guidance document identifies the BMPs, including criteria for LID/Site Design and Treatment Control BMPs that may be applicable when considering any map or permit for which discretionary approval is sought. Examples may include tentative tract maps, parcel maps with land disturbing activity, discretionary grading permits where the Project is not part of a master plan of development, and conditional use permits. The Whitewater River Region WQMP includes tables and exhibits that are based upon current information regarding local land use authority organizational structures; BMP design, technologies, and effectiveness, Receiving Waters, and Pollutants of Concern. Such information is dynamic and will be updated by the Whitewater River Region MS4 Permittees as appropriate.

Implementation of the 2014 Whitewater River Region WQMP will occur through local land use authority review and approval of project-specific WQMPs prepared by project applicants. The project-specific WQMP will address management of Urban Runoff from a Project site, represented by a map or permit for which discretionary approval is sought from a local land use authority. The primary objective of the WQMP, by addressing Site Design BMP concepts, Source Control, and LID/Site Design and/or Treatment Control BMPs applied on a project-specific and/or sub-regional or regional basis, is to ensure that the land use approval and permitting process of each local land use authority will prevent or minimize the impact of Urban Runoff on Receiving Waters to the Maximum Extent Practicable (MEP).

This 2014 Whitewater River Region WQMP Guidance document became effective after the Colorado River Regional Water Quality Control Board's (Regional Water Board) Executive Officer approved it on December 31, 2014. Subsequently, all applications for discretionary New Development and Redevelopment projects that fall into one of the Priority Development Project² categories submitted to the local permitting authority on or after December 31, 2014 require preparation, approval, and implementation of a project-specific WQMP that is in compliance with this WQMP Guidance document.

The eight Priority Development Project categories are:

1. Single-family hillside residences that create 10,000 square feet or more of impervious area where the natural slope is 25% or greater;
2. Single-family hillside residences that create 10,000 square feet or more of impervious area where the natural slope is 10% or greater where erosive soil conditions are known;

¹ The State Water Resources Control Board and some of the Regional Water Quality Control Boards utilize the term Standard Urban Stormwater Mitigation Plan (SUSMP) rather than Water Quality Management Plan (WQMP).

² Section F.1.c.iii of the 2013 MS4 Permit (Colorado River Basin Regional Water Quality Control Board Order No. R7-2013-0011).

3. Commercial and industrial developments of 100,000 square feet or more;
4. Automotive repair shops [includes Standard Industrial Classification (SIC) codes 5013, 7532, 7533, 7534, 7537, 7538, and 7539];
5. Retail gasoline outlets disturbing greater than 5,000 square feet;
6. Restaurants disturbing greater than 5,000 square feet;
7. Home subdivisions with 10 or more housing units; and
8. Parking lots of 5,000 square feet or more or with 25 or more parking spaces and potentially exposed to Urban Runoff.

It must be noted that the local land use authority has the option to require a WQMP on any project. Since some projects will be subject to discretionary approval during the planning phase (land use entitlement) and ministerial approval for subsequent grading or building permits, project applicants may be required to submit a preliminary project-specific WQMP for discretionary project approval (land use entitlement). Project applicants shall be required to submit for local land use authority review and approval a final project-specific WQMP that is in substantial conformance with the preliminary project-specific WQMP prior to the issuance of any building or grading permit. Requirements for submittal of a preliminary project-specific WQMP may vary by project, and local land use authority. As such, project applicants are encouraged to coordinate with the local land use authority as early as possible in the planning process.

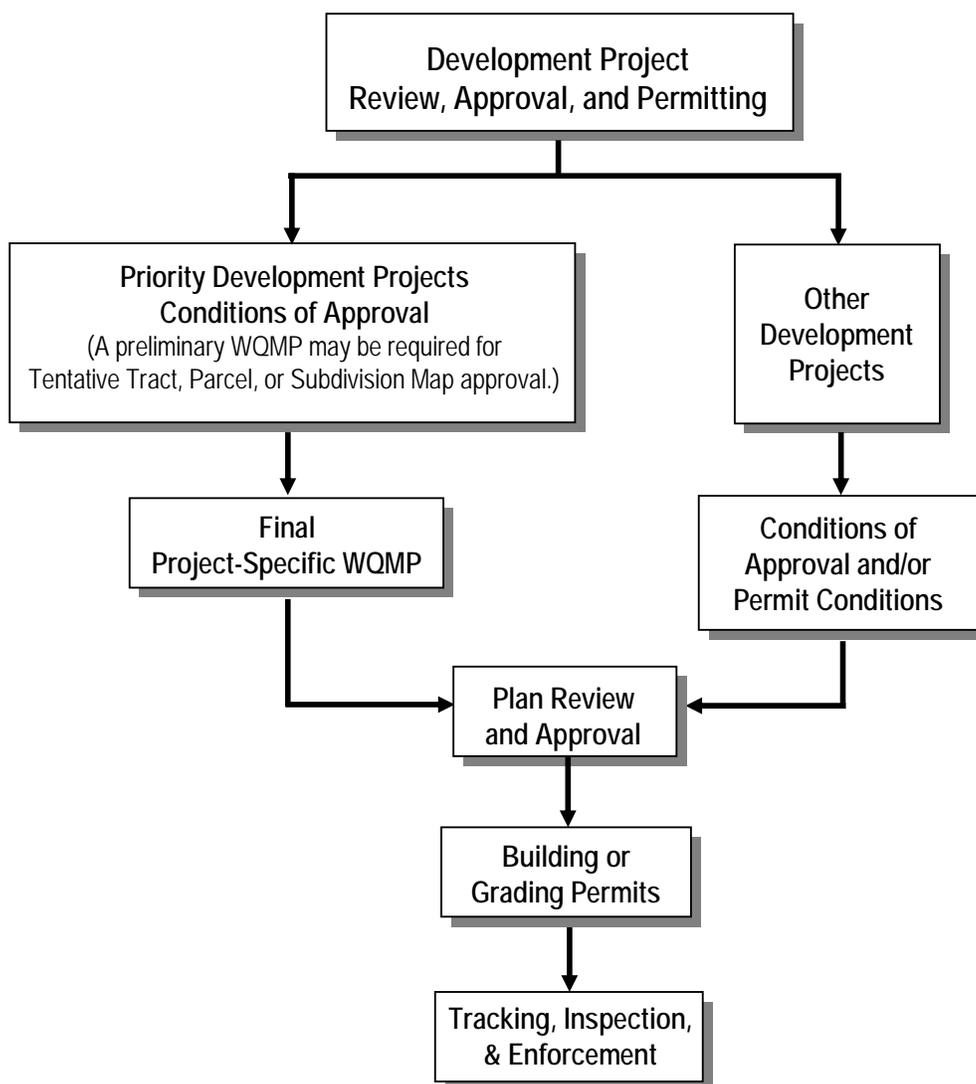
2.0 Development Planning and Permitting Process

2.1 Overview

The objective of the Development Planning and Permitting Program is to ensure that controls are in place to prevent or minimize water quality impacts from New Development and Redevelopment Projects to the MEP. The development approval and permitting processes carry forth project-specific requirements in the form of conditions of approval, design criteria, tracking, inspection, and enforcement actions. Some projects may be subject to discretionary approval during land use entitlement and ministerial approval for subsequent permits. Such projects may be required to submit a preliminary project-specific WQMP during the land use entitlement process. Figure 1 is a flow diagram that generally depicts the development planning and permitting process.

The overall framework for the planning, design, review, approval, and permitting of land use development to manage Urban Runoff for the protection of Receiving Waters is presented in Section 4 of the SWMP. This WQMP Guidance document provides the implementation guidelines for project-specific post-construction BMPs, as well as alternatives for regional and sub-regional BMPs. Priority Development Projects will be conditioned to require the preparation, review, and approval of a project-specific WQMP. Other Development Projects, which are defined as New Development and Redevelopment projects that discharge into the MS4 and disturb an area of one acre or more, or disturb less than one acre, but are part of a larger common plan of development or sale³, will be required to incorporate a combination of Structural and Non-Structural Source Control BMPs, as applicable and feasible, into project plans through conditions of approval or building/grading permit conditions in accordance with Section 4.2.1 of the SWMP.

³ Section F.1.c.ii.1 of the 2013 MS4 Permit (Colorado River Basin Regional Water Quality Control Board Order No. R7-2013-0011)

Figure 1. Development Planning and Permitting Process

2.2 Conditions of Approval

The local land use authority will utilize conditions of approval to implement the WQMP requirements for Priority Development Projects. Each local land use authority will utilize the following (or substantially similar) conditions of approval:

- Prior to the issuance of a building or grading permit for a Priority Development Project, the applicant shall submit to the local land use authority for review and approval a project-specific WQMP that:
 - Incorporates Site Design BMP concepts to the extent feasible, including minimizing impervious areas, maximizing permeability, minimizing directly connected impervious areas, creating Self-Retaining or Self-Treating Areas, and conserving natural areas, as described in Sections 3.5.1.3 and 3.5.1.4 of this WQMP Guidance document;
 - Incorporates the applicable Source Control BMPs as described in Section 3.5.2 of this WQMP Guidance document, and provides a detailed description of their implementation;

- Incorporates LID/Site Design in lieu of Treatment Control BMPs where feasible, as described in Section 3.5.1 of this WQMP Guidance document, and provides information regarding design considerations;
 - Where applicable, incorporates the 50% rule requirement, which states that where a Priority Redevelopment Project (defined as a project that falls under one of the eight Priority Development categories and will take place on a previously disturbed parcel) will replace less than 50% of the impervious surfaces on an existing developed site, and the site was not previously subject to Priority Development Project requirements, the WQMP design standards⁴ will apply only to the addition or replacement. However, where a Priority Redevelopment Project replaces 50% or more of the impervious surfaces on the existing developed site, the WQMP design standards shall apply to the entire development;
 - Describes the long-term operation and maintenance requirements for BMPs requiring long-term maintenance; and
 - Describes the mechanism for funding the long-term operation and maintenance of the BMPs requiring long-term maintenance.
- Prior to issuance of any building or grading permits, the property owner shall record with the County Assessor-County Clerk-Recorder a "Covenant and Agreement", BMP Maintenance Agreement, or other instrument acceptable to the local land use authority to inform future property owners of the requirement to implement the approved project-specific WQMP. Other alternative instruments for requiring implementation of the approved project-specific WQMP include: requiring the implementation of the project-specific WQMP in Home Owners Association or Property Owner Association Conditions, Covenants and Restrictions (CC&Rs); formation of Landscape, Lighting and Maintenance Districts, Assessment Districts or Community Service Areas responsible for implementing the project-specific WQMP or equivalent may also be considered. Alternative instruments must be approved by the local land use authority prior to the issuance of any building or grading permits.
 - Prior to the issuance of any grading or building permits for projects that will result in soil disturbance of one or more acres of land, the applicant shall demonstrate that coverage has been obtained under California's General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities⁵ (Construction General Permit), by providing the site's SWRCB issued Waste Discharge Identification (WDID) number.
 - If the project will cause soil disturbance of one acre or more, the project must comply with the Construction General Permit. Where applicable, the project applicant shall cause the approved final project-specific WQMP to be incorporated by reference or attached to the project's SWPPP as the Post-Construction Management Plan. A copy of the up-to-date SWPPP shall be kept at the project site and be available for review upon request.
 - Prior to building or grading permit close-out or the issuance of a certificate of occupancy or certificate of use, the applicant shall:
 - Demonstrate that all structural BMPs described in the project-specific WQMP have been constructed and installed in conformance with approved plans and specifications;
 - Demonstrate that applicant is prepared to implement all non-structural BMPs described in the approved project-specific WQMP; and

⁴ See 2013 MS4 Permit Section F.1.c.v

⁵ SWRCB Order No. 2009-0009-DWQ, as amended by 2010-00140DWQ and 2012-006-DWQ; NPDES No. CAS000002.

http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/constpermits/wqo_2009_0009_complete.pdf

- Demonstrate that an adequate number of copies of the approved project-specific WQMP are available for the future owners/occupants.
- For industrial facilities subject to California's General Industrial Activities Stormwater Permit (General Industrial Permit) as determined by Standard Industrial Classification (SIC) code, prior to grading or building permit close-out and/or the issuance of a certificate of use or a certificate of occupancy, the applicant shall demonstrate that coverage has been obtained by providing the facility's SWRCB issued Waste Discharge Identification (WDID) Number.

2.3 Implementation of WQMP Requirements

The local land use authority may have several departments involved in implementing and/or administering WQMP requirements. Table 1 identifies those departments with WQMP implementation responsibility for each local land use authority.

Table 1. Local Land use Authority Departments Responsible for Conditions of Approval and Project-Specific WQMP Review

Local Land use Authority	Primary Responsibility	Secondary Responsibility
County of Riverside	Transportation Land Management Agency (TLMA) - Transportation Dept.	County Executive Office
Banning	Engineering Division/Public Works Dept.	Planning/Community Development Dept.
Cathedral City	Planning Dept. with Engineering Dept.	Engineering Dept. with Building Dept.
Coachella	Planning Dept. with assistance of Environmental Compliance and Engineering	Engineering & Building Depts. with Environmental Compliance
Desert Hot Springs	Public Works Engineering	Planning Dept. / Building and Safety Dept.
Indian Wells	Planning and Public Works Depts.	NA
Indio	Planning Dept.	Engineering or Building Depts.
La Quinta	Public Works Dept. conditions and reviews project-specific WQMP	Planning Dept. requires applicant to submit a preliminary Project-Specific WQMP prior to the project going forward for land use entitlement
Palm Desert	Planning Dept.	Public Works
Palm Springs	Public Works/Engineering	Public Works/Engineering; Planning Dept.
Rancho Mirage	Planning Dept. w/ Engineering assistance	Engineering w/ Building Dept. assistance
Coachella Valley Water District*	Development Services	NA
Riverside County Flood Control and Water Conservation District*	Planning Division	NA

*Note: Neither the Coachella Valley Water District nor the Riverside County Flood Control and Water Conservation District have land use authority and do not have jurisdiction over development approval other than their own capital improvement projects, although they may recommend conditions of approval to the municipality having land use authority.

3.0 Project-Specific WQMP Preparation

Project proponents submitting applications for discretionary Priority Development Projects on or after December 31, 2014 must submit a project-specific WQMP that is in compliance with this WQMP Guidance document to the local land use authority for review and approval. Project applicants (owners and/developers) must prepare a project-specific WQMP based on the model template provided in Exhibit 1 that includes:

1. A project description and site characterization including preparation of a site plan and vicinity map

2. Pollutants and Hydrologic Conditions of Concern related to the project, project site and existing site (if required)
3. Site Design BMP concepts
4. Source Control BMPs
5. Project-specific Treatment Control BMPs, and where feasible, LID/Site Design BMPs which address the Treatment Control BMP requirement. BMP information shall include basis for selection, sizing, calculations and incorporation of LID/Site Design and/or Treatment Control BMPs (where used, a watershed or regional BMP program must be identified)
6. An operation and maintenance requirements program, including responsible entities, for BMPs
7. Proposed funding source for operations and maintenance of BMPs. Where a public agency is identified as the funding source and responsible party for BMPs, a written agreement that states acceptance of these responsibilities by the public agency must be provided.

It should be noted that where a Priority Redevelopment Project (defined as a project that falls under one of the eight Priority Development categories and will take place on a previously disturbed parcel) will replace less than 50% of the impervious surfaces on the existing developed site, and that site does not already have a WQMP, the WQMP design standards (described in Sections 3.3 through 3.5 below) apply only to the addition or replacement. However, where a Priority Redevelopment Project replaces 50% or more of the impervious surfaces on the existing developed site, the WQMP design standards shall apply to the entire development.

For Priority Development Projects not participating in a regional or watershed-based BMP program, a preliminary or final project-specific WQMP must be prepared and submitted to the local land use authority for review and approval in conjunction with considering any map or permit for which discretionary approval is sought. Where an applicant has prepared a preliminary project-specific WQMP in obtaining discretionary project approval (land use entitlement), the applicant is required to submit for local land use authority review and approval a final project-specific WQMP that is in substantial conformance with the preliminary project-specific WQMP prior to the issuance of any building or grading permit.

For Priority Development Projects participating in regional or watershed-based BMP programs (see Sections 3.5.3 and 4.0 below), the regional or watershed-based BMP program may be relied upon during the discretionary review process subject to a discussion of how the project will participate in the program. However, a preliminary project-specific WQMP shall be developed and submitted by the applicant, and approved by the local land use authority concurrently with any map or permit for which discretionary approval is sought. The preliminary project-specific WQMP shall identify which Pollutants of Concern and Hydrologic Conditions of Concern will be addressed by the regional or watershed-based BMP, and if necessary, which Pollutants of Concern and Hydrologic Conditions of Concern will be addressed by additional onsite LID/Site Design and/or Treatment Control BMPs.

The level of detail in a preliminary project-specific WQMP submitted during the land use entitlement process will depend upon the level of detail known about the overall project design at the time project approval is sought. The preliminary project-specific WQMP must clearly identify the local land use authority's case number (tract number, use case number, design review number, etc.) for the project, and shall include a Site Plan (e.g., copy of the tentative map, use exhibit, preliminary precise grading plan, or other equivalent figure) identifying the major features of the proposed project. Locations of activities (i.e., industrial, maintenance or process activities), storage areas, or other features that could expose Urban Runoff to Pollutants of Concern must be clearly identified on the Site Plan (e.g., map, exhibit, or figure).

A final project-specific WQMP shall be submitted to and approved by the local land use authority prior to the issuance of any building or grading permit and the final project-specific WQMP shall be in substantial conformance with the preliminary WQMP submitted and approved by the local land use authority during the land use entitlement process. The final project-specific WQMP must also clearly identify the local land use authority's case number (tract number, use case number, design review number, etc.) for the project, and shall include a Site Plan (e.g., the approved final map, use exhibit, or other equivalent figure or figures) identifying the major features of the proposed project. Locations of activities, storage areas, or other features that could expose Urban Runoff to Pollutants of Concern and locations of BMPs must be clearly identified on the Site Plan (e.g., map, exhibit, or figure).

3.1 Project Description

The project description shall completely and accurately describe in narrative form, and with supporting figures (maps or exhibits), where facilities will be located, what activities will be conducted and where, what kinds of materials will be used and/or stored, how and where materials will be delivered, and the types of wastes that will be generated. The following information shall be described, provided and/or addressed in the "Project Description" section of a project-specific WQMP:

- The name(s), address(es), and phone number(s) of the project owner, project proponent and project-specific WQMP preparer.
- The project's site address, including APN number(s) and latitude and longitude coordinates.
- Planning Area/Community Name.
- The Receiving Water which the project will directly or indirectly discharge to, appropriately identified from the list of Receiving Waters in Table 2. A map showing the locations of these Receiving Waters is provided in Figure 2.
- Project site size to the nearest 0.1 acre. If the proposed project is a Priority Redevelopment Project (defined as a project that falls under one of the eight Priority Development categories and will take place on a previously disturbed parcel) which will replace 50% or more of the impervious surfaces on an existing developed site, include the size of the existing site.
- Standard Industrial Classification (SIC) code for commercial or industrial projects.
- Identification of whether a Home Owners Association (HOA) or Property Owners Association (POA)⁶ will be formed.
- Additional permits or approvals required for the project (i.e., CWA Section 401 Water Quality Certification, California Construction General Permit coverage, etc.).
- The final project-specific WQMP shall include a copy of the final conditions of approval included as Appendix A.
- A copy of CC&Rs for the project, if applicable, included as Appendix G.
- A vicinity map showing the project site and surrounding planning areas in sufficient detail, included in Appendix B.
- Also included in Appendix B, a site map (or maps) depicting the following project features:
 - All proposed structural BMPs (Source Control, LID/Site Design and/or Treatment Control), their location, references to details and specifications.

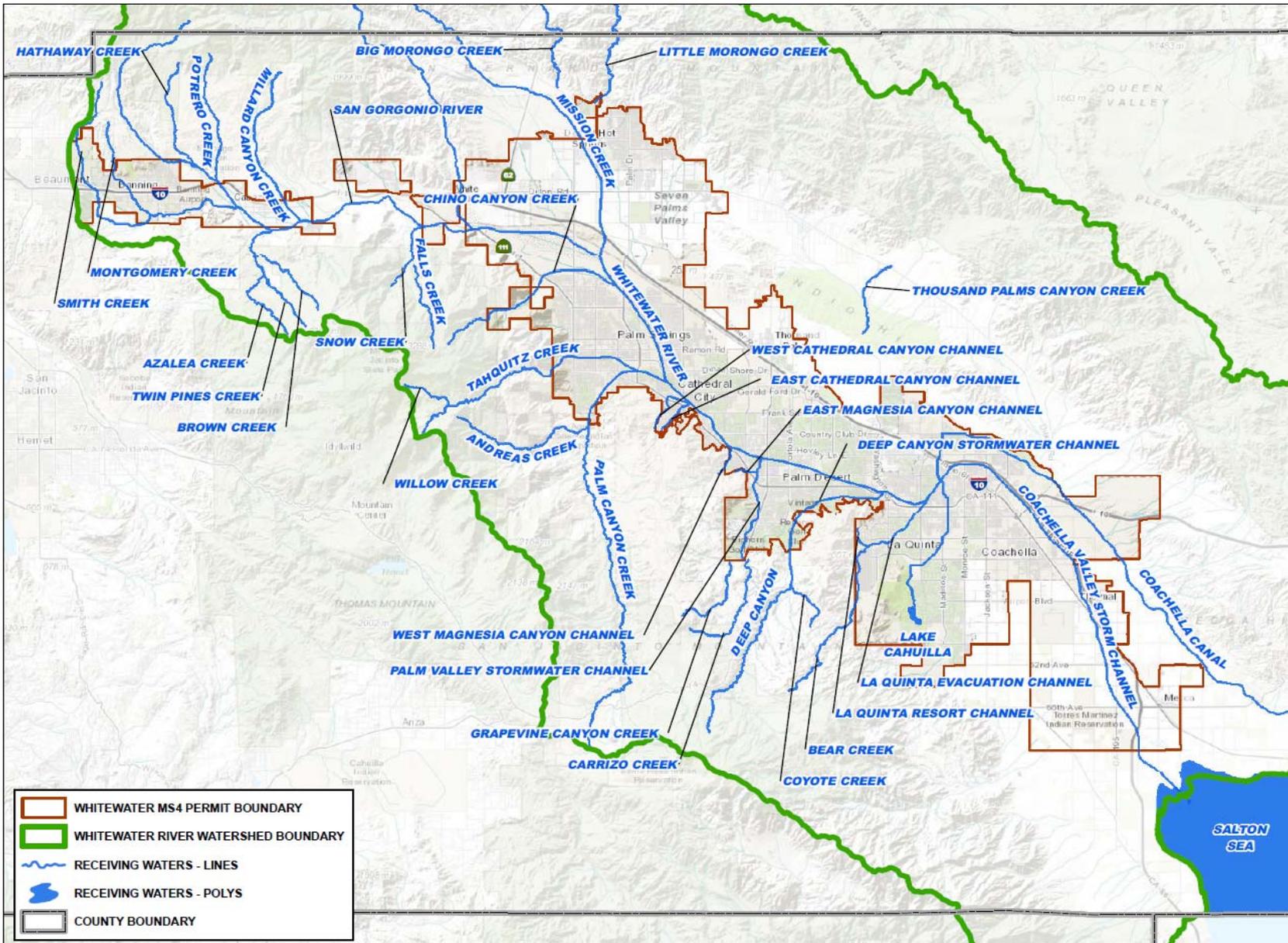
⁶ As used herein, a Home Owners Association (HOA) or Property Owners Association (POA) means a nonprofit corporation or unincorporated association created for the purpose of managing a common interest development [California Civil Code § 1351(a)].

- Number and type of structures and their intended use (i.e., buildings, tenant spaces, dwelling units, community facilities such as pools, recreation facilities, tot lots, etc.).
- Paved areas and the intended uses (parking, outdoor work area, outdoor material storage area, sidewalks, patios, tennis courts, etc.).
- Landscaped areas.
- Infrastructure (streets, storm drains, etc.) that will revert to public agency ownership and operation.
- Location of existing and proposed public and private storm drainage facilities (i.e., storm drains, channels, basins, etc.), including catch basins and other inlets/outlet structures. Existing and proposed drainage facilities should be clearly differentiated.
- Location(s) of Receiving Waters to which the project directly or indirectly discharges.
- Location of points where onsite (or tributary offsite) flows exit the property/project site.
- Delineation of proposed drainage area boundaries, including tributary offsite areas, for each location where flow exits the project site (and existing site, where existing site flows are required to be addressed). Each tributary area should be clearly denoted (A, B, C, etc.).
- Pre-project and post-project topography.

Table 2. List of Sub-Watersheds/Receiving Waters in Whitewater River Watershed

Drains or Streams ^a	Washes ^b
Coachella Valley Stormwater Channel	Bear Creek
Little Morongo Creek	Deep Canyon Stormwater Channel
Mission Creek	East Cathedral Canyon Channel
Palm Canyon Creek	East Magnesia Canyon Channel
San Gorgonio River	La Quinta Evacuation Channel
Tahquitz Creek	La Quinta Resort Channel
Whitewater River	Montgomery Creek
	Palm Valley Stormwater Channel
	Smith Creek
	West Cathedral Canyon Channel
	West Magnesia Canyon Channel
	Whitewater River from recharge basins to the Coachella Valley Stormwater Channel
Notes: a. Colorado River Basin Regional Water Quality Control Board Order No. R7-2013-0011, Finding 33.	
b. Colorado River Basin Regional Water Quality Control Board Order No. R7-2013-0011, Finding 32.	

Figure 2. Whitewater River Region Receiving Waters Map



3.2 *Site Characterization*

The following information shall be addressed in the "Site Characterization" section of a project-specific WQMP:

- Current and proposed zoning or land use designation
- Current actual use of project site (undeveloped, previously developed but vacant, existing structures, etc.)
- Name(s) of Receiving Water(s) to which the project site discharges directly or indirectly
- Identification of any EPA approved Clean Water Act §303(d) listed impairments or Total Maximum Daily Loads (TMDLs) for the identified Receiving Waters.⁷
- Designated Beneficial Uses for Receiving Waters to which the project site discharges, appropriately identified from Table 3, and including proximity to Receiving Waters with a Rare, Threatened, or Endangered Species ("RARE") Beneficial Use.
- If a Phase 1 environmental site assessment has been prepared for the project site, a summary of the site remediation conducted (or to be conducted) and any site use restrictions.
- If infiltration BMPs are proposed, a soils report should be included as an appendix identifying the soil type(s), infiltration capacity of the soils, and depth to groundwater.

⁷ The most recent CWA Section 303(d) List of Water Quality Limited Segments, adopted TMDLs, and TMDLs pending resolution can be found at http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/tmdl/rb7_303d_list.shtml

Table 3. Receiving Waters and Beneficial Uses

Receiving Water	Beneficial Uses										
	MUN	AGR	FRSH	GWR	REC I	REC II	WARM	COLD	WILD	POW	RARE
Big Morongo Creek	P	X		X	X ^a	X	X		X		
Coachella Canal	P	X		X	X ^c	X ^c	X		X		X ^d
Coachella Valley Stormwater Channel ^b			X		X ^c	X ^c	X		X		X ^d
Chino Canyon Creek	X			X	P	X	X		X		
Lake Cahuilla	P	X			X	X	X	I	X		
Little Morongo Creek	P	X		X	X	X	X		X		
Millard Canyon Creek	X	X		X	X	X	X		X		
Mission Creek	P	X		X	X	X	X		X		
Palm Canyon Creek	P	X		X	X	X	X		X		
Potrero Creek	P	X		X	X	X	X		X		
San Gorgonio River	P	X		X	X	X		X	X		
Tahquitz Creek	P			X	X	X		X	X		
Whitewater River ^e	X	X		X	X	X	I	X	X	X	
Washes (Ephemeral Streams) ^h			I ^f	I		I	g		I		

Abbreviations:

X – Existing Beneficial Use

P – Potential Beneficial Use

I – Intermittent Beneficial Use

MUN – Municipal & Domestic Supply

AGR – Agricultural Supply

FRSH – Freshwater Replenishment

GWR – Groundwater Recharge

REC I – Water Contact Recreation

REC II – Non-Contact Water Recreation

WARM – Warm Freshwater Habitat

COLD – Cold Freshwater Habitat

WILD – Wildlife Habitat

POW – Hydropower Generation

RARE – Preservation of Rare, Threatened, or Endangered Species

Notes:

a. Although it is not encouraged, children play in the water infrequently on the wildlife reserve

b. Section of perennial flow from approximately Indio to the Salton Sea.

c. Unauthorized use.

d. Rare, endangered, or threatened wildlife exists in or utilizes some of this waterway.

e. Includes the section of flow from the headwaters in the San Gorgonio Mountains to (and including) the Whitewater Recharge Basins near Indian Avenue crossing in the City of Palm Springs.

f. Applies only to tributaries to the Salton Sea.

g. This beneficial use, if any, to be determined on a case-by-case basis.

h. Includes the section of ephemeral flow in the Whitewater River Stormwater Channel and Coachella Valley Stormwater Channel from Indian Canyon Drive to approximately ½ mile west of Monroe Street crossing.

Source: Table 2-3, Beneficial Uses of Surface Waters in the West Colorado River Basin, "Water Quality Control Plan for the Colorado River Basin Region" adopted June 2006. The "Water Quality Control Plan for the Colorado River Basin Region" is periodically updated and the most recent version is available at http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/basin_planning/

3.3 Identify Pollutants of Concern

Potential Urban Runoff pollutants associated with the proposed project must be identified; they must also be identified for the existing site, if the project is a Priority Redevelopment Project (defined as a project that falls under one of the eight Priority Development categories and will take place on a previously disturbed parcel) which proposes to replace 50% or more of the impervious surfaces on an existing developed site; in these cases, Pollutants of Concern must be assessed and addressed for the entire developed site. Exhibit 2 to this WQMP Guidance document provides brief descriptions of typical Pollutants of Concern associated with Urban Runoff, and a table that associates typical potential pollutants with types of development (land use). At their discretion, the local land use authority may alternatively use updated studies from the California Association of Stormwater Quality Agencies (CASQA), USEPA, SWRCB and/or other commonly accepted agencies/associations acceptable to the local land use authority for identification of Pollutants of Concern associated with given land use. Additionally, in identifying Pollutants of Concern, the presence of legacy pesticides, nutrients, or hazardous substances in the site's soils as a result of past uses and their potential for exposure to Urban Runoff must be addressed in project-specific WQMPs. Project proponents can check the Frequently Asked Questions (Exhibit 6 to this WQMP Guidance document) for further guidance on addressing legacy pollutants.

Local land use authorities also require specific pollutants commonly associated with Urban Runoff to be considered as Pollutants of Concern for a specific project based on known problems, such as known exceedances of water quality standards or Clean Water Act §303(d) impairments in the Receiving Waters and suspected association with that land use. The list of potential Urban Runoff pollutants identified for the project must be compared with the pollutants identified as causing an impairment of Receiving Waters, if any. To identify pollutants impairing proximate Receiving Waters, each project proponent preparing a project-specific WQMP shall, at a minimum, do the following:

- a) For each of the proposed project discharge points, identify the proximate Receiving Water(s) (see Figure 2).
- b) For each identified Receiving Water included in the most recent Clean Water Act §303(d) list of impaired water bodies (available at http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/tmdl/rb7_303d_list.shtml), list all pollutants for which the proximate Receiving Water(s) is impaired.
- c) Compare the list of pollutants for which the proximate Receiving Water(s) is impaired with the potential Pollutants of Concern generated by the project.

The combination of Site Design BMP concepts, Source Control BMPs, LID/Site Design BMPs and Treatment Control BMPs incorporated into the project plans must address the potential Pollutants of Concern identified for the project. Further, the selection of LID/Site Design and/or Treatment Control BMPs for the project must specifically consider the effectiveness of the BMP at reduction of pollutants identified as causing impairment in Receiving Waters to which the project will discharge Urban Runoff. In these instances, the project-specific WQMP must incorporate one or more BMPs that achieve medium or high effectiveness in reducing those Pollutants. See Section 3.5, BMP Selection, for additional guidance in selecting appropriate BMPs to address Pollutants of Concern.

3.4 Identify Hydrologic Conditions of Concern

Impacts to the hydrologic regime resulting from New Development or Redevelopment Projects may include increased runoff volume and velocity; reduced infiltration; increased flow frequency, duration, and peaks; faster time to reach peak flow; and water quality degradation.

The 2013 MS4 Permit requires that certain development projects minimize changes to hydrology to ensure that post-development runoff rates and velocities do not increase the potential for downstream erosion or sedimentation, or adversely impact stream habitat. Urban Runoff and its associated impacts may be reduced by minimizing impervious surfaces and incorporating other Site-Design BMP concepts and LID/Site Design BMPs that replicate or reduce impacts to the pre-development condition. The goal of these site design techniques is to achieve post development runoff flow rates, volumes, velocities and durations that do not exceed the pre-development condition, where an increase will result in greater potential for downstream erosion, and prevent significant adverse impacts to stream habitat during the 2-year and 10-year, 24-hour rainfall event.

A project-specific WQMP must address the issue of Hydrologic Conditions of Concern unless one of the following conditions is met:

- **Condition A:** 1) Runoff from the project (and if required, existing site) is discharged directly to a publicly-owned, operated and maintained MS4 or engineered and maintained channel; 2) the discharge is in full compliance with local land use authority requirements for connections and discharges to the MS4 (including both quality and quantity requirements); 3) the discharge would not significantly impact stream habitat in proximate Receiving Waters; and 4) the discharge is authorized by the local land use authority.
- **Condition B:** The project (and if required, existing site) disturbs less than 1 acre and is not part of a larger common plan of development that exceeds 1 acre of disturbance. The disturbed area calculation must include all disturbances associated with larger common plans of development.
- **Condition C:** The project's (and if required, existing site's) runoff flow rate, volume, velocity and duration for the post-development condition does not exceed the pre-development condition for the 2-year, 24-hour and 10-year, 24-hour rainfall events. This condition can be achieved by, where applicable, complying with the local land use authority's onsite retention ordinance, or minimizing impervious area on a site and incorporating other Site Design BMP concepts and LID/Site Design BMPs that assure non-exceedance of pre-development conditions. This condition must be substantiated by hydrologic modeling methods acceptable to the local land use authority.

For all other Priority Development Projects, the project-specific WQMP shall demonstrate that discharge flow rates, velocities, durations, and volumes from a 2-year and 10-year, 24-hour rainfall event will not significantly impact downstream erosion or stream habitat. The project applicant shall provide sufficient information to demonstrate to the local land use authority that the project (including existing site, if required) will not cause significant adverse impacts, or has mitigated significant impacts to downstream erosion or stream habitat.

To comply with this requirement, the project applicant must include an evaluation of potential of the project (plus existing site, if required) to cause a significant increase in downstream erosion compared to the pre-development condition and/or cause significant adverse impacts to stream habitat. Project applicants must consider the hydrology of the entire tributary watershed. Watershed plans, drainage area master plans, or other planning documents should be reviewed to the extent available, to identify the BMP requirements necessary to address cumulative impacts from projects in the subarea of the watershed. Project applicants proposing new developments that fall into Category 2 (commercial and industrial developments of 100,000 square foot or more) or Category 6 (home subdivisions with 10 or more housing units) of the Priority Development categories will be required to submit to the local land use authority a drainage study report prepared by a Civil Engineer registered in the State of California, with experience in water resources management. Other new development or redevelopment projects may be required to submit a detailed drainage study depending on specific site conditions. If the proposed project is a Priority Redevelopment Project (defined as a project that falls under one of the eight Priority

Development categories and will take place on a previously disturbed parcel) which will replace 50% or more of the impervious surfaces on an existing developed site, the existing site must be considered in the drainage study. Such a drainage study must evaluate the impacts of the project on downstream channel reaches impacted during a 2-year, 24-hour and 10-year, 24-hour rainfall event. A drainage study report shall also consider the project's location (from the larger watershed perspective), topography, soil and vegetation conditions, percent impervious area, natural and infrastructure drainage features, and any other relevant hydrologic and environmental factors to be protected. A field reconnaissance to evaluate natural downstream reaches and/or areas containing sensitive habitat may be required to assess undercutting erosion, slope/bank stability, vegetative stress, and susceptibility to other adverse hydrologic impacts from the project.

If adverse hydrologic impacts are identified and they are not fully mitigated by the implementation of Site Design BMP concepts or LID/Site Design BMPs, then the project proponent shall, based upon consultation with the local land use authority, use one of the following methodologies to address identified adverse impacts:

Methodology A

Project applicant shall design a detention basin capable of all of the following:

1. Releasing the post-development 2-year and 10-year, 24-hour volume at flow rates less than or equal to the pre-development 2-year and 10 year, 24-hour peak flow rates, respectively.
2. Passing the 100-year storm event without damage to the facility.
3. Controlling outlet velocities such that downstream erosion and habitat loss is minimized.

The basin may also function as a water quality extended detention basin, or serve other multi-use functions, with the approval of the local land use authority.

Methodology B

Any method acceptable to the local land use authority that:

1. Implements Site Design BMP concepts, Source Control, LID/Site Design and/or Treatment Control BMPs and/or other measures capable of mitigating the assessed hydrologic impacts. The method must be supported by hydrologic modeling or other sufficient documentation. Sufficient documentation could include reference to EPA, CASQA, SWRCB and/or other approved studies supporting the use of the method.
2. Ensures that the project will be consistent with any approved master plans of drainage or analogous plans or programs.

Hydrologic Condition of Concern BMPs should be designed in accordance with local vector control regulations and requirements. If a particular BMP does not meet vector control requirements, other BMPs should be considered. However, when the local land use authority determines that a detention basin is the most effective way to address Hydrologic Conditions of Concern, the local land use authority may approve minor deviations from the design criteria specified in this section to ensure that local vector control requirements are not violated (i.e., 72-hour maximum drain time from a basin full condition). For further guidance on vector control BMPs as they pertain to design of structural stormwater BMPs, please see California Department of Public Health's, "Best Management Practices for Mosquito Control in California" at: <http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf>.

3.5 *BMP Selection*

BMPs shall be incorporated into the project-specific WQMP to minimize the impact from the Pollutants of Concern and where applicable, Hydrologic Conditions of Concern identified for the project. Where Pollutants of Concern include pollutants that are listed as causing or contributing to impairments of Receiving Waters, BMPs must be selected so that the project does not cause or contribute to an exceedance of water quality objectives. Project proponents can check the Frequently Asked Questions (Exhibit 6 to this WQMP Guidance document) for further guidance on addressing legacy pollutants and pollutants causing impairment. Strategies to minimize the Pollutants of Concern in runoff from the project site and minimize hydrologic impact include Site Design BMP concepts, Source Control BMPs, LID/Site Design BMPs and Treatment Control BMPs.

Site Design BMP concepts, Source Control BMPs, and LID/Site Design and/or Treatment Control BMPs most effectively protect water quality when used in combination. Site Design BMP concepts may be implemented to a level that significantly reduces the size or extent to which LID/Site Design and/or Treatment Control BMPs need to be implemented. BMPs should be located as close to the pollutant source as appropriate and economically/technologically feasible, and before Urban Runoff is discharged into Receiving Waters. Project applicants should also incorporate vector control requirements into the selection and design of Site Design, Source Control, and LID/Site Design and/or Treatment Control BMPs. A summary of the BMP requirements for Priority Development Projects is shown in Table 4.

Site Design BMP concepts aim to incorporate natural site features such as vegetation and porous surfaces to reduce and control post-development runoff rates. Because Site Design BMP concepts reduce runoff, incorporating them into project design plans minimizes the:

- transport mechanism (runoff) for moving pollutants off site,
- difference between pre- and post-development hydrology thereby reducing changes in flow regime, and
- size of necessary LID/Site Design and/or Treatment Control BMPs to treat Pollutants of Concern in Urban Runoff prior to discharge from the site or at regional facilities.

Source Control BMPs reduce the potential for Urban Runoff and pollutants from coming into contact with one another. Source Control BMPs are defined in general as: Activities or programs to educate the public or provide low cost non-physical solutions, as well as facility design or practices aimed to limit the contact between Pollutant sources and Stormwater or authorized Non-Stormwater. Examples include: activity schedules, prohibitions of practices, street sweeping, facility maintenance, detection and elimination of IC/ID, and other non-structural measures. Facility design (structural) examples include providing attached lids to trash containers, or roof or awning over material and trash storage areas to prevent direct contact between water and Pollutants. Each project is required to implement appropriate Source Control BMPs.

Treatment Control BMPs are defined as: any engineered system designed and constructed to remove Pollutants from Urban Runoff. These BMPs may remove Pollutants of Concern by filtration, media absorption, or other physical, biological, or chemical processes. Treatment Control BMPs are required on all Priority Development Projects; however, it should be noted that where the project proponent believes that design criteria adequately addresses Pollutants of Concern and Treatment Controls are not needed, a request for a waiver must be submitted to and approved by the local land use authority.

LID/Site Design BMPs are defined as: Activities or programs to educate the public or provide low cost non-physical solutions, as well as facility design or practices aimed at reducing Urban Runoff, increasing infiltration, reducing Pollutant transport mechanisms, minimizing the difference between pre- and post-

development Urban Runoff. More simply, LID/Site Design BMPs promote retention and/or feature a natural treatment mechanism to address a site's Pollutants of Concern. Examples include, but are not limited to: extended detention basins, retention basins, drywells, and naturally-lined swales and filter strips. Additional examples are provided in Sections 3.5.1.6 and 3.5.1.8 below, and also in the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development, which can be found at: http://rcflood.org/downloads/NPDES/Documents/WW_SWMP_WQMP/WWR_BMP_Design_Handbook_Jan2015.pdf.

The local land use authority will require that where feasible, project proponents address the Treatment Control BMP requirement through the use of LID/Site Design BMPs to meet the measurable goal, as described in Section 3.5.1.1 below.

Table 4. Summary of BMPs for Priority Development Projects

BMP Category		Applicable Projects
Site Design BMP Concepts (See Section 3.5.1.3 and 3.5.1.4)		All Priority Development Projects shall incorporate Site Design BMP concepts, unless infeasible.
Source Control BMPs	Non-Structural BMPs (See Section 3.5.2.1)	Required for all Priority Development Projects: <ul style="list-style-type: none"> • Education/Training for Property Owners, Operators, Tenants, Occupants, or Employees • Activity Restrictions • Irrigation System and Landscape Maintenance • Common Area Litter Control • Street Sweeping Private Streets and Parking Lots • Drainage Facility Inspection and Maintenance
	Structural BMPs (See Section 3.5.2.2)	Required for all Priority Development Projects, as applicable to the specific project: <ul style="list-style-type: none"> • Storm Drain Inlet Stenciling and Signage • Landscape and Irrigation System Design • Protection of Slopes and Channels • Provide: <ul style="list-style-type: none"> – Community Car Wash Racks – Wash Water Controls for Food Preparation Areas • Proper Design and Maintenance of: <ul style="list-style-type: none"> – Fueling Areas – Air/Water Supply Area Drainage – Trash Storage Areas – Loading Docks – Maintenance Bays – Vehicle and Equipment Wash Areas – Outdoor Material Storage Areas – Outdoor Work Areas or Processing Areas
Treatment Control BMPs: Project-Specific, Regional, or Sub-Regional (See Sections 3.5.1 and 4.0)		Treatment Control BMPs are required for all Priority Development Projects, and must comply with the numeric sizing criteria specified in 2013 MS4 Permit Sections F.1.c.v.4.a.ii and F.1.c.v.4.b.i, and described in the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development, unless a waiver is granted by Local land use authority. (See Section 6.0)
LID/Site Design BMPs: Project-Specific, Regional, or Sub-Regional (See Sections 3.5.1 and 4.0)		Where feasible, all Priority Development Projects shall address the Treatment Control BMP requirement (above) through the use of LID/Site Design BMPs, to meet the measurable goal described in Section 3.5.1.1 below.

To assist with identification and selection of appropriate BMPs for a project-specific WQMP, project proponents may use the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development, which can be found at: <http://rcflood.org/npdes/Developers.aspx>. Additional BMP reference material is contained within the CASQA "Stormwater Best Management Practices Handbook for New Development and Redevelopment" and the "Stormwater Best Management Practices Handbook for Industrial and Commercial" (CASQA,

2003). The most recent editions of the CASQA handbooks are also acceptable for use in identifying and selecting BMPs for a project-specific WQMP. The most recent editions of the CASQA handbooks can be downloaded at www.cabmphandbooks.com.

3.5.1 Site Design BMP Concepts, LID/Site Design and Treatment Control BMPs

Section F.1.c.v.2 of the 2013 MS4 Permit states, "Unless infeasible, the following Site Design BMPs are required and must be implemented in the site layout during the subdivision design and approval process, consistent with applicable General Plan and Local Area Plan policies:

- a. Minimize Urban Runoff, minimize impervious footprint, and conserve natural areas,
- b. Minimize directly connected impervious area, and
- c. The Permittees shall continue to implement the Treatment Control BMP requirement through implementation of [LID] Site Design BMPs, as specified in the WQMP".

Site Design BMP concepts are intended to create a hydrologically functional project design that attempts to mimic the natural hydrologic regime. Mimicking a site's natural hydrologic regime can be pursued by:

- Reducing imperviousness, conserving natural resources and areas, maintaining and using natural drainage courses in the MS4, and minimizing clearing and grading.
- Providing runoff storage measures dispersed uniformly throughout a site's landscape with the use of a variety of natural detention, retention, and runoff practices.
- Implementing on-lot hydrologically functional landscape design and management practices.

These same practices, because they reduce the volume and usually the rate of runoff, also have the benefit of reducing the amount of stormwater that must be treated before being discharged from the project site or to be treated in regional facilities. These design principles offer an innovative approach to urban stormwater management by uniformly or strategically integrating stormwater controls throughout the urban landscape.

The Treatment Control BMP requirements specified in Section F.1.c.v.4 of the 2013 MS4 Permit shall be addressed using LID/Site Design BMPs to the extent feasible. LID/Site Design BMPs promote retention and/or feature a natural treatment mechanism, and shall be designed to manage runoff consistent with the design sizing requirements, Q_{BMP} and/or V_{BMP} , as specified in 2013 MS4 Permit Sections F.1.c.v.4.b.i and F.1.c.v.4.a.ii, and described in the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development. LID/Site Design BMPs include, but are not limited to: extended detention basins, retention basins, drywells, and naturally-lined swales and filter strips. Where LID/Site Design BMPs are infeasible, projects must incorporate other types of Treatment Control BMPs to meet the design criteria of Q_{BMP} and/or V_{BMP} . LID/Site Design and Treatment Control BMPs must address identified Pollutants of Concern and where required, Hydrologic Conditions of Concern. LID/Site Design BMPs may also be provided offsite, or through a regionally-based BMP (see Sections 3.5.3 and 4.0). Waivers of Treatment Control BMP requirements are discussed in Section 6.

Table 5 summarizes expected performance of some common LID/Site Design and Treatment Control BMPs in addressing various Pollutants of Concern. Within the table, a BMP qualifies as LID/Site Design if it promotes retention and/or features a natural treatment mechanism. It should be noted that, at the discretion of the local land use authority, updated studies from CASQA, EPA, SWRCB and/or other agencies/associations acceptable to the local land use authority for determination of BMP pollutant removal efficiency may be allowed. For identified Pollutants of Concern that are causing impairment(s) in Receiving Waters, the project-specific WQMP shall incorporate one or more BMPs of at least medium effectiveness in reducing those pollutants.

The 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development (located at: <http://rcflood.org/npdes/Developers.aspx>) provides detailed guidance for determining the flow or volume of runoff from a project to be managed via LID/Site Design BMPs, or where LID/Site Design BMPs are infeasible, via Treatment Control BMPs.

Table 5. BMP Selection Matrix Based Upon Pollutant of Concern Removal Efficiency ⁽¹⁾

(Sources: Riverside County Flood Control & Water Conservation District Design Handbook for Low Impact Development Best Management Practices, dated September 2011, the Orange County Technical Guidance Document for Water Quality Management Plans, dated May 19, 2011, and the Caltrans Treatment BMP Technology Report, dated April 2010 and April 2008)

Pollutant of Concern	Landscape Swale ^{2,3}	Landscape Strip ^{2,3}	Biofiltration (with underdrain) ^{2,3}	Extended Detention Basin ²	Sand Filter Basin ²	Infiltration Basin ²	Infiltration Trench ²	Permeable Pavement ²	Bioretention (w/o underdrain) ^{2,3}	Other BMPs Including Proprietary BMPs ^{4,6}
Sediment & Turbidity	M	M	H	M	H	H	H	H	H	Varies by Product ⁵
Nutrients	L/M	L/M	M	L/M	L/M	H	H	H	H	
Toxic Organic Compounds	M/H	M/H	M/H	L	L/M	H	H	H	H	
Trash & Debris	L	L	H	H	H	H	H	L	H	
Bacteria & Viruses (also: Pathogens)	L	M	H	L	M	H	H	H	H	
Oil & Grease	M	M	H	M	H	H	H	H	H	
Heavy Metals	M	M/H	M/H	L/M	M	H	H	H	H	
<p>Abbreviations: L: Low removal efficiency M: Medium removal efficiency H: High removal efficiency</p> <p>Notes:</p> <p>(1) Periodic performance assessment and updating of the guidance provided by this table may be necessary.</p> <p>(2) Expected performance when designed accordance with the most current edition of the document, "Riverside County, Whitewater River Region Stormwater Quality Best Management Practice Design Handbook".</p> <p>(3) Performance dependent upon design which includes implementation of thick vegetative cover. Local water conservation and/or landscaping requirements should be considered; approval is based on the discretion of the local land use authority.</p> <p>(4) Includes proprietary stormwater treatment devices as listed in the CASQA Stormwater Best Management Practices Handbooks, other stormwater treatment BMPs not specifically listed in this WQMP (including proprietary filters, hydrodynamic separators, inserts, etc.), or newly developed/emerging stormwater treatment technologies.</p> <p>(5) Expected performance should be based on evaluation of unit processes provided by BMP and available testing data. Approval is based on the discretion of the local land use authority.</p> <p>(6) When used for primary treatment as opposed to pre-treatment, requires site-specific approval by the local land use authority.</p>										

If a BMP selected for the project functions by infiltration, the BMP shall not violate the requirements set forth in 40 CFR 144 for Class V Injection Wells⁸ or any potential local infiltration requirements. For purposes of identifying local infiltration requirements, the local land use authority will assist project

⁸ <http://www.gpo.gov/fdsys/pkg/CFR-2012-title40-vol24/pdf/CFR-2012-title40-vol24-part144.pdf>

applicants in identifying groundwater management agencies that may have established such requirements. In addition, BMPs that allow infiltration:

- Must be located at least 50 feet horizontally from any water supply well, unless it can be shown that well construction and site geology will provide adequate protection for the domestic water well, in which case the minimum distance will be provided on a case-by-case basis;
- Must be at least 10 feet vertically above the historic high groundwater mark; and
- Shall not cause a nuisance, including odor, vectors or pollution as defined in Water Code Section 13050.⁹

For further guidance on vector control BMPs as they pertain to design of structural stormwater BMPs, please see California Department of Public Health's, "Best Management Practices for Mosquito Control in California" at: <http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf>. An additional resource for the appropriate siting of infiltration BMPs includes Caltrans Report No. CTSW-RT-03-025, Infiltration Basin Site Selection Study (June 2003)¹⁰.

The obligation to install LID/Site Design and/or Treatment Control BMPs at the project site is met if, for a common scheme of development, BMPs are constructed with the requisite capacity to serve the entire common scheme, even if certain phases of the common scheme may not have BMP capacity located on that phase. BMP capacity must be functional prior to the issuance of occupancy permits, or certificates of use (or equivalent), if no occupancy permits are issued.

3.5.1.1 Measurable Goal for LID/Site Design BMPs

The 2013 MS4 Permit requires that the Treatment Control BMP requirements specified in Section F.1.c.v.4 be addressed using LID/Site Design BMPs, to the extent feasible. The measurable goal is to have 100% of the Treatment Control BMP requirement achieved through the use of LID/Site Design BMPs. Achievement toward this goal shall be tracked on a project-specific WQMP basis, determined by the percentage of total project area that has provided treatment for each of the project's Pollutants of Concern while meeting the volumetric and/or flow-based Treatment Control BMP design criteria specified in the 2013 MS4 Permit (Sections F.1.c.v.4.b.i and F.1.c.v.4.a.ii), using LID/Site Design BMPs. Projects which are required to retain Urban Runoff onsite in conformance with local ordinance (Section 3.5.1.2 below) are considered to have met (100%) the LID/Site Design measurable goal.

LID/Site Design BMPs used to satisfy the Treatment Control BMP requirement must:

- Be designed to manage runoff consistent with the design sizing criteria specified in 2013 MS4 Permit Sections F.1.c.v.4.b.i and F.1.c.v.4.a.ii, and described in the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development;
- Promote retention and/or feature a natural treatment mechanism. Examples include, but are not limited to: extended detention basins, retention basins, drywells, and naturally-lined swales and filter strips; and
- Have medium or high effectiveness in reducing those Pollutants of Concern causing Receiving Water impairment (if any).

It should be noted that areas of a project which have implemented Site Design BMP concepts (described in Sections 3.5.1.3 and 3.5.1.4, below) which completely address the volumetric and/or flow-based

⁹ <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=wat&group=13001-14000&file=13050-13051>

¹⁰ http://www.dot.ca.gov/hq/env/stormwater/special/newsetup/_pdfs/new_technology/CTSW-RT-03-025/CTSW-RT-03-025summary.pdf

Treatment Control BMP design criteria for their footprint area (i.e., Self-Retaining and Self-Treating Areas), also count toward the LID/Site Design measurable goal.

For any project subareas for which it can be clearly demonstrated that it is infeasible to fully meet the Treatment Control BMP requirements using LID/Site Design BMP(s), appropriate justification shall be described in the project-specific WQMP. Final determination of feasibility regarding implementation of LID/Site Design BMPs to meet the Treatment Control BMP requirement will be made by the local land use authority.

3.5.1.2 Required Onsite Retention of Urban Runoff

As shown in Table 6, through local ordinance some local land use authorities require developments within their jurisdiction to retain Urban Runoff on site unless located adjacent to an existing MS4 facility. Where a project is required through local land use authority ordinance to retain and infiltrate Urban Runoff on site, additional LID/Site Design and/or Treatment Control BMPs are not required, and Sections V.1.A and B of the WQMP Template do not need to be completed; however, in these instances, project proponents shall include retention facility sizing calculations and design details in Appendix F of their project-specific WQMP. Further, the measurable goal for LID/Site Design BMPs is considered to have been met (100%) for such projects, and therefore '100%' should be entered into Column 3 of Table 6 of the project-specific WQMP.

Details for sizing and design of retention facilities to comply with local ordinance can be obtained from the applicable local land use authority.

Table 6. Local Land use Authorities Requiring Onsite Retention of Stormwater

Local land use authority	Ordinance	Requirement
Banning	Ordinance #1415 § 6	Any person performing construction work in the city shall comply with the provisions of this chapter and the Uniform Building Code, latest edition, for erosion and sediment control, as well as City of Banning Ordinance 1388 which is incorporated by reference hereto. In addition, except as waived by or agreed to by the Director or the Director's designee consistent with NPDES permit provisions and requirements, development of all land within the city must include provisions for the management of stormwater runoff from the property which is to be developed, including volumetric or flow based treatment control BMP design criteria, and/or exceptions to these requirements, and methodologies used to ensure proper management of stormwater runoff post-construction. This management shall consist of constructing storage and/or infiltration facilities, which includes basins. At a minimum, all development will make provisions to store runoff from rainfall events up to and including the one-hundred-year, three-hour duration event onsite via storage or infiltration basins for new development and redevelopment. Post-development peak urban runoff discharge rates shall not exceed pre-development peak urban runoff discharge rates.

Local land use authority	Ordinance	Requirement
Coachella	Ordinance #1014 Municipal Code Section 13.16.110	<p>To minimize the discharge and transport of pollutants, the city requires all new development and redevelopment projects identified as a Priority Project under the newly implemented NPDES permit No. CAS617002 to retain 100% of the stormwater from the 100 year, 24-hour duration storm in order to prevent any deterioration of the water quality which would impair the subsequent or competing uses of water. Projects that retain and infiltrate 100% of the rainfall conditions specified in Section F.1.c.v.4 of the NPDES permit are deemed to comply with the Treatment Control BMP requirements found in that section of the NPDES permit. The NPDES permit establishes acceptable methods and standards for controlling stormwater runoff volumes, rates, and pollutant loading including but not limited to the following:</p> <ul style="list-style-type: none"> A. Increase Permeable Areas, Avoid placing impervious surfaces in highly porous soil areas; incorporate landscaping and open space into the project design; use porous materials for or near driveways and walkways; incorporate retention basins that can infiltrate Stormwater onsite; and avoid placing pavement and other impervious surfaces in low lying areas. B. Direct Runoff to Permeable Areas. Direct Stormwater runoff away from impermeable areas to swales, berms, green strip filters, gravel beds, and French drains; install rain gutters and orient them toward permeable areas; modify the grade of the property to divert flow to permeable areas and minimize the amount of stormwater runoff leaving the property and when designing curbs, berms and other structures, avoid designs which isolate permeable or landscaped areas. C. Maximize Stormwater Storage for Reuse. Use retention structures, surface areas, cisterns, or other structures to store stormwater
Cathedral City	Municipal Code – Title 8 § 8.24.070	<ul style="list-style-type: none"> A. Except as noted below, development of all land within the city must include provisions for the management of stormwater runoff from the property which is to be developed. This management shall consist of constructing stormwater storage facilities, which includes detention basins. As a minimum, all development will make provisions to store runoff from rainfall events up to and including the one-hundred-year, three-hour duration event. If a suitable outlet for a detention basin is not available, or if engineering analysis indicates that available outlet systems would be overtaxed by detention basin outflow, a retention basin shall be constructed in lieu of a detention basin. B. The requirement for construction of a detention basin or a retention basin may be waived in the following cases: <ul style="list-style-type: none"> 1. The runoff has been included in a storage facility at another location. This may include storage facilities proposed as part of the Cathedral City Storm Drain Master Plan; 2. An application for a building permit to construct a single-family residential structure; 3. Development which will drain directly into a floodway or watercourse drainage channel which has been determined by the project review manager, using engineering analyses provided by the development, to have the capacity and be constructed to handle the additional runoff flow without increasing the potential for flood damage on any other downstream property. 4. Development of a parcel under one-half acre in an area where it can be demonstrated by engineering analyses that no significant increase in the potential for flood damage will be created by the development.

Local land use authority	Ordinance	Requirement
Desert Hot Springs	Ordinance #1997-03, Section 13.08.100	<p>A. To minimize the discharge and transport of pollutants, the City may require that any new development or redevelopment project control the volume and rate of stormwater runoff from the project so as to prevent any deterioration of water quality that may impair the subsequent or competing uses of the water. The Director of Public Works may establish standards and guidelines implementing BMPs designed to control the rate and volume of stormwater runoff from new developments and redevelopments as may be appropriate to minimize the discharge and transport of pollutants.</p> <p>B. The following methods and standards for controlling stormwater runoff volumes, rates, and pollutants, among others, may be required by the Director of Public Works:</p> <ol style="list-style-type: none"> 1. Increase Permeable Areas. Avoid placing impervious surfaces in highly porous soil areas; incorporate landscaping and open space into the project design; use porous materials for or near driveways and walkways; incorporate detention ponds and infiltration pits into the project's design; avoid placing pavement and other impervious surfaces in low lying areas. 2. Direct Runoff to Permeable Areas. Direct stormwater runoff away from impermeable areas to swales, berms, green strip filters, gravel beds, and french drains. Install rain gutters and orient them toward permeable areas. Modify the grade of the property to divert flow to permeable areas and minimize the amount of Stormwater runoff leaving the premises. When designing curbs, berms or other structures, avoid designs which isolate permeable or landscaped areas.
Indio	Code of Ordinances – Title XV: Land Usage, §162.140	Properties of one acre or greater in size shall be designed to retain the 100-year, 24-hour, duration storm on site. Such properties shall retain this duration storm on site or provide a drainage system to convey the drainage to an acceptable retention site as determined by the Director of Public Works. Such a drainage system shall include a provision to fully address disposal of nuisance water to the satisfaction of the Director of Public Works.
La Quinta	Municipal Code – Title 13 §13.24.120	Stormwater runoff produced over the peak twenty-four-hour period of a one-hundred-year storm shall be retained on site unless waived by the city engineer. Engineering Bulletin #06-16 sets Hydrology and Hydraulic Report Criteria for Storm Drainage Systems.
Palm Desert	Ordinance 1247 § 6	Developments or redevelopments of one acre or more in size shall be designed to retain the stormwater from a one hundred year, twenty-four hour, duration storm on site.
Palm Springs	Ordinance 1768 § 1	<p>(d) Onsite stormwater retention requirements for new development and redevelopment projects in the City of Palm Springs are defined as follows:</p> <p>(i) A required onsite stormwater retention system shall have sufficient capacity to contain the volume of stormwater runoff representing the difference between the existing (undeveloped) condition and the proposed (developed) condition resulting from the most conservative duration (1-hour, 3-hour, 6-hour, or 24-hour) 100-year storm (hereafter defined as the "project storm"). This volume of stormwater runoff is defined as the "incremental volume of stormwater runoff".</p>
Rancho Mirage	Municipal Code – Title 15 §15.64.140	Properties of one acre or greater in size located northerly of the Whitewater River Channel shall be designed to retain the one-hundred-year, twenty-four-hour, duration storm on site. Other properties shall retain this duration storm on site or provide a drainage system to convey the drainage to an acceptable disposal site as determined by the city engineer.

3.5.1.3 Site Design BMP Concept 1: Minimize the Volume of Runoff Produced by Minimizing Urban Runoff, Minimizing Impervious Footprint, and Conserving Natural Areas

Site Design BMP concepts that minimize the volume of runoff produced, such as conserving natural areas and minimizing the impervious footprint must be incorporated to the extent feasible during the site planning and approval process consistent with General Plan policies, other development standards and regulations, and with any LID/Site Design BMPs included in an applicable regional or watershed program. Where implementation of concepts listed below involves utilization of project areas which, on their own, address the volumetric and/or flow-based Treatment Control BMP design criteria for their footprint area (i.e., Self-Retaining and/or Self-Treating Areas), those areas also apply toward the LID/Site Design measurable goal.

- Conserve natural areas:
 - Concentrate or cluster development on the least environmentally sensitive portions of a site while leaving the remaining land in a natural, undisturbed condition.
 - Where applicable, reflect the goals of the Multi-Species Habitat Conservation Plan or other natural resource plans in the project plans in order to preserve sensitive portions of the site, which includes but is not limited to, areas necessary to maintain the viability of wildlife corridors, habitat areas for sensitive, threatened or endangered, and all wetlands, coastal scrub, and other upland communities.
 - Natural drainage features and natural depressional storage areas on the site are preserved
- Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.
- Use natural drainage systems.
- Where applicable, incorporate Self-Treating Areas (natural or landscaped areas that do not drain to Stormwater BMPs, but drain directly off site or to the MS4, rather than having their runoff comeingle with runoff from the project's impervious surfaces). For more information on Self-Treating Areas, see Section 2.2 of the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development (located at: http://rcflood.org/downloads/NPDES/Documents/WW_SWMP_WQMP/WWR_BMP_Design_Handbook_Jan2015.pdf).
- Where applicable, incorporate Self-Retaining Areas (areas designed to retain the design storm rainfall without producing any runoff). For more information on Self-Retaining Areas, see Section 2.1 of the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development.
- Increase the building floor to area ratio (i.e., number of stories above or below ground)
- Construct streets, sidewalks and parking lot aisles to the minimum widths necessary, provided that public safety and a walkable environment for pedestrians are not compromised.¹¹
- Reduce widths of streets where off-street parking is available.¹²
- Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.
- Other comparable and equally effective site design concepts as approved by the local land use authority.

¹¹ Sidewalk widths must still comply with Americans with Disabilities Act regulations and other life safety requirements.

¹² However, street widths must still comply with life safety requirements for fire and emergency vehicle access in addition to waste collection and facility maintenance needs.

3.5.14 Site Design BMP Concept 2: Minimize Directly Connected Impervious Areas

Site Design BMP concepts to manage runoff and promote disconnection of impervious areas via onsite infiltration and/or retention must be incorporated to the extent feasible during the site planning and approval process consistent with General Plan policies, other development standards and regulations, and with any LID/Site Design BMPs included in an applicable regional or watershed programs. Where implementation of concepts listed below involves utilization of structural LID/Site Design BMPs outlined in Table 5 above (i.e., bio-retention, permeable pavements, etc.), and those LID/Site Design BMPs completely address the volumetric and/or flow-based Treatment Control BMP requirement for their drainage sub-area, that area also applies toward the LID/Site Design measurable goal.

- Design residential and commercial sites to contain and infiltrate roof runoff, or direct roof runoff to landscaped swales or buffer areas.
- Drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping.
- Incorporate landscaped buffer areas between sidewalks and streets.
- Use natural or landscaped drainage swales in lieu of underground piping or imperviously lined swales.
- Where soil conditions are suitable, use perforated pipe or gravel filtration pits for low flow infiltration.¹³
- Maximize the permeable area by constructing walkways, trails, patios, alleys, driveways, low-traffic streets and other low-traffic areas with open-jointed paving materials or permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.
- Use one or more of the following:
 - Rural swale system: street sheet flows to vegetated swale or gravel shoulder, curbs used at street corners, and culverts used under driveways and street crossings.
 - Urban curb/swale system: street slopes to curb; periodic swale inlets drain to landscaped swale or biofilter.
 - Dual drainage system: first flush captured in street catch basins and discharged to adjacent landscaped swale or gravel shoulder; high flows connect directly to MS4s.
 - Other design concepts that are comparable and equally effective as approved by the local land use authority.
- Use one or more of the following features for design of driveways and private residential parking areas:
 - Design driveways with shared access, flared (single lane at street) or wheel strips (paving only under tires); or, drain into landscaping.
 - Uncovered temporary or guest parking on residential lots may be: paved with a permeable surface, or designed to drain into landscaping.
 - Other comparable and equally effective design characteristics as approved by the local land use authority.
- Use one or more of the following design concepts for the design of parking areas:
 - Where landscaping is proposed in parking areas, incorporate parking area landscaping into the drainage design.

¹³ However, projects must still comply with hillside grading ordinances that limit or restrict infiltration of runoff.

- Overflow parking (parking stalls provided in excess of the local land use authority's minimum parking requirements) may be constructed with permeable pavement.
- Other comparable and equally effective design characteristics as approved by the local land use authority.
- Other comparable and equally effective design characteristics as approved by the local land use authority.

3.5.1.5 Design Basis for BMPs

The primary parameter for designing LID/Site Design and Treatment Control BMPs is to treat the stormwater quality design flow (Q_{BMP}) or the stormwater quality design volume (V_{BMP}) of the stormwater runoff. Table 7 lists some LID/Site Design and Treatment Control BMPs and the primary design basis (flow-based or volume-based) to be used for designing BMPs.

Table 7. Design Basis for LID/Site Design and Treatment Control BMPs

LID/Site Design or Treatment Control BMP	Design Basis
Landscaped Filter Strips	Q_{BMP}
Landscaped Swales	
Biofiltration (with underdrain)	V_{BMP}
Bioretention (w/o underdrain)	
Extended Detention Basin	
Sand Filter Basin	
Permeable Pavement	
Infiltration Basin	
Infiltration Trench	
Other BMPs	Q_{BMP} or V_{BMP} on case-specific basis, as approved by the local land use authority

3.5.1.6 Flow-Based BMP Design

Flow-based BMP design standards apply to BMPs whose primary mode of pollutant removal depends on the rate of flow of runoff through the BMP. Flow-based BMPs shall be designed to treat the flow of runoff, Q_{BMP} , using the method prescribed by 2013 MS4 Permit Section F.1.c.v.4.b.i. A detailed design procedure and convenient excel worksheet for calculation of Q_{BMP} are provided in the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development, located at: <http://rcflood.org/npdes/Developers.aspx>.

It is important to note that Priority Redevelopment Projects (defined as projects that fall under one of the eight Priority Development categories and take place on a previously disturbed parcel) which will replace less than 50% of the impervious surfaces on an existing developed site are required to address Q_{BMP} (where flow-based BMPs are proposed) only for the proposed project portion of the site. However, where Priority Redevelopment Projects replace 50% or more of the impervious surfaces on an existing developed site, Q_{BMP} must be addressed for the entire developed site (where flow-based BMPs are proposed).

3.5.1.7 Flow-Based BMPs

Landscaped Filter Strips

Landscaped filter strips are uniformly graded areas of, preferably, native vegetation designed to treat sheet flow Urban Runoff. Pollutants are removed by filtering, and through settling of sediment and other solid particles as the design flow passes through (not over) the vegetation. Filter strips are usually as wide as the tributary area and must be long enough in the flow direction to adequately treat the runoff. Concentrated flows are redistributed uniformly across the top of the strip with a level spreader. A grass swale, sand filter, or infiltration BMP is recommended in conjunction with a filter strip¹⁴.

Landscaped filter strips require landscape maintenance. Maintenance requirements typically include activities such as irrigation, mowing, trimming, removal of invasive species, and replanting when necessary. Consider use of duplicate facilities such that one one-half of the facility can be taken out of service to allow for maintenance without reducing the required level of treatment performance.

Landscaped Swales

A landscaped swale is a wide, shallow vegetated channel that treats Urban Runoff as it is slowly conveyed into a downstream system. These swales have very shallow slopes in order to facilitate retention, and allow for maximum contact time with the vegetation. The depth of the design flow should be less than the height of the vegetation¹⁵. Contact with vegetation improves water quality by plant uptake of pollutants, removal of sediment, and an increase in infiltration. Overall, the effectiveness of swales is limited, and they are recommended in combination with other BMPs.

Landscaped swales often require a thick vegetative cover to function properly; however, native vegetation is recommended wherever feasible. Local water conservation and/or landscaping requirements should be considered when planning for this BMP. Swales usually require normal landscape maintenance activities such as irrigation, mowing, trimming, removal of invasive species, and replanting when necessary to maintain pollutant removal efficiency. The application of fertilizers and pesticides should be minimized. Consider use of duplicate facilities such that one one-half of the facility can be taken out of service to allow for maintenance without reducing the required level of treatment performance.

Other BMPs

In some cases, other flow-based BMPs, proprietary BMPs or combinations of BMPs may be appropriate for a development. Such BMPs or combinations of BMPs may be employed on a site-specific basis as approved by the local land use authority. The appropriate BMP(s) for a project should be determined based on the size of the project area and the Pollutants of Concern that will be found in the development runoff.

3.5.1.8 Volume-Based BMP Design

Volume-based BMP design standards apply to BMPs whose primary mode of pollutant removal depends on the volumetric capacity of the BMP. Volume-based BMPs shall be designed to infiltrate or treat the volume of runoff, V_{BMP} , using the method prescribed by 2013 MS4 Permit Section F.1.c.v.4.a.ii. A detailed design procedure and convenient excel worksheet for calculation of V_{BMP} are provided in the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development, located at: <http://rcflood.org/npdes/Developers.aspx>.

It is important to note that Priority Redevelopment Projects (defined as projects that fall under one of the eight Priority Development categories and take place on a previously disturbed parcel) which will replace

¹⁴ However, projects must still comply with hillside grading ordinances that limit or restrict infiltration of runoff.

¹⁵ However, projects must still comply with hillside grading ordinances that limit or restrict infiltration of runoff.

less than 50% of the impervious surfaces on an existing developed site are required to address V_{BMP} (where volume-based BMPs are proposed) only for the proposed project portion of site. However, where Priority Redevelopment Projects replace 50% or more of the impervious surfaces on an existing developed site, V_{BMP} must be addressed for the entire developed site.

3.5.1.9 Volume-Based BMPs

Bioretention Facilities

Bioretention Facilities are shallow, landscaped basins underlain by an engineered soil media. Healthy plant and biological activity in the root zone maintain and renew the macro-pore space in the soil and maximize plant uptake of pollutants and runoff; this keeps the BMP from becoming clogged and allows more of the soil column to function as both a sponge (retaining water) and a highly effective and self-maintaining filter. In most cases, the bottom of a Bioretention Facility is unlined, which also provides an opportunity for infiltration to the extent the underlying onsite soil can accommodate. When the infiltration rate of the underlying soil is exceeded, fully biotreated flows are discharged via underdrains. Bioretention Facilities therefore will inherently achieve the maximum feasible level of infiltration and evapotranspiration and achieve the minimum feasible (but highly biotreated) discharge to the storm drain system.

These facilities work best when they are designed in a relatively level area, and can be used in smaller landscaped spaces on the site. Landscaped areas on the site (such as may otherwise be required through minimum landscaping ordinances), can often be designed as Bioretention Facilities. Bioretention Facilities should not be used downstream of areas where large amounts of sediment or blow sand can clog the system. Additionally, local water conservation and/or landscaping requirements should be considered when planning for these facilities, as their design calls for implementation of thick vegetative cover.

Extended Detention Basin

An extended detention basin (EDB) is a permanent basin sized to detain and slowly release the design volume of Urban Runoff and maximize opportunities for volume losses through infiltration, evaporation and surface wetting. Additional pollutant removal is provided through sedimentation, in which pollutants can attach to sediment accumulated in the basin through the process of settling. Stormwater enters the EDB through a forebay where any trash, debris, and sediment accumulate for easy removal. Flows from the forebay enter the basin which is vegetated with native grasses that enhance infiltration and evapotranspiration, and which is interspersed with gravel-filled trenches that help further enhance infiltration. Water that does not get infiltrated or evapotranspired is conveyed to the bottom stage of the basin. At the bottom stage of the basin, low or incidental dry weather flows will be treated through a sand filter and collected in a subdrain structure. Any additional flows will be detained in the basin for an extended period by incorporating an outlet structure that is more restrictive than a traditional detention basin outlet. The restrictive outlet structure extends the drawdown time of the basin which further allows particles and associated pollutants to settle out before exiting the basin, while maximizing opportunities for additional incidental volume losses.

Extended detention basins require inspection annually, and after significant storm events to identify potential problems early. Most maintenance efforts will need to be directed toward vegetation management and vector control, which may focus on basic housekeeping practices such as removal of debris accumulations and vegetation management to ensure that the basin dewater completely, within the set drawdown time, to prevent creating vector habitats.

Infiltration Basin

An infiltration basin is a flat earthen basin designed to capture the design capture volume, V_{BMP} . The stormwater infiltrates through the bottom of the basin into the underlying soil over a 72 hour drawdown period. Flows exceeding V_{BMP} must discharge to a downstream conveyance system. Trash and sediment accumulate within the forebay as stormwater passes into the basin. Infiltration basins are highly effective in removing all targeted pollutants from stormwater runoff. The use and regular maintenance of pretreatment BMPs will significantly minimize maintenance requirements for the basin. Spill response procedures and controls should be implemented to prevent spills from reaching the infiltration basin. Particular care is required where the area upstream of the infiltration BMP may not be fully stabilized, or in existing developments where upstream areas may become destabilized due to construction work, lack of maintenance, fire, or other actions. In these cases, measures to prevent sediment from entering and clogging the BMP are necessary until the tributary area is stabilized. Decorative decomposed granite fines should not be used inside or upstream from infiltration basins or drywell-like systems, since the fine material will clog the soils and prevent effective percolation. Basins should not be put into operation until the upstream tributary area is stabilized.

Infiltration Trench

Infiltration trenches are shallow excavated areas that are filled with rock material to create a subsurface reservoir layer. The trench is sized to store the design capture volume, V_{BMP} , in the void space between the rocks. Over a period of 72 hours, the stormwater infiltrates through the bottom of the trench into the surrounding soil. Infiltration trenches are highly effective in removing all targeted pollutants from stormwater runoff. These trenches also include a bypass system for volumes greater than the design capture volume, and a perforated pipe observation well to monitor water depth.

Infiltration trenches require an effective pretreatment, such as vegetated buffer strips, to remove sediment and minimize clogging. If the trench clogs, it may be necessary to remove and replace all or part of the filter fabric and possibly the coarse aggregate. Maintenance should be concentrated on the pretreatment practices, such as buffer strips and swales upstream of the trench to ensure that sediment does not reach the infiltration trench. Particular care is required where the area upstream of the infiltration BMP may not be fully stabilized, or in existing developments where upstream areas may become destabilized due to construction work, lack of maintenance, fire, or other actions. In these cases, measures to prevent sediment from entering and clogging the BMP are necessary until the tributary area is stabilized. Regular inspection should determine if the sediment removal structures require routine maintenance. Infiltration BMPs should not be put into operation until the upstream tributary area is stabilized.

Sand Filter Basin

Sand filters clog easily when subjected to heavy sediment loads. Sediment reducing pretreatment practices, such as vegetated buffer strips or vegetated swales, placed upstream of the filter should be maintained properly to reduce sediment loads into the filter. Media filters should drain within the set drawdown time to minimize vector habitat. Maintenance will need to focus on basic housekeeping practices such as removal of debris accumulations and vegetation management (within media filter) to prevent clogs and/ or standing water. Materials such as sand, gravel, filter cloth, or filter media must be disposed of properly and in accordance with all applicable laws.

Permeable Pavement

Permeable pavements can be either pervious asphalt and concrete surfaces, or permeable modular block. Unlike traditional pavements that are impermeable, permeable pavements reduce the volume and peak of stormwater runoff as well as mitigate pollutants from stormwater runoff, provided that the underlying

soils can accept infiltration. Permeable pavement surfaces work best when they are designed to be flat or with gentle slopes.

The permeable surface is placed on top of a reservoir layer that holds the water quality stormwater volume, V_{BMP} . The water infiltrates from the reservoir layer into the native subsoil. Tests must be performed according to the Infiltration Testing Section in Appendix A of the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development to be able to use this design procedure.

For maintenance in desert blow-sand areas, periodic vacuuming of the pavement surface is recommended to ensure that it does not get clogged with fine material that will eventually work its way down into the rock layer.

Other BMPs

In some cases, other volume-based BMPs, proprietary BMPs or combinations of BMPs may be appropriate for a development. Such BMPs or combinations of BMPs may be employed on a site-specific basis as approved by the local land use authority. The appropriate BMP(s) for a project should be determined based on the size of the project area and the Pollutants of Concern that will be found in the development runoff.

3.5.2 Source Control BMPs

The following Source Control BMPs must be addressed in each project-specific WQMP unless they do not apply given project features as determined by the local land use authority. If any of the following Source Control BMPs are not included in the project-specific WQMP, adequate justification must be provided before the project-specific WQMP will be approved.

3.5.2.1 *Non-Structural Source Control BMPs*

Education/Training for Property Owners, Operators, Tenants, Occupants, or Employees

For projects with an HOA/POA of less than fifty (50) dwelling units and for projects with no HOA/POA, practical informational materials to promote the prevention of Urban Runoff pollution will be provided by the project proponent to the first residents/occupants/tenants. These materials shall include general housekeeping practices that contribute to the protection of Urban Runoff quality and BMPs that eliminate or reduce pollution during subsequent property improvements. These materials or a resource list for obtaining these materials will be made available through the local land use authority, or can be found at <http://rcflood.org/Stormwater/> (click on the "For Developers" tab). However, the local land use authority may elect to recover printing costs for such materials. The project applicant shall request these materials at least 30 days prior to the intended distribution date and shall then be responsible for timely distribution at the time of occupancy.

For projects with an HOA/POA of more than fifty (50) dwelling units, conditions of approval will require the HOA/POA to annually provide environmental awareness education materials to all members. These materials shall include general housekeeping practices that contribute to the protection of Urban Runoff quality and BMPs that eliminate or reduce pollution during subsequent property improvements. These materials or a resource list for obtaining these materials will be available through the local land use authority. However, the local land use authority may elect to recover printing costs for such materials. The HOA/POA shall request these materials (in writing) at least 30 days prior to the intended distribution date.

For projects where people will be employed or contracted to perform activities that may impact Urban Runoff, BMP training and education programs must be provided to all new employees within 6 months of

hire date and annually thereafter. Employee training materials may be derived from educational materials available through the local land use authority or from other resources such as "Stormwater Best Management Practices Handbook for Industrial and Commercial" (CASQA, 2003). The most recent editions of the CASQA handbooks can be downloaded at www.cabmphandbooks.com. The project-specific WQMP must describe the frequency of employee training and indicate the party responsible for conducting the training.

For projects which feature structural LID/Site Design and/or Treatment Control BMPs that may have potential to violate local vector control requirements, the project proponent will direct the project's first residents/occupants/tenants to the California Department of Public Health's, "Best Management Practices for Mosquito Control in California", which can be found at: <http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf>.

Activity Restrictions

At the discretion of the local land use authority, if an HOA/POA is formed, the developer shall prepare CC&Rs for the purpose of Receiving Water quality protection. Alternatively, use restrictions may be developed by a building operator through lease terms, etc. These restrictions must be included in the project-specific WQMP. Examples of activity restrictions are:

- Prohibiting the blowing, sweeping, or hosing of debris (leaf litter, grass clippings, litter, etc.) into streets, storm drain inlets, or other conveyances.
- Require dumpster lids to be closed at all times.
- Prohibit vehicle washing, maintenance, or repair on the premises or restrict those activities to designated areas (such as repair within maintenance bays and vehicle washing on properly designed wash racks).

Irrigation System and Landscape Maintenance

Maintenance of irrigation systems and landscaping shall be consistent with the local land use authority's water conservation ordinance, which can be accessed through the local land use authority's website or obtained through the local land use authority's planning/permitting counter. Fertilizer and pesticide usage shall be consistent with the instructions contained on product labels and with regulations administered by California's Department of Pesticide Regulation. Additionally, landscape maintenance must address replacement of dead vegetation, repair of erosion rills, proper disposal of green waste, etc. Irrigation system maintenance must address periodic testing and observation of the irrigation system to detect overspray, broken sprinkler heads, and other system failures. The project-specific WQMP should describe the anticipated frequency of irrigation system and landscape maintenance activities and identify the responsible party.

Common Area Litter Control

For industrial/commercial projects and for projects with HOAs/POAs, the project-specific WQMP must address litter control for common areas. Litter control must address whether or not trash receptacles will be provided in common areas, emptying of trash receptacles, the frequency with which trash receptacles will be emptied, patrolling common areas and perimeter fences or walls to collect litter, noting trash disposal violations by tenants/home owners or businesses and reporting such observations to the owner, operator, manager, or HOA/POA for investigation, and identification of the party responsible for litter control.

Street Sweeping Private Streets and Parking Lots

For industrial/commercial projects and for other projects with HOAs/POAs, the frequency of sweeping privately owned streets shall be described in the project-specific WQMP. The frequency shall be no less

than the frequency of street sweeping by the local land use authority on public streets. For projects with parking lots, the parking lots shall be swept at least quarterly, including just prior to the start of the rainy season (October 1st). The project-specific WQMP should identify the anticipated sweeping frequency, source of funding and the party responsible for conducting the periodic sweeping.

Drainage Facility Inspection and Maintenance

For industrial/commercial projects and for projects with HOAs/POAs, the frequency for cleaning privately owned drainage facilities (catch basins, open channels and storm drain inlets) shall be described in the project-specific WQMP. At a minimum, routine maintenance of privately owned drainage facilities should take place in the late summer or early fall prior to the start of the rainy season (October 1st). The drainage facilities must be cleaned if accumulated sediment/debris fills 25% or more of the sediment/debris storage capacity. Privately owned drainage facilities shall be inspected annually and the cleaning frequency shall be assessed. The project-specific WQMP should identify the party responsible for conducting the drainage facility inspection and maintenance.

3.5.2.2 Structural Source Control BMPs

Storm Drain Inlet Stenciling and Signage

The following requirements must be addressed in a project-specific WQMP and/or shall be denoted on project plan sheets:

- Provide stenciling or labeling of all storm drain inlets and catch basins, constructed or modified, within the project area with prohibitive language (such as: "NO DUMPING ONLY RAIN IN THE DRAIN") and/or graphical icons to discourage illegal dumping.
- Post signs and prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area.
- Identify the party responsible for maintaining the legibility of stencils and signs.

The stencils contain a brief statement that prohibits dumping into the MS4. Graphical icons, either illustrating anti-dumping symbols or images of Receiving Water fauna, are effective supplements to the text message. Stencils and signs alert the public to the destination of pollutants discharged into Urban Runoff.

Landscape and Irrigation System Design

A project-specific WQMP must describe how the following concepts have been incorporated into project design features:

- Employing rain shutoff devices to prevent irrigation during and after precipitation events.
- Designing irrigation systems to each landscape area's specific water requirements.
- Using flow reducers or shutoff valves triggered by a pressure drop to control water loss due to broken sprinkler heads or lines.
- The timing and application methods of irrigation water shall be designed to minimize the runoff of excess irrigation water into the MS4.
- Other comparable, equally effective, methods to reduce irrigation water runoff.
- Preparation and implementation of a landscape plan consistent with the local land use authority's water conservation ordinance, which may include the use of water sensors, programmable irrigation times (for short cycles), etc.
- Preparation and implementation of a landscape plan that:

- Utilizes plants with low irrigation requirements (for example, native or drought tolerant species)
- Groups plants with similar water requirements in order to reduce excess irrigation runoff and promote surface infiltration.
- Use mulches (such as wood chips or shredded wood products) in planter areas without ground cover to minimize sediment in runoff.
- Install appropriate plant materials for the location, in accordance with amount of sunlight and climate, and use native plant material where possible and/or as recommended by the landscape architect.
- Maintaining or creating a vegetative barrier along the property boundary and interior watercourses, to act as a pollutant filter, where appropriate and feasible.
- Choose plants that minimize or eliminate the use of fertilizer or pesticides to sustain growth.

Protection of Slopes and Channels

Project plans shall include Source Control BMPs to decrease the potential for erosion of slopes and/or channels, consistent with local codes and ordinances and with the approval of all agencies with jurisdiction, e.g., the U.S. Army Corps of Engineers, the Regional Board and the California Department of Fish and Game. The following design principles shall be considered, and incorporated and implemented where determined applicable and feasible by the local land use authority:

- Convey runoff safely from the tops of slopes.
- Avoid disturbing steep or unstable slopes and natural channels.
- Install permanent stabilization BMPs on disturbed slopes as quickly as possible.
- Plant slopes with native or drought tolerant vegetation. Hillside areas that are disturbed shall be landscaped with deep-rooted, drought tolerant plant species selected for erosion control.
- Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.
- Install permanent stabilization BMPs in channel crossings as quickly as possible, and ensure that increases in runoff velocity and frequency caused by the project do not erode the channel.
- Install energy dissipaters at the outlets of new MS4s, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to Receiving Waters.
- Onsite conveyance channels should be lined, where appropriate, to reduce erosion caused by increased flow velocity due to increases in tributary impervious area. The first choice for linings should be grass or some other vegetative surface, since these materials not only reduce runoff velocities, but also provide water quality benefits from filtration and infiltration. If velocities in the channel are large enough to erode grass or other vegetative linings, riprap, concrete soil cement or geo-grid stabilization may be substituted or used in combination with grass or other vegetation stabilization.
- Other comparable and equally effective site design options as approved by the local land use authority.

Provide Community Car Wash Racks

In multi-family projects where car washing or rinsing is not specifically prohibited via CC&Rs or other acceptable means, and in projects having a common parking area where car washing or rinsing is not specifically prohibited via CC&Rs or other acceptable means, a designated car washing and rinsing area

that does not drain directly to a MS4 shall be provided for common usage. Wash and rinse waters from this area must either be directed to the sanitary sewer (with prior approval of the sewerage agency), to an engineered filtration system, or an equally effective alternative prior to discharging to the MS4.

Properly Design and Maintain Fueling Areas

Fuel dispensing areas shall include the following design features:

- At a minimum, the fuel dispensing area must extend 6.5 feet (2.0 meters) from the corner of each fuel dispenser, or the length at which the hose and nozzle assembly may be operated plus 1 foot (0.3 meter), whichever is less.
- The fuel dispensing area shall be paved with Portland cement concrete (or equivalent smooth impervious surface). The use of asphalt concrete is prohibited.
- The fuel dispensing area shall have an appropriate slope (2% - 4%) to prevent ponding, and must be separated from the rest of the site by a grade break that prevents run-on of stormwater and to eliminate stormwater flow through the concrete fueling area.
- An overhanging roof structure or canopy shall be provided. The cover's minimum dimensions must be equal to or greater than the area within the grade break or the fuel dispensing area. The cover must not drain onto the fuel dispensing area and facility downspouts (roof drains) must be routed to prevent drainage across the fueling area. The fueling area shall drain to an appropriate Treatment Control BMP prior to discharging to the MS4.
- The fuel dispensing area must be designed to prohibit spills from draining to the street, MS4, or offsite.

Properly Design Air/Water Supply Area Drainage

Areas used for air/water supply must be graded and constructed so as to contain spilled material for cleanup.

Properly Design and Maintain Trash Storage Areas

All trash container areas shall meet the following requirements:

- Paved with an impervious surface, designed not to allow run-on from adjoining areas, designed to divert drainage from adjoining roofs and pavements diverted around the area, screened or walled to prevent off-site transport of trash.
- Trash dumpsters (containers) shall be leak proof and have attached covers or lids.
- Connection of trash area drains to the MS4 is prohibited.
- Trash compactors shall be roofed and set on a concrete pad. The pad shall be a minimum of one foot larger all around than the trash compactor and graded to drain to a sanitary sewer line.

Properly Design and Maintain Loading Docks

The design of loading/unloading dock areas shall include the following:

- Cover loading dock areas, or design drainage to preclude run-on and runoff.
- Direct connections to the MS4 from below-grade loading docks (truck wells) or similar structures are prohibited. Urban Runoff from a below-grade loading dock may only be discharged to the MS4 when designed to use a Treatment Control BMP applicable to the use.

Loading docks shall be kept in a clean and orderly condition through a regular program of sweeping and litter control and immediate cleanup of spills and broken containers. Cleanup procedures should minimize or eliminate the use of water. If washdown water is used, it must be properly disposed (containment, collection, and disposal to sanitary sewer) and not discharged to the MS4. The project-specific WQMP shall describe the frequency for implementing loading dock housekeeping measures and the party responsible.

Properly Design and Maintain Maintenance Bays

Maintenance bays shall include the following:

- Repair/maintenance bays shall be indoors, or designed to preclude run-on and runoff.
- Design a repair/maintenance bay drainage system to capture all wash water, leaks and spills. Provide impermeable berms, drop inlets, trench catch basins, or overflow containment structures around repair bays to prevent spilled materials and washdown waters from entering the MS4. Connect drains to a sump for collection and disposal. Discharge from the repair/maintenance bays to the MS4 is prohibited.

Properly Design and Maintain Vehicle and Equipment Wash Areas

The discharge of wash waters to the MS4 is prohibited. Therefore, projects that include areas for washing/steam cleaning of vehicles or equipment shall include the following design features:

- Wash areas shall be contained and covered with a roof or overhang, and feature adequate surplus storage to prevent excess wash water from entering the MS4.
- Provide a wash rack or wash racks connected to the sanitary sewer in accordance with sewerage agency guidelines and prior approval. The sewerage agency may require discharge monitoring. If the facility recycles wash water and is not connected to the sanitary sewer, wastes must be properly contained and disposed.
- Design an equipment wash area drainage system to capture all wash water. Provide impermeable berms, drop inlets, trench catch basins, or overflow containment structures around equipment wash areas to prevent wash waters from entering the MS4. Connect drains to a sump for collection and disposal.
- Surface runoff and roof drains shall be directed away from wash racks unless approved by the sanitary sewerage agency.

Properly Design and Maintain Outdoor Material Storage Areas

Where plans propose outdoor storage containers for oils, fuels, solvents, coolants, wastes, and other chemicals, the areas where these materials are to be used or stored must be protected by secondary containment structures such as a low containment berm, dike, or curb, designed to the satisfaction of the local land use authority. Materials or products that are stored outside and that have the potential to cause pollutant discharges shall be protected from rainfall, runoff, run-on, and wind erosion by design and use of a:

- cabinet, shed, or similar structure that prevents contact with runoff or spillage to the MS4;
- paved storage area and sufficiently impervious to contain leaks and spills; and/or

- roof or awning to minimize direct precipitation and collection of stormwater within the secondary containment area. Stormwater that collects within a secondary containment structure must not be discharged to the street or the MS4.

Properly Design and Maintain Outdoor Work Areas or Processing Areas

Where vehicle or equipment repair/maintenance occurs, impermeable berms, trench drains, or containment structures shall be provided around the areas to eliminate or reduce spilled materials and wash-down waters from entering the street or the MS4. Surface runoff or roof drains shall be directed away from these contained work areas. Sidewalls and canopies may be used to meet this requirement.

Outdoor process equipment operations, such as rock grinding or crushing, painting or coating, grinding or sanding, degreasing or parts cleaning, landfills, waste piles, and wastewater and solid waste handling, treatment, and disposal, and other operations shall adhere to the following requirements.

- Cover or enclose areas that would be the sources of pollutants or slope the area toward a sump.
- Grade or berm area to prevent run-on from surrounding areas.
- Storm drain inlets connected to the MS4 are prohibited within these outdoor work or process areas.
- Where wet material processing occurs (e.g., electroplating), secondary containment structures (not double wall containers) shall be provided to hold spills resulting from accidents or leaking tanks or equipment.
- Salvage yards and recycle facilities must direct all runoff to appropriate Treatment Control BMP(s).

Provide Wash Water Controls for Food Preparation Areas

Food establishments (per State Health & Safety Code 27520) shall have either contained areas or sinks, each with connections to the sanitary sewer for disposal of wash waters containing kitchen and food wastes. If located outside, the contained areas or sinks shall also be structurally covered to prevent entry of Urban Runoff. Adequate signs shall be provided and appropriately placed stating the prohibition of discharging wash water to the MS4.

3.5.3 Equivalent LID/Site Design and Treatment Control BMP Alternatives

Where off-site LID/Site Design and/or Treatment Control BMPs are determined to be more feasible or practicable, equivalent treatment may be provided off site when approved by the local land use authority. Off-site LID/Site Design and/or Treatment Control BMPs must:

- Be located in the same watershed as the project site.
- Treat a volume and/or flow equal to or greater than the treatment volume and/or flow calculated for the project site using the methodology described in the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development.
- Treat a pollutant loading equal to or greater than the pollutant loading from the project site.
- Address the Pollutants of Concern and where applicable, Hydrologic Conditions of Concern not addressed at the project site.
- Promote retention and/or feature a natural treatment mechanism to the extent feasible, in order to qualify as an LID/Site Design BMP and count toward the LID/Site Design measurable goal.

- Have BMP capacity functional prior to the issuance of occupancy permits, or certificates of use (or equivalent), if no occupancy permits are issued.
- Off-site BMPs must be implemented prior to proximate Receiving Waters.
- Off-site BMPs shall not cause water quality impairment or contribute to exceedances of water quality objectives.

In addition, Site Design BMP concepts and Source Control BMPs must continue to be implemented at the project site in accordance with this WQMP.

Project area subject to use of off-site BMP(s) can count toward a site's LID/Site Design measurable goal (described in Section 3.5.1.1 above) if the off-site BMP which is being utilized promotes retention and/or features a natural treatment mechanism, addresses the project's potential Pollutants of Concern, and has medium or high effectiveness in addressing the project's potential Pollutants of Concern causing Receiving Water impairment (if any).

Subject to approval by the local land use authority, off-site LID/Site Design and/or Treatment Control BMPs with excess capacity may be used to meet the treatment needs of additional projects as long as each project meets the requirements of this section and such that the requirements are met when the projects are combined. For example, if the treatment volume for project 1 is "A" and the treatment volume for project 2 is "B", then an off-site LID/Site Design and/or Treatment Control BMP would need to have a treatment volume capacity of at least "A+B" in order to treat the runoff from both project 1 and project 2. Similar provisions apply for flows and pollutants.

These provisions are supplemental to the provisions in Section 4 for regionally-based water quality control programs. While similar in nature, these provisions are intended to be implemented primarily on a smaller, more local basis. For example, a single developer of separate but adjacent projects might utilize the provisions of this section to propose that controls for both projects be located on one of the two separate sites, or possibly even propose that the controls for both sites be located on a third site.

3.6 Operation and Maintenance

Operation and maintenance (O&M) requirements for all structural Source Control, LID/Site Design and Treatment Control BMPs shall be identified in the project-specific WQMP. The project-specific WQMP shall address the following:

- Identification of each post-construction BMP that requires O&M.
- Thorough description of O&M activities, the O&M process, and the handling and placement of any wastes.
- BMP start-up dates.
- Schedule of the frequency of O&M for each BMP.
- Identification of the parties (name, address, and telephone number) responsible for O&M, including a written agreement with the entities responsible for O&M. This agreement can take the form of a Covenant and Agreement recorded by the project applicant with the County Assessor-County Clerk-Recorder, HOA or POA CC&Rs, BMP maintenance agreement, formation of a maintenance district or assessment district or other instrument sufficient to guarantee perpetual O&M. Examples of requirements for typical maintenance mechanisms and a sample of a Covenant and Agreement are available in Exhibits 4 and 5, respectively. Project

applicants should speak to the local land use authority for local land use authority-specific requirements.

- Self-inspections and record-keeping requirements for BMPs (review local specific requirements regarding self-inspections and/or annual reporting), including identification of responsible parties for inspection and record-keeping.
- Thorough descriptions of water quality monitoring, if required by the local land use authority.
- The local land use authority should have authority to maintain the BMP, if necessary, and invoice the owner for costs.

3.7 Funding

A funding source or sources for the O&M of each LID/Site Design and/or Treatment Control BMP identified in the project-specific WQMP must be identified. By certifying the project-specific WQMP (see Section 3.8), the project applicant is certifying that the funding responsibilities have been addressed and will be transferred to future owners. One example of how to adhere to the requirement to transfer O&M responsibilities is to record the project-specific WQMP against the title to the property.

4.0 Regionally-Based BMPs

For watersheds, sub-watershed, tributary areas, and other areas covered by a comprehensive Master Plan of Drainage approved by the local land use authority(s) (or developed as part of a Master Plan of Drainage for a Specific Plan or a cooperative group of developments), regionally-based BMPs (Regional BMPs) are an alternative approach to project-specific (onsite) LID/Site Design and/or Treatment Control BMP implementation. Regional BMPs may provide a more effective and cost efficient runoff treatment mechanism for multiple projects within the area covered by the comprehensive master plan of drainage and water quality. Regional BMPs may also provide opportunities for public/private partnerships where Pollutants of Concern from existing developments within the area covered by the master plan of drainage can also be addressed by the Regional BMP's capacity.

It may be possible that a Regional BMP will address all Pollutants of Concern and Hydrologic Conditions of Concern for a particular project. The operating entity of an existing Regional BMP shall be able to provide project proponents in the vicinity of the Regional BMP with information describing the tributary area the Regional BMP was designed to mitigate and the Pollutants of Concern and/or Hydrologic Conditions of Concern the Regional BMP addresses. The project proponent is responsible for identifying the Pollutants of Concern and/or Hydrologic Conditions of Concern associated with the project, comparing those with the Pollutants of Concern and/or Hydrologic Conditions of Concern addressed by the Regional BMP, and determining what additional onsite BMPs are required to treat Pollutants of Concern and/or Hydrologic Conditions of Concern not addressed by the Regional BMP.

When Regional BMPs are utilized, the project must continue to implement Site Design BMP concepts and Source Control BMPs on site. Regional BMPs can treat Urban Runoff from several source areas at a single or multiple downstream location(s). This approach can be effective when limited space is available for structural BMPs in project areas. Regional BMPs will be considered for acceptance by the local land use authority as an alternative to onsite measures if the project applicant demonstrates the following:

- Where new Regional BMPs are proposed, that BMP promotes retention and/or features a natural treatment mechanism to the extent feasible, in order to meet the LID/Site Design measurable goal.
- There is adequate capacity in the Regional BMP to address the volume-based and/or flow-based treatment needs of the project.
- The Regional BMP addresses the project's Pollutants of Concern (after considering Site Design BMP concepts and Source Control BMPs that must still be implemented at the project site).
- Projects intending to rely on the Regional BMP must incorporate project-specific BMPs to address any Pollutant of Concern from the project not addressed by the Regional BMP.
- The project applicant identifies the party responsible for the funding, operation, maintenance, and administration of the Regional BMP.
- The project applicant has secured rights from the owner/operator to participate in the Regional BMP solution.
- The project applicant has met all of the requirements imposed for participation in the Regional BMP, including funding and operation and maintenance requirements, and contingency planning.
- Regional BMP capacity must be functional prior to the issuance of occupancy permits, or certificates of use (or equivalent), if no occupancy permits are issued.
- Waters of the United States will not be utilized to transport untreated Urban Runoff to the regional facility.

- The ability of the Regional BMP to address Total Maximum Daily Load (TMDL) requirements for any adopted TMDLs. If a Regional BMP does not address TMDL requirements, additional onsite BMPs may be required to address applicable TMDL related Pollutants of Concern.

Projects participating in a Regional BMP program may rely upon the regional program during the discretionary review process subject to a discussion of how the project will participate in the program. At the discretion of the local land use authority(s) with jurisdiction, the project-specific WQMP may be required to identify its Urban Runoff contribution to the regional program and how it will affect cumulative water quality impacts in the regional watershed. Removal effectiveness, cost, maintenance, and construction timing affect whether a regional-based approach is more appropriate than site-specific approaches.

Project area subject to use of a Regional BMP can count toward a site's LID/Site Design measurable goal (described in Section 3.5.1.1 above) if the Regional BMP which is being utilized promotes retention and/or features a natural treatment mechanism, addresses the project's potential Pollutants of Concern, and has medium or high effectiveness in addressing the project's potential Pollutants of Concern causing Receiving Water impairment (if any). The local land use authority(s) with jurisdiction over the project should be contacted to determine if Regional BMPs exist or are proposed. A project that proposes to utilize a Regional BMP must verify that the Regional BMP addresses all Pollutants of Concern from the project. A project's Pollutants of Concern that are not addressed by the Regional BMP will require a separate LID/Site Design and/or Treatment Control BMP (or BMPs).

5.0 Changes in Site Development or Ownership

5.1 Changes in Site Development

Project-specific WQMPs must be updated to reflect significant proposed changes in site runoff characteristics. Potentially significant changes in the site runoff characteristics are deemed to exist whenever site work requiring a grading permit is proposed or where exterior work requiring a building permit is proposed. Under these circumstances, the owner/developer shall contact the local land use authority and provide sufficient information for the local land use authority to determine whether the existing project-specific WQMP is still appropriate. If deemed inappropriate by the local land use authority for proposed conditions, the owner/developer shall revise the WQMP to address the cumulative changes to the site and submit the revised project-specific WQMP to the local land use authority for review and approval prior to issuance of the first discretionary permit.

Significant changes in the site's runoff characteristics shall be deemed to occur whenever there is a change in use necessitating a conditional use permit (for example, changing from retail to restaurant), or when proposed changes to the site fall into one or more of the project categories that require a project-specific WQMP. Under these conditions, a revised or completely new project-specific WQMP shall be developed and submitted for review and approval by the local land use authority.

5.2 Changes in Site Ownership

For sites with a fully implemented WQMP, the WQMP requirements shall transfer to all future owners of the project site. The method to ensure transferability will depend on the method of O&M specified in the WQMP. Several O&M mechanisms, including a Covenant and Agreement recorded by the project applicant with the County Assessor-County Clerk-Recorder, HOA or POA CC&Rs, BMP maintenance agreement, formation of a maintenance district or assessment district, or other instrument are considered sufficient to guarantee perpetual O&M. These mechanisms can also be used to ensure transferability of the project-specific WQMP. For example, when recording the WQMP requirements against the title to

the property via a Covenant and Agreement, the Covenant and Agreement can also effectively notify potential buyers and future owners of properties of their responsibilities for the WQMP. An example of a Covenant and Agreement ensuring ongoing O&M and project-specific WQMP transferability is contained in Exhibit 5 of this WQMP Guidance document. Under this agreement, new owners have the option to adopt the existing project-specific WQMP, to amend the project-specific WQMP, or to develop a new project-specific WQMP. If the project-specific WQMP is amended or if a new project-specific WQMP is developed, the amended or new project-specific WQMP must be in accordance with this WQMP, must address cumulative changes to the project site, and must be submitted to the local land use authority for review and approval. Similar requirements should be included as part of other O&M mechanisms or through separate agreements, if necessary.

6.0 Waiver of Treatment Control BMP Requirements

Projects which are subject to a local land use authority's onsite retention ordinance (as specified in Section 3.5.1.2 above) are deemed to have complied with the Treatment Control BMP requirements, and have met the 100% LID/Site Design measurable goal (Section 3.5.1.1 above). However, a waiver of Treatment Control BMP requirements can be granted for any one of the following three conditions. For Conditions B and C, the local land use authority must notify the Executive Officer of the Colorado River Basin Regional Water Quality Control Board of the waiver by Certified Mail (with Return Receipt) within thirty (30) calendar days after issuance. The notification will include a copy of documentation justifying the waiver.

Condition A: Treatment Control BMPs may be eliminated, with the approval of the local land use authority, if Site Design BMP concepts and Source Control BMPs are demonstrated to effectively eliminate discharges of Pollutants of Concern for the flow-based and/or volume-based design criteria. Upon presentation of a project-specific WQMP with sufficient Site Design BMP concepts and Source Control BMPs to meet the flow-based and/or volume-based design criteria for discharges of Pollutants of Concern, and upon specific written request by the project applicant for a Treatment Control Waiver, the local land use authority may approve a project-specific WQMP that does not include LID/Site Design or Treatment Control BMPs. The project applicant is responsible for the presentation of evidence, potentially including but not limited to monitoring data and special studies, to support the attainment of the WQMP objectives without the use of Treatment Control BMPs.

Condition B: A local land use authority may waive the requirement of incorporating Treatment Control BMPs into a project-specific WQMP for projects located within those portions of the Permit Area that will not result in a discharge to Receiving Waters under the flow-based and/or volume-based design criteria of 2013 MS4 Permit Section F.1.c.v.4. Upon presentation of a project-specific WQMP with sufficient evidence of no discharge to Receiving Waters under the WQMP Design Criteria, and upon specific written request by the project applicant for a Treatment Control Waiver, the local land use authority may approve a project-specific WQMP that does not include LID/Site Design or Treatment Control BMPs. The project applicant is responsible for the presentation of evidence, potentially including but not limited to monitoring data and special studies, to support the attainment of the WQMP objectives without the use of Treatment Control BMPs.

Condition C: The local land use authority may waive the requirement of incorporating Treatment Control BMPs into a project-specific WQMP on a case-by-case basis, if infeasibility can be established. In considering a waiver of infeasibility, the Local land use authority should review the CEQA documentation for the project to determine whether a significant unmitigated impact or cumulative impact was identified that was the subject of a statement of overriding considerations. A local land use authority shall only grant a waiver of infeasibility when all available LID/Site Design and Treatment Control BMPs

have been considered and rejected as infeasible and/or the cost of implementing LID/Site Design and/or Treatment Control BMPs greatly outweighs the pollution control benefit. The burden of proof is on the project applicant to demonstrate that all available LID/Site Design and Treatment Control BMPs are infeasible.

Exhibit 1

Model Project-Specific WQMP Template

A writeable Word version of this Template can be found at:

http://rcflood.org/downloads/NPDES/Documents/WW_SWMP_WQMP/WWR_WQMP_Template_Jan15_2015.docx

Exhibit 2
General Categories of Pollutants of Concern

General Categories of Pollutants of Concern

- **Bacteria and Viruses** – Pathogens (bacteria and viruses) are ubiquitous microorganisms that thrive under certain environmental conditions. Their proliferation is typically caused by the transport of animal or human fecal wastes from the watershed. Water, containing excessive bacteria and viruses can alter the aquatic habitat and create a harmful environment for humans and aquatic life. Also, the decomposition of excess organic waste causes increased growth of undesirable organisms in the water.
- **Heavy Metals** – The primary source of metal pollution in Urban Runoff is 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. Metals are also raw material components in non-metal products such as fuels, adhesives, paints, and other coatings. At low concentrations naturally occurring in soil, metals may not be 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.
- **Nutrients** – Nutrients are inorganic substances, such as nitrogen (including ammonia) 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.
- **Toxic Organic Compounds** – Organic compounds are carbon-based. Pesticides (including herbicides) typically consist of organic compounds which are commonly used to control nuisance growth or prevalence of organisms. Excessive, improper, and in many cases, lawful application of a pesticide can result in runoff containing toxic levels of its ingredients. Commercially available or naturally occurring organic compounds are also found in 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 the MS4. 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.
- **Sediment/Turbidity** – 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.
- **Trash and Debris** – 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 and 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. In addition, 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.
- **Oil and Grease** – Oil and grease are characterized as high-molecular weight organic compounds. 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.

Potential Pollutants Generated by Land Use Type

(Sources: San Bernardino and Orange County Technical Guidance Documents for Water Quality Management Plans, dated July 28, 2011 and May 19, 2011, respectively, and the Riverside County Water Quality Management Plan, Santa Ana Region, dated October 22, 2012)

Type of Development (Land Use)	General Pollutant Categories						
	Sediment/Turbidity	Nutrients	Toxic Organic Compounds	Trash & Debris	Bacteria & Viruses (also: Pathogens)	Oil & Grease	Heavy Metals
Detached Residential Development	P	P	N	P	P	P	N
Attached Residential Development	P	P	N	P	P	P ⁽²⁾	N
Commercial/ Industrial Development	P	P ⁽¹⁾	P ⁽⁵⁾	P	P ⁽³⁾	P	P ⁽⁶⁾
Automotive Repair Shops	N	N	P ^(4,5)	P	N	P	P
Restaurants	N	N	N	P	P	P	N
Hillside Development	P	P	N	P	P	P	N
Parking Lots	P	P ⁽¹⁾	P ⁽⁴⁾	P	P	P	P
Retail Gasoline Outlets	N	N	P ⁽⁴⁾	P	N	P	P

Abbreviations:

P = Potential N = Not potential

Notes:

- (1) A potential Pollutant if non-native landscaping exists or is proposed onsite; otherwise not expected.
- (2) A potential Pollutant if the project includes uncovered parking areas; otherwise not expected.
- (3) A potential Pollutant if land use involves food or animal waste products.
- (4) Specifically, petroleum hydrocarbons.
- (5) Specifically, solvents; however, this pollutant is not expected at commercial office or commercial retail sites, unless said retail is vehicle related.
- (6) A potential Pollutant if the project includes outdoor storage or metal roofs; otherwise not expected.

Exhibit 3

Typical Requirements for Common Maintenance Mechanisms

Typical Requirements for Common Maintenance Mechanisms

1. **Public entity maintenance:** The local land use authority may approve a public or acceptable quasi-public entity (e.g., the Riverside County Flood Control District, or annex to an existing assessment district, an existing utility district, a state or federal resource agency, or a conservation conservancy) to assume responsibility for operation, maintenance, repair and replacement of the BMP. Unless otherwise acceptable to an individual local land use authority, public entity maintenance agreements shall ensure estimated costs are front-funded or reliably guaranteed, (e.g., through a trust fund, assessment district fees, bond, letter of credit or similar means). In addition, the Local land use authority may seek protection from liability by appropriate releases and indemnities.

The local land use authority shall have the authority to approve Urban Runoff BMPs proposed for transfer to any other public entity within its jurisdiction before installation. The local land use authority shall be involved in the negotiation of maintenance requirements with any other public entities accepting maintenance responsibilities within their respective jurisdictions; and in negotiations with the resource agencies responsible for issuing permits for the construction and/or maintenance of the facilities. The local land use authority must be identified as a third party beneficiary empowered to enforce any such maintenance agreement within their respective jurisdictions.

2. **Project proponent agreement to maintain Urban Runoff BMPs:** The local land use authority may enter into a contract with the project proponent obliging the project proponent to inspect, maintain, repair and replace the Urban Runoff BMP as necessary into perpetuity. Security or a funding mechanism with a "no sunset" clause may be required.
3. **Assessment districts:** The local land use authority may approve an Assessment District or other funding mechanism created by the project proponent to provide funds for Urban Runoff BMP maintenance, repair and replacement on an ongoing basis. Any agreement with such a District shall be subject to the Public Entity Maintenance Provisions above.
4. **Lease provisions:** In those cases where the local land use authority holds title to the land in question, and the land is being leased to another party for private or public use, the local land use authority may assure Urban Runoff BMP maintenance, repair and replacement through conditions in the lease.
5. **Conditional use permits:** For discretionary projects only, the local land use authority may assure maintenance of Urban Runoff BMPs through the inclusion of maintenance conditions in the conditional use permit. Security may be required.
6. **Alternative mechanisms:** The local land use authority may accept alternative maintenance mechanisms if such mechanisms are as protective as those listed above.

Exhibit 4
Example Covenant and Agreement

Example Covenant and Agreement

**Water Quality Management Plan and Urban Runoff BMP
Transfer, Access and Maintenance Agreement
(adapted from documents from the Ventura County Stormwater Management Program)**

Recorded at the request of:

City of _____

After recording, return to:

City of _____

City Clerk _____

**Water Quality Management Plan and Urban Runoff BMP
Transfer, Access and Maintenance Agreement**

OWNER: _____

PROPERTY ADDRESS: _____

APN: _____

THIS AGREEMENT is made and entered into in

_____, California, this _____ day of

_____, by and between

_____, herein after

referred to as "Owner" and the CITY OF _____, a municipal corporation, located in the County of Riverside, State of California hereinafter referred to as "CITY";

WHEREAS, the Owner owns real property ("Property") in the City of

_____, County of Riverside, State of California, more specifically described in Exhibit "A" and depicted in Exhibit "B", each of which exhibits is attached hereto and incorporated herein by this reference;

WHEREAS, at the time of initial approval of development project known as

_____ within the Property described herein, the City required the project to employ Best Management Practices, hereinafter referred to as "BMPs", to minimize pollutants in urban runoff;

WHEREAS, the Owner has chosen to install and/or implement BMPs as described in the Water Quality Management Plan, on file with the City, hereinafter referred to as "WQMP", to minimize pollutants in urban runoff and to minimize other adverse impacts of urban runoff;

WHEREAS, said WQMP has been certified by the Owner and reviewed and approved by the City;

WHEREAS, said BMPs, with installation and/or implementation on private property and draining only private property, are part of a private facility with all maintenance or replacement, therefore, the sole responsibility of the Owner in accordance with the terms of this Agreement;

WHEREAS, the Owner is aware that periodic and continuous maintenance, including, but not necessarily limited to, filter material replacement and sediment removal, is required to assure peak performance of all BMPs in the WQMP and that, furthermore, such maintenance activity will require compliance with all Local, State, or Federal laws and regulations, including those pertaining to confined space and waste disposal methods, in effect at the time such maintenance occurs;

NOW THEREFORE, it is mutually stipulated and agreed as follows:

1. Owner hereby provides the City of City's designee complete access, of any duration, to the BMPs and their immediate vicinity at any time, upon reasonable notice, or in the event of emergency, as determined by City's Director of Public Works no advance notice, for the purpose of inspection, sampling, testing of the Device, and in case of emergency, to undertake all necessary repairs or other preventative measures at owner's expense as provided in paragraph 3 below. City shall make every effort at all times to minimize or avoid interference with Owner's use of the Property.
2. Owner shall use its best efforts diligently to maintain all BMPs in a manner assuring peak performance at all times. All reasonable precautions shall be exercised by Owner and Owner's representative or contractor in the removal and extraction of any material(s) from the BMPs and the ultimate disposal of the material(s) in a manner consistent with all relevant laws and regulations in effect at the time. As may be requested from time to time by the City, the Owner shall provide the City with documentation identifying the material(s) removed, the quantity, and disposal destination.
3. In the event Owner, or its successors or assigns, fails to accomplish the necessary maintenance contemplated by this Agreement, within five (5) days of being given written notice by the City, the City is hereby authorized to cause any maintenance necessary to be done and charge the entire cost and expense to the Owner or Owner's successors or assigns, including administrative costs,

attorney's fees and interest thereon at the maximum rate authorized by the Civil Code from the date of the notice of expense until paid in full.

4. The City may require the owner to post security in form and for a time period satisfactory to the city to guarantee the performance of the obligations state herein. Should the Owner fail to perform the obligations under the Agreement, the City may, in the case of a cash bond, act for the Owner using the proceeds from it, or in the case of a surety bond, require the sureties to perform the obligations of the Agreement. As an additional remedy, the Director may withdraw any previous Urban Runoff-related approval with respect to the property on which BMPs have been installed and/or implemented until such time as Owner repays to City its reasonable costs incurred in accordance with paragraph 3 above.
5. This agreement shall be recorded in the Office of the Recorder of Riverside County, California, at the expense of the Owner and shall constitute notice to all successors and assigns of the title to said Property of the obligation herein set forth, and also a lien in such amount as will fully reimburse the City, including interest as herein above set forth, subject to foreclosure in event of default in payment.
6. In event of legal action occasioned by any default or action of the Owner, or its successors or assigns, then the Owner and its successors or assigns agree(s) to pay all costs incurred by the City in enforcing the terms of this Agreement, including reasonable attorney's fees and costs, and that the same shall become a part of the lien against said Property.
7. It is the intent of the parties hereto that burdens and benefits herein undertaken shall constitute covenants that run with said Property and constitute a lien there against.
8. The obligations herein undertaken shall be binding upon the heirs, successors, executors, administrators and assigns of the parties hereto. The term "Owner" shall include not only the present Owner, but also its heirs, successors, executors, administrators, and assigns. Owner shall notify any successor to title of all or part of the Property about the existence of this Agreement. Owner shall provide such notice prior to such successor obtaining an interest in all or part of the Property. Owner shall provide a copy of such notice to the City at the same time such notice is provided to the successor.
9. Time is of the essence in the performance of this Agreement.
10. Any notice to a party required or called for in this Agreement shall be served in person, or by deposit in the U.S. Mail, first class postage prepaid, to the address set forth below. Notice(s) shall be deemed effective upon receipt, or seventy-two (72) hours after deposit in the U.S. Mail, whichever is earlier. A party may change a notice address only by providing written notice thereof to the other party.

IF TO CITY:

IF TO OWNER:

IN WITNESS THEREOF, the parties hereto have affixed their signatures as of the date first written above.

APPROVED AS TO FORM:

OWNER:

City Attorney

Name

CITY OF

Title

Name

OWNER:

Title

Name

ATTEST:

Title

City Clerk

Date

NOTARIES ON FOLLOWING PAGE

EXHIBIT A
(Legal Description)

EXHIBIT B
(Map/Illustration)

Exhibit 5

Glossary

Beneficial Uses – Beneficial Uses of the Waters of the State that may be protected against quality degradation include, but are not limited to, domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves.

Best Management Practices (BMPs) – Defined in 40 CFR 122.2 as schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce Pollutant loading from Stormwater or Non-Stormwater discharges to Receiving Waters. BMPs also include treatment requirements, operating procedures and practices to control site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. In the case of MS4 permits, the Effluent Limitation required is implementation of BMPs to the Maximum Extent Practicable (MEP).

Construction General Permit - General Permit for Stormwater Discharges Associated with Construction Activity; State Board Order No. 2009-0009-DWQ as amended by 2010-0014-DWQ (NPDES No. CAS000002)

Hydrologic Conditions of Concern – Changes caused by a New Development or Redevelopment Project to Urban Runoff flow rates, velocities, durations and/or volumes that cause significant downstream erosion beyond the pre-development condition or cause significant adverse impacts to stream habitat.

Industrial General Permit - General Permit for Stormwater Discharges Associated with Industrial Activities; State Board Order No. 2014-0057-DWQ (NPDES No. CAS000001)

Impaired Waterbody - See CWA Section 303(d) Water Bodies at: http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/tmdl/rb7_303d_list.shtml

LID/Site Design BMPs - In general, activities or programs to educate the public or provide low cost non-physical solutions, as well as facility design or practices aimed at reducing Urban Runoff, increasing infiltration, reducing Pollutant transport mechanisms, minimizing the difference between pre- and post-development Urban Runoff. LID/Site Design BMPs promote retention or feature a natural treatment mechanism, and can include, but are not limited to: retention basins, extended detention basins, drywells, and naturally-lined swales and filter strips. Additional examples are provided in the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development.

Municipal Separate Storm Sewer System (MS4) – A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, natural drainage features or channels, modified natural channels, man-made channels, or storm drains): (i) Owned or operated by a State, city town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or designated and approved management agency under Section 208 of the CWA that discharges to Waters of the U.S.; (ii) Designated or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of the POTW as defined at 40 CFR 122.26.

MS4 Permit – Order No. R7-2013-0011 NPDES No. CAS617002, located at: http://www.swrcb.ca.gov/coloradoriver/board_decisions/adopted_orders/orders/2013/0011cv_ms4.pdf.

Natural Slope - The natural grade of a slope prior to grading activity.

New Development – New construction on a previously undisturbed parcel. New Developments does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of

a facility, nor does it include emergency new development required to protect public health and safety. Dischargers should confirm with Regional Water Board staff whether or not a particular routine maintenance activity is subject to this MS4 Permit.

Permittees – Riverside County, RCFC&WCD, CVWD and the Cities of Banning, Cathedral City, Coachella, Desert Hot Springs, Indian Wells, Indio, La Quinta, Palm Desert, Palm Springs and Rancho Mirage. A Permittee to the Whitewater River Region is only responsible for permit conditions relating to the discharge of Urban Runoff from MS4 facilities located within the Whitewater River Region, and for which the Permittee is the operator.

Pollutants of Concern – Any Pollutants generated by the development, including Pollutants that are listed in CWA Section 303(d), Pollutants associated with the land use type of the development and legacy Pollutants associated with past use of the development site that may be exposed to Urban Runoff.

Priority Development Projects – Discretionary New Development and Redevelopment Project that falls into one of the Priority Development Project categories enumerated in Section F.1.c.iii of Order No. R7-2013-0011.

Receiving Water(s) – The receiving waters within the Whitewater River Region.

Redevelopment Project – New Development on a previously disturbed parcel. Emergency redevelopment activities required to protect public health and safety, and routine maintenance activities conducted to maintain original line and grade, hydraulic capacity, or restore original purpose of the facility are not included.

Regional Water Board – The Colorado River Basin Regional Water Quality Control Board.

Site Design BMP Concepts - Design concepts which aim to incorporate natural site features such as vegetation and porous surfaces to reduce and control post-development runoff rates. Because Site Design BMP concepts reduce runoff, incorporating them into project design plans minimizes: 1) the transport mechanism (runoff) for moving pollutants off site, 2) the difference between pre- and post-development hydrology thereby reducing changes in flow regime, and 3) the size of necessary LID/Site Design and/or Treatment Control BMPs to treat Pollutants of Concern in Urban Runoff prior to discharge from the site or at regional facilities.

Self-Retaining Areas – An area on a project site which, either naturally or by design, will retain the design storm rainfall (described in the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development) without producing any runoff. These areas will not require specialized Operation and Maintenance procedures, and can typically be maintained with normal landscape maintenance.

Self-Treating Areas - Natural or landscaped areas on a project site that do not drain to Stormwater BMPs, but drain directly off site or to the MS4, rather than having their runoff comingle with runoff from the project's impervious surfaces. These areas will not require specialized Operation and Maintenance procedures, and can typically be maintained with normal landscape maintenance.

Source Control BMPs – In general, activities or programs to educate the public or provide low cost non-physical solutions, as well as facility design or practices aimed to limit the contact between Pollutant sources and Stormwater or authorized Non-Stormwater. Examples include: activity schedules, prohibitions of practices, street sweeping, facility maintenance, detection and elimination of IC/ID, and other non-structural measures. Facility design (structural) examples include providing attached lids to trash containers, or roof or awning over material and trash storage areas to prevent direct contact between water and Pollutants. Additional examples are provided in the Whitewater River Region Water Quality

Management Plan Guidance document or the California Stormwater BMP Handbooks available at: <http://www.cabmphandbooks.com>.

Structural BMPs – Physical facilities or controls which may include secondary containment, treatment measures, (e.g., first flush diversion, detention/retention basins, and oil/grease separators), run-off controls (e.g., grass swales, infiltration trenches/basins, etc.), and engineering and design modification of existing structures. Additional examples are provided in the Whitewater River Region Water Quality Management Plan Guidance document and the California Stormwater BMP Handbooks available at: <http://www.cabmphandbooks.com>.

Stormwater Management Plan (SWMP) - A programmatic document which describes the activities and programs that have been developed and implemented by the Permittees to manage Urban Runoff to comply with the requirements of the 2013 MS4 Permit for the Whitewater River Region. The SWMP can be found at: http://rcflood.org/downloads/NPDES/Documents/WW_SWMP_WQMP/WWR_SWMP_Jan15_2015.pdf

Treatment Control BMPs – Any engineered system designed and constructed to remove Pollutants from Urban Runoff. Pollutant removal is achieved by simple gravity settling of particulate pollutants, filtration, biological uptake, media adsorption or other physical, biological, or chemical process.

Urban Runoff – Urban Runoff includes those discharges from residential, commercial, industrial, and construction areas within the Whitewater River Region MS4 Permit Area and excludes discharges from feedlots, dairies, farms, agricultural fields, POTWs, and Open Space. Urban Runoff discharges consist of Stormwater and Non-Stormwater surface runoff from drainage sub-areas with various, often mixed, land uses within all of the hydrologic drainage areas that discharge into the Waters of the United States. In addition to Urban Runoff, the MS4s regulated by this MS4 Permit receive flows from agricultural activities, Open Space, state and federal properties and other non-urban land uses not under the control of the Permittees. The quality of the discharges from the MS4s varies considerably and is affected by, among other things, past and present land use activities, basin hydrology, geography and geology, season, the frequency and duration of storm events, and the presence of past or present illegal and allowed disposal practices and IC. The Permittees lack legal jurisdiction over discharges into their respective MS4 facilities from agricultural activities, California and federal facilities, utilities and special districts, Native American tribal lands, wastewater management agencies and other point and Non-Point Source discharges otherwise permitted by or under the jurisdiction of the Regional Water Board. The Regional Water Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges. Similarly, certain activities that generate Pollutants present in Urban Runoff are beyond the ability of the Permittees to eliminate. Examples of these include operation of internal combustion engines, atmospheric deposition, brake pad and tire wear, bacteria from wildlife (including feral dogs and cats) or from bacterial resuscitation or reactivation from treated waters or growth of bacteria in the environment (such as in sediments, surface water, or other substrate), and leaching of naturally occurring nutrients and minerals from local soils, residues from lawful application of pesticides, nutrient runoff from agricultural activities, and leaching of naturally occurring minerals from local geology.

Waters of the United States – As set forth in 40 CFR 122.2, the Waters of the United States are defined as: (a) All waters, which are currently used, were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (b) All interstate waters, including interstate "wetlands"; (c) All other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, "wetlands", sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds the use, degradation or destruction of which would affect or could affect interstate or foreign commerce including any such waters: (1) Which are or could be used by

interstate or foreign travelers for recreational or other purposes; (2) From which fish or shellfish are or could be taken and sold in interstate or foreign commerce; or (3) Which are used or could be used for industrial purposes by industries in interstate commerce; (d) All impoundments of waters otherwise defined as Waters of the United States under this definition; (e) Tributaries of waters identified in paragraphs (a) through (d) of this definition; (f) The territorial seas; and (g) "Wetlands" adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a) through (f) of this definition. Waste treatment systems, including treatment ponds or lagoons designed to meet the requirements of the CWA (other than cooling ponds as defined in 40 CFR 423.22(m), which also meet the criteria of this definition) are not Waters of the United States. This exclusion applies only to man-made bodies of water, which neither were originally created in Waters of the United States (such as disposal area in wetlands) nor resulted from the impoundment of Waters of the United States. Waters of the United States do not include prior converted cropland. Notwithstanding the determination of an area's status as prior converted cropland by any other federal agency, for the purposes of the CWA, the final authority regarding CWA jurisdiction remains with the USEPA.

Whitewater River Region - The urbanized area of the Whitewater River Watershed under the jurisdiction of the Permittees and covered by the 2013 MS4 Permit.

Exhibit 6
Whitewater River Region Water Quality Management Plan
Frequently Asked Questions (FAQ)

[Q.1 – What is a project-specific WQMP?](#)

[Q.2 – How does a WQMP differ from a SWPPP?](#)

[Q.3 – When is a project-specific WQMP required, and when does the 2014 Whitewater River Region WQMP become effective?](#)

[Q.4 – What informational resources are necessary when preparing or reviewing WQMPs?](#)

[Q.5 – I'm having issues completing my project-specific WQMP; is there guidance which can assist me?](#)

[Q.6 - What are Best Management Practices \(BMPs\)?](#)

[Q.7 – What is a Receiving Water?](#)

[Q.8 – What is a Hydrologic Condition of Concern \(HCOC\)? Do HCOCs need to be addressed for all projects?](#)

[Q.9 – Where can the latest EPA approved 303 \(d\) List of Impaired Waters be found?](#)

[Q.10 – What are Pollutants of Concern and how do I address them?](#)

[Q.11 – Does roof runoff need to be treated?](#)

[Q.12 – If my project is a specific development type \(land use\) identified in WQMP Guidance Exhibit 2, but also includes parking lots incorporated into the development, do I need to address all of the Pollutants of Concern associated with both development categories?](#)

[Q.13 – If a development includes multiple Priority Development Project types such as a commercial shopping center with one or more satellite restaurants, does the entire development have to address the combined Pollutants of Concern identified for all applicable development categories listed in WQMP Guidance Exhibit 2?](#)

[Q.14 – The most recent 303 \(d\) List of Impaired Waters shows that Receiving Waters located downstream from my project are impaired for DDT, Dieldrin, PCBs and/or Toxaphene; does my Priority Development Project's project-specific WQMP need to address these pollutants?](#)

[Q.15 – Can pollutants associated with development categories in WQMP Guidance Exhibit 2 be addressed solely through Site Design BMP concepts, LID/Site Design and/or Source Control BMPs?](#)

[Q.16 – Is a registered engineer's stamp required on the final project-specific WQMP?](#)

[Q.17 – When would an individual custom home be subject to a WQMP? What is meant by "natural slope"?](#)

[Q.18 – When determining whether a retail gasoline outlet or restaurant project requires a WQMP, what is meant by a "disturbance" of greater than 5,000 ft²?](#)

[Q.19 – Do street projects require a WQMP in the Whitewater River Region?](#)

[Q.20 – Are development projects located outside of the Whitewater River Region \(also known as the MS4 Permit area\) required to develop and submit a WQMP?](#)

[Q.21 – If I have a parking lot project \(greater than 5,000 ft² or 25 spaces or more, and potentially exposed to Urban Runoff\) which will only replace existing pavement with new pavement, do I still have to submit a WQMP?](#)

Q.22 – Must I develop and submit a WQMP if my project alone does not trigger a WQMP, but will take place on a site where an existing land use would otherwise trigger a WQMP?

Q.23 – Is an owner's certification required on a preliminary project-specific WQMP?

Q.24 – When is a preliminary project-specific WQMP required? Would a preliminary WQMP be required for tentative maps for land subdivision only, when a developer has no idea what will be built on the parcels?

Q.25 – What is meant by "the handling and placement of any wastes" in Section 3.6 of the WQMP Guidance document?

Q.26 – What controls on property or titles are necessary to ensure that BMPs are not abandoned or destroyed by future property owners?

Q.27 – If my project is subject to a local land use authority's onsite retention ordinance, do I have to address HCOCs (if any) or implement additional LID/Site Design and/or Treatment Control BMPs?

Q.28 – What is the "50% rule", and when does it apply?

Q.29 – What is the LID/Site Design BMP "Measurable Goal" and how is it calculated? When does a BMP qualify as a LID/Site Design BMP?

Q.1 – What is a project-specific WQMP?

WQMP is the acronym for Water Quality Management Plan.

A project-specific WQMP is a plan for managing the quality of stormwater or Urban Runoff that flows from a developed site after construction is completed and the facilities are occupied and/or operational. A Project-specific WQMP describes the Site Design, Source Control and Treatment Control Best Management Practices (BMPs) that will be implemented and maintained throughout the life of a development and is used by property owners, facility operators, tenants, facility employees, maintenance contractors, etc. to prevent and/or minimize pollution that can be caused by Urban Runoff. By implementing a series of onsite treatment measures, pollutants can be effectively minimized from the project's post-construction runoff before reaching Receiving Waters.

A project-specific WQMP must:

- 1) Be prepared and submitted during the project's review phase (with calculations stamped by a registered civil engineer), and be reviewed and approved by the local land use authority;
- 2) Identify potential impacts, if any, to downstream waterways caused by post-construction runoff from the project;
- 3) Identify Pollutants of Concern associated with the project (and existing site, if the project is subject to the 50% rule), impacts to the site's hydrologic condition, and propose appropriate post-construction BMPs for mitigation;
- 4) Identify the parties responsible for long term operation and maintenance activities of all post-construction BMPs; and
- 5) Identify the funding source for post-construction BMP maintenance

Q.2 – How does a WQMP differ from a SWPPP?

SWPPP is the acronym for Stormwater Pollution Prevention Plan. For construction projects that will disturb one or more acres, a SWPPP is required for compliance with the State's Construction General Permit. The focus of a SWPPP is to manage soil disturbances, non-stormwater discharges, and construction materials and activities which may impact the quality of runoff from an active construction site. The Construction General Permit requires that applicable sites have a SWPPP submitted prior to the start of construction activities, and also keep the SWPPP on site during grading and construction activities.

In contrast, the purpose of the WQMP is to manage a site's runoff after construction has been completed. Whereas the SWPPP is a requirement of the statewide Construction General Permit and is submitted to the State Water Resources Control Board, the WQMP is a requirement of the local MS4 Permit, and is submitted to the planning or engineering department of the permitting authority that has land jurisdiction over where your development project will take place.

Q.3 – When is a project-specific WQMP required, and when does the 2014 Whitewater River Region WQMP become effective?

All applications for Priority Development Projects submitted to the local land use authority on or after December 31, 2014 will require submittal of a project-specific WQMP that is in compliance with the 2014 Whitewater River Region WQMP Guidance document. A Priority Development Project is defined

as a New Development or Redevelopment project which requires discretionary approval by the local land use authority, and falls into one or more of the following categories:

Proposed Project Consists of or Includes:
Single-family hillside residences that create 10,000 square feet, or more, of impervious area where the natural slope is 25% or greater.
Single-family hillside residences that create 10,000 square feet, or more, of impervious area where the natural slope is 10% or greater where erosive soil conditions are known.
Commercial and industrial developments of 100,000 square feet or more.
Automotive repair shops [Standard Industrial Classification (SIC) codes 5013, 7532, 7533, 7534, 7537, 7538, and 7539].
Retail gasoline outlets disturbing greater than 5,000 square feet.
Restaurants disturbing greater than 5,000 square feet.
Home subdivisions with 10 or more housing units.
Parking lots of 5,000 square feet or more, or with 25 or more parking spaces, and potentially exposed to Urban Runoff.

It should be noted that the local land use authority has the option to request WQMPs on projects which may not be listed in the above table.

Project applicants are encouraged to coordinate with the local land use authority as early as possible in the planning process. Due to the interrelationship between project and/or lot layout with Site Design BMP concepts, Source Control, LID/Site Design and Treatment Control BMPs, the local land use authority may require a preliminary project-specific WQMP as part of the initial project application package for a development proposal, and consider project applications incomplete until a preliminary project-specific WQMP is submitted. In this case, a final project-specific WQMP that is in substantial conformance with the preliminary project-specific WQMP would then be required to be submitted for review and approval, prior to the issuance of any building or grading permit.

Q.4 – What informational resources are necessary when preparing or reviewing WQMPs?

Important documents include, but are not limited to:

Regional Water Quality Control Board, Colorado River Region Basin Plan - http://www.swrcb.ca.gov/coloradoriver/publications_forms/publications/docs/basinplan_2006.pdf

California Clean Water Act Section 303 (d) List of Impaired Waters –

http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/tmdl/rb7_303d_list.shtml

2014 Whitewater River Region Water Quality Management Plan Guidance Document with associated attachments –

http://rcflood.org/downloads/NPDES/Documents/WW_SWMP_WQMP/WWR_WQMP_Guidance_Jan15_2015.pdf

2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development -

http://rcflood.org/downloads/NPDES/Documents/WW_SWMP_WQMP/WWR_BMP_Design_Handbook_Jan2015.pdf

Whitewater River Region MS4 Permit –

http://www.swrcb.ca.gov/coloradoriver/board_decisions/adopted_orders/orders/2013/0011cv_ms4.pdf

Whitewater River Region Stormwater Management Plan –

http://rcflood.org/downloads/NPDES/Documents/WW_SWMP_WQMP/WWR_SWMP_Jan15_2015.pdf

Q.5 – I'm having issues completing my project-specific WQMP; is there guidance which can assist me?

Several items exist which can assist project proponents with completion of their project-specific WQMP:

- 1) 2014 WQMP Guidance Document – Developers should utilize the WQMP Guidance document as the "how-to" manual for preparation of their project-specific WQMP. The Guidance document provides both direction and background for the questions which must be answered in each section of the WQMP Template. Both the WQMP Template and Guidance document go hand-in-hand, and will help facilitate a well prepared Project-Specific WQMP.
- 2) 'Hidden Text' instruction in the WQMP Template - The WQMP template uses 'hidden' text to provide important and necessary instructions to the preparer; this text will not show up in the final printed WQMP if step 4 below is skipped. By default, Microsoft Word 2007 and 2010 are set to not display hidden text; therefore, the following instructions must be utilized to view the instructions that are included throughout the Template:

MS Word 2010

1. With this document open, click on the 'File' tab at the upper left of the MS Word window.
2. In the menu on the left, click the 'Options' button.
3. To view Hidden Text on your screen:
 - a. In the window that opens, click 'Display' on the left.
 - b. In the right side of the window, under the heading 'Always show these formatting marks on the screen', check the box for 'Hidden Text'.
4. To change whether or not Hidden Text is printed:
 - a. In the same window panel as described in b) above, under the heading 'Printing Options' check or un-check the box for 'Print Hidden Text'.

MS Word 2007

1. With this document open, click on the round Office Button at the upper left of the MS Word window.
 2. On the menu that opens, click on 'Word Options' (near the bottom of the menu).
 3. To view Hidden Text on your screen:
 - a. In the window that opens, click 'Display' on the left.
 - b. In the right side of the window, under the heading 'Always show these formatting marks on the screen', check the box for 'Hidden Text'.
 4. To change whether or not Hidden Text is printed:
 - a. In the same window panel as described in b) above, under the heading 'Printing Options' check or un-check the box for 'Print Hidden Text'.
- 3) Local land use authority – If questions or issues exist which cannot be answered by the WQMP Guidance document, 'Hidden Text' instructions within the WQMP Template, or this WQMP FAQ, the local land use authority may be contacted for assistance.

Q.6 – What are Best Management Practices (BMPs)?

The 2014 Whitewater River Region WQMP Guidance document defines four types of BMPs:

- 1) Site Design BMP Concepts – Design concepts which aim to incorporate natural site features such as vegetation and porous surfaces to reduce and control post-development runoff rates. Because Site Design BMP concepts reduce runoff, incorporating them into project design plans minimizes: 1) the transport mechanism (runoff) for moving pollutants off site, 2) the difference between pre- and post-development hydrology thereby reducing changes in flow regime, and 3) the size of necessary LID/Site Design and/or Treatment Control BMPs to treat Pollutants of Concern in Urban Runoff prior to discharge from the site or at regional facilities.
- 2) LID/Site Design BMPs – In general, activities or programs to provide low cost non-physical solutions, as well as facility design or practices aimed at reducing Urban Runoff, increasing infiltration, reducing Pollutant transport mechanisms, minimizing the difference between pre- and post-development Urban Runoff. LID/Site Design BMPs promote retention and/or feature a natural treatment mechanism to address a site's Pollutants of Concern. Examples include, but are not limited to: retention basins, extended detention basins, drywells, and naturally-lined swales and filter strips.
- 3) Source Control BMPs – In general, activities or programs to educate the public or provide low cost non-physical solutions, as well as facility design or practices aimed to limit the contact between Pollutant sources and Stormwater or authorized Non-Stormwater. Examples include: activity schedules, prohibitions of practices, street sweeping, facility maintenance, detection and elimination of IC/ID, and other non-structural measures. Facility design (structural) examples include providing attached lids to trash containers, or roof or awning over material and trash storage areas to prevent direct contact between water and Pollutants.
- 4) Treatment Control BMPs - Any engineered system designed and constructed to remove Pollutants from Urban Runoff. Pollutant removal is achieved by simple gravity settling of particulate Pollutants, filtration, biological uptake, media absorption or other physical, biological or chemical processes. Examples include, but are not limited to: catch basin inserts and water quality inlets.

More information about BMPs can be found in the 2014 Whitewater River Region Stormwater Quality Best Management Practice Design Handbook for Low Impact Development, located at: <http://rcflood.org/npdes/Developers.aspx>; additional information can also be found at: <http://www.cabmphandbooks.com/Development.asp>.

Q.7 – What is a Receiving Water?

In general terms, a Receiving Water is a surface water body or watercourse such as a canyon drainage, spring, creek, river, lake, estuary, lagoon, bay, surface reservoir or ocean. A Receiving Water can be ephemeral, perennial or intermittent in nature. Waters of the U.S. are always Receiving Waters. Priority Development Projects must address water quality impacts to proximate Receiving Waters. A map of Receiving Waters located within the Whitewater River Region can be found in Section 3.1 of the 2014 Whitewater River Region WQMP Guidance document.

Q.8 - What is a Hydrologic Condition of Concern (HCOC)? Do HCOCs need to be addressed for all projects?

A HCOC occurs when a Priority Development Project's post-development runoff rates and/or velocities increase the potential for downstream erosion or sedimentation, or adversely impact stream habitat. Developers are required to identify whether their project will create a HCOC during the development of their respective project-specific WQMPs. It must be noted that if the proposed project is a Priority Redevelopment Project (defined as a project that falls under one of the eight Priority Development categories and will take place on a previously disturbed parcel) which will replace 50% or more of the impervious surfaces on an existing developed site, the existing site must also be considered when identifying whether an HCOC will be created.

HCOCs do not need to be addressed where projects are required to retain Urban Runoff onsite in conformance with local ordinance. Additionally, Section 3.4 of the Whitewater River Region WQMP Guidance document identifies three conditions under which HCOCs do not need to be addressed. Conditions A and B exempt projects discharging directly to publicly maintained MS4 systems, and also projects less than one acre in size. Condition C exempts projects with runoff flow rates, volumes, velocity and durations that do not exceed the predevelopment condition for the 2-year and 10-year 24 hour rainfall events.

Q.9 - Where can the latest EPA approved 303 (d) List of Impaired Waters be found?

The most recent list of EPA approved 303 (d) listed water bodies can be viewed at: http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/tmdl/rb7_303d_list.shtml.

When viewing this webpage, be sure to locate and utilize the most recent 303 (d) list to which EPA has issued its final decision. A list which is proposed for revision, or one which has only been approved by the Regional or State Water Resources Control Board, is not the final EPA approved list.

Q.10 – What are Pollutants of Concern, and how do I address them?

Pollutants of Concern are potential pollutants associated with Urban Runoff that are related with the potential project's type of development (land use). Pollutants of Concern also include: 1) Any potential pollutant which will be generated by the project and discharged to a downstream Receiving Water that is listed as impaired for that specific pollutant on the most recent Clean Water Act 303 (d) list, and also 2) Legacy pollutants, including pesticides, nutrients, or hazardous substances, which may be in the site's soils as a result of past uses.

When preparing a project-specific WQMP, Pollutants of Concern associated with the proposed project must be identified and addressed; they must also be identified and addressed for the existing site, if the project is a Priority Redevelopment Project (defined as a project that falls under one of the eight Priority Development categories and will take place on a previously disturbed parcel) which proposes to replace 50% or more of the impervious surfaces on an existing developed site. A list of typical Pollutants of Concern associated with Urban Runoff is included in Exhibit 2 to the Whitewater River Region WQMP Guidance document, along with a table that associates Pollutants of Concern with specific types of development. Additionally, the most recent list of 303 (d) listed water bodies can be found at: http://www.waterboards.ca.gov/coloradoriver/water_issues/programs/tmdl/docs/303d/r7_2010_303d_list.pdf.

The combination of Site Design BMP concepts, Source Control, LID/Site Design and/or Treatment Control BMPs incorporated into the project's plans must address the potential Pollutants of Concern identified for the project. Further, the selection of LID/Site Design and/or Treatment Control BMPs must specifically consider pollutant removal effectiveness of pollutants identified as causing impairment of

Receiving Waters to which the project will discharge Urban Runoff. See Section 3.5 of the Whitewater River Region WQMP Guidance document for additional guidance on selecting appropriate BMPs to address Pollutants of Concern.

Q.11 – *Does roof runoff need to be treated?*

Yes, roof runoff is part of the encompassing development type or land use (i.e., Commercial/Industrial, Restaurant, etc.), even if the two are hydrologically independent; development types are specified in Exhibit 2 to the WQMP Guidance. Roof runoff has been found to contain pollutants associated with aerial deposition and also materials used to construct roofs (roofing material, air conditioners, vents, etc.). Roof runoff, particularly from commercial and industrial buildings, has been demonstrated to significantly exceed zinc and copper water quality objectives in certain circumstances.

Q.12 – *If my project is a specific development type (land use) identified in WQMP Guidance document Exhibit 2, but also includes parking lots incorporated into the development, do I need to address all of the Pollutants of Concern associated with both development categories?*

Yes, if the proposed parking lot is greater than 5,000 ft², or 25 spaces or more. In cases where proposed parking is hydrologically disconnected from the project's primary land use, Pollutants of Concern from both project site land uses may be addressed separately. There are exceptions to every rule, however, and project proponents should check with the local land use authority where unique circumstances may influence the Pollutants of Concern identified for a specific development category.

For other mixed development types of a map or permit for which discretionary approval is sought, such as commercial shopping centers with satellite restaurants and/or automotive repair shop pads, the project-specific WQMP should also consider Pollutants of Concern associated with each separate development type or land use.

Q.13 – *If a development includes multiple Priority Development Project types such as a commercial shopping center with one or more satellite restaurants, does the entire development have to address the combined Pollutants of Concern identified for all applicable development categories listed in WQMP Guidance Exhibit 2?*

Yes. Those portions of the commercial development containing hydrologically interconnected development categories must address all Pollutants of Concern associated with the hydrologically interconnected development categories. This requirement also applies to the hydrologically interconnected existing site, if the proposed project is a Priority Redevelopment Project (defined as a project that falls under one of the eight Priority Development categories and will take place on a previously disturbed parcel) which proposes to replace 50% or more of the impervious surfaces on an existing developed site. Where it is feasible to address certain pollutants, such as bacteria & viruses, at the source with a proactive site and source control perspective, the need to address bacteria & viruses in downstream or LID/Site Design or Treatment Control BMPs would not be required. In other cases, it may be feasible to grade the overall site in such a manner to allow for localized treatment of specific Pollutants of Concern.

Q.14 – *The most recent 303 (d) List of Impaired Waters shows that Receiving Waters located downstream from my project are impaired for DDT, Dieldrin, PCBs and/or Toxaphene; does my Priority Development Project's project-specific WQMP need to address these pollutants?*

Presence of these pollutants in the environment are a result of past land uses; all non-emergency uses of them have been banned in the U.S. for 20 years or more (DDT was banned in 1972). Therefore, it cannot be reliably assumed that these pollutants would have potential to be generated by your Priority Development Project.

Additionally, the portion of the Coachella Valley Stormwater Channel which is impaired for these pollutants is the two-mile reach from Lincoln Street to the Salton Sea; this reach lies outside of the MS4 Permit area (also known as the Whitewater River Region). Project-specific WQMPs are required to address legacy pollutants, including pesticides and hazardous substances; however, this provision only applies to legacy pollutants which exist onsite.

Thus, project-specific WQMPs for Priority Development Projects located within the MS4 Permit area are not required to address DDT, Dieldrin, PCBs and/or Toxaphene as Pollutants of Concern.

Q.15 – Can pollutants associated with development categories in WQMP Guidance Exhibit 2 be addressed solely through Site Design BMP concepts, LID/Site Design and/or Source Control BMPs?

Yes. The WQMP requires that project proponents implement LID/Site Design BMPs to address the Treatment Control BMP requirement for their site to the extent feasible. The "measurable goal" is to address 100% of the volumetric and/or flow-based Treatment Control BMP design criteria through implementation of LID/Site Design BMPs.

As specified in Section 3.5.1.2 of the WQMP Guidance document, projects which are subject to a local land use authority's onsite retention ordinance are considered to have met the 100% LID/Site Design measurable goal. For these projects, Sections V.1.A and V.1.B of the WQMP Template do not need to be completed; however, project proponents must include retention facility sizing calculations and design details in Appendix F of their project-specific WQMP, and '100%' must be entered into Column 3 of Table 6 of the WQMP Template. For projects not subject to a local land use authority's retention ordinance, the 'hidden text' instructions in Section V.1. of the WQMP Template describe the criteria and types of Site Design BMP concepts and LID/Site Design BMPs which will count toward the LID/Site Design BMP measurable goal.

Q.16 – Is a registered engineer's stamp required on the final project-specific WQMP?

A registered engineer's stamp is always required on the final project-specific WQMP. Preliminary project-specific WQMPs contain details such as lot layout, drainage control, site grading and BMP footprint. These project features are integral to final lot layout and should be determined with some level of confidence prior to discretionary approval of the map or permit by the local land use authority. Therefore, a registered engineer should stamp and sign the preliminary project-specific WQMP (if a preliminary WQMP is required), as well as the final project-specific WQMP to ensure accuracy of calculations.

Q.17 – When would an individual custom home be subject to a WQMP? What is meant by "Natural Slope"?

An individual custom home project requires a WQMP if one or more of the following conditions are met:

- If the project will create 10,000 square feet or more of impervious area where the natural slope is 25% or greater;
- If the project will create 10,000 square feet or more of impervious area where the natural slope is 10% or greater where erosive soil conditions are known;
- If the local land use authority specifies that a project-specific WQMP is required for the project.

"Natural Slope" is defined in the 2013 Whitewater River Region MS4 Permit as the natural grade of a slope prior to grading activity.

Q.18 – *When determining whether a retail gasoline outlet or restaurant project requires a WQMP, what is meant by a "disturbance" of greater than 5,000 ft²?*

When determining whether a retail gasoline outlet and/or restaurant project is a Priority Development Project (thus requiring submittal of a project-specific WQMP), project proponents must determine the square footage of the impervious area on their project site. If the total square footage of the impervious area on a proposed retail gasoline outlet or restaurant site is greater than 5,000 ft², that project will be required to submit a project-specific WQMP. It must be noted, however, that the local land use authority has the option to require a WQMP on any project. As such, project applicants are encouraged to coordinate with the local land use authority as early as possible in the planning process.

Q.19 - *Do street projects require a WQMP in the Whitewater River Region?*

No; however, if a street project includes diagonal or perpendicular parking alongside which is 5,000 ft² or more, or diagonal or perpendicular parking which totals 25 or more parking spaces, a project-specific WQMP would be required. Additionally, interior streets which are part of a Priority Development Project must be addressed within that project's WQMP. It must be noted that the local land use authority has the option to require a WQMP on any project. As such, project applicants are encouraged to coordinate with the local land use authority as early as possible in the planning process.

Q.20 – *Are development projects located outside of the Whitewater River Region (also known as the MS4 Permit area) required to develop and submit a WQMP?*

Yes; the MS4 Permit area map (Figure 2 in the 2014 WQMP Guidance document) was created to capture all contiguous development that was expected to occur within the MS4 Permit area (also known as the Whitewater River Region). The cities and County are required to adjust the MS4 Permit area boundary annually to engulf developed areas of the watershed as those areas expand, so developed areas located outside of the MS4 Permit area will generally end up being located within it at some point in the future.

Q.21 - *If I have a parking lot project (greater than 5,000 ft² or 25 spaces or more and potentially exposed to Urban Runoff) which will only replace existing pavement with new pavement, do I still have to submit a WQMP?*

Emergency redevelopment activities required to protect public health and safety, and routine maintenance activities conducted to maintain original line and grade, hydraulic capacity, or restore the original purpose of a facility do not trigger the WQMP requirement. Thus, routine maintenance activities including parking lot resurfacing, restriping, and/or pothole repair would generally not require a WQMP.

As a general rule, parking lot projects which will take place on existing parking lot sites are considered to fall under the category of routine maintenance (and therefore not trigger the WQMP requirement) as long as base elevation is not altered or structural reconfiguration of the lot is not involved. It must be noted,

however, that the local land use authority has the option to require a WQMP on any project. As such, project applicants are encouraged to coordinate with the local land use authority as early as possible in the planning process.

Q.22 – Must I develop and submit a WQMP if my project alone does not trigger a WQMP, but will take place on a site where an existing land use would otherwise trigger a WQMP?

No. When assessing whether or not a proposed project is a Priority Development Project (thus requiring submittal of a WQMP), the local land use authority will generally conduct the assessment on the proposed project, not the existing site which the project will take place on. For example, if a developer wishes to add a parking lot which is less than 5,000 ft² and less than 25 parking spaces, on an existing Commercial strip mall site which is greater than 100,000 ft² and was built prior to implementation of the WQMP requirements, the parking lot project would not require a WQMP. It must be noted, however, that the local land use authority has the option to require a WQMP on any project. As such, project applicants are encouraged to coordinate with the local land use authority as early as possible in the planning process.

There are, however, some instances when the existing site is also reviewed by the local land use authority. For example, if the proposed project is a Priority Redevelopment Project (defined as a project that falls under one of the eight Priority Development categories and will take place on a previously disturbed parcel) which proposes to replace 50% or more of the impervious surfaces on an existing developed site, the WQMP design standards (WQMP Guidance document Sections 3.3 through 3.5) apply to the entire developed site.

Q.23 – Is an owner's certification required on a preliminary project-specific WQMP?

Preliminary WQMPs contain design details and developer commitments regarding operation, maintenance and funding of post-construction BMPs. If required, preliminary project-specific WQMPs must be approved prior to discretionary approval for the map or permit by the local land use authority. Siting, maintenance and funding commitments made in the preliminary project-specific WQMP should be recognized by the site owner prior to this approval. Consequently, the local land use authority may require the owner to sign the owner's certification in a preliminary WQMP. An owner's certification is always required on a final project-specific WQMP.

The owner's certification page is located within the WQMP Template, which is Exhibit 1 to the WQMP Guidance document. Final project-specific WQMPs must include a notarized certification by the project owner/developer accepting responsibility for implementation, operation, maintenance, replacement and inspection of all BMPs listed and described within the approved project-specific WQMP.

Q.24 – When is a preliminary project-specific WQMP required? Would a preliminary WQMP be required for tentative maps for land subdivision only, when a developer has no idea what will be built on the parcels?

Preliminary project-specific WQMP submittal will depend upon the nature and stage of the project, and also the local land use authority; developers are encouraged to coordinate with the local land use authority as early as possible during the planning process. In general, preliminary project-specific WQMPs will be required if, at the time of application submittal, the development type of the project is known, the project will require discretionary approval from the local land use authority, and it triggers one of the Priority Development Project categories listed in FAQ #3 above.

Q.25 – What is meant by "the handling and placement of any wastes" in Section 3.6 of the WQMP Guidance document?

Certain BMPs may collect waste that is classified as hazardous, or whose transport and disposal is otherwise limited by State or federal law. Examples include: 1) waste emptied from street sweepers that may be high in metals and other pollutants, and require special disposal, 2) depending on the land uses in the drainage area of a detention or retention basin, the accumulated sediment may have characteristics that restrict its disposal, 3) in some applications, catch basin filter inserts may accumulate enough pollutants (e.g., metals, petroleum hydrocarbons) to warrant restricted disposal. If applicable, Operation and Maintenance procedures specified in the project-specific WQMP should address how these wastes will be collected, stored, transported and disposed.

Q.26 – What controls on property or titles are necessary to ensure that BMPs are not abandoned or destroyed by future property owners?

In certain instances, LID/Site Design and/or Treatment Control BMPs may need to be recorded on final maps as easements to ensure that their functionality is not hindered by future property owners. For example, an easement could be in place to protect a gravel-lined water quality swale along a driveway, a setback from a natural watercourse, or a retention basin.

Covenants, HOAs, POAs, CC&Rs and BMP maintenance agreements can also be used to describe locations of BMPs, their maintenance and inspection requirements, funding mechanisms, and limitations on the use of areas incorporating LID/Site Design and/or Treatment Control BMPs.

Q.27 – If my project is subject to a local land use authority's onsite retention ordinance, do I have to address HCOCs (if any) or implement additional LID/Site Design and/or Treatment Control BMPs?

When preparing a project-specific WQMP, a "short cut" exists if your project is required by local ordinance to retain urban runoff onsite. Because the flow and volumetric retention requirements of local ordinances were put in place to mitigate downstream impacts, they are well in excess of the water quality based BMP design criteria specified by Section F.1.c.v.4 of the 2013 MS4 Permit. A list of local land use authorities requiring onsite retention of Urban Runoff can be found in Section 3.5.1.2 of the Whitewater River Region WQMP Guidance document.

The WQMP Template (Exhibit 1 to the WQMP Guidance document) was designed to guide project proponents through the WQMP preparation process; Sections IV (Hydrologic Conditions of Concern) and V (Best Management Practices) both contain prompts up front in which project proponents should specify if their project is required to retain Urban Runoff on site in compliance with a local retention ordinance. Where a project proponent's answer is "yes" to these prompts, the WQMP Template specifies that further LID/Site Design and/or Treatment Control BMPs are not required, and Sections IV and V.1. A and B of the WQMP Template do not need to be completed; however, in these instances, project proponents must still include retention facility sizing calculations and design details in Appendix F of their project-specific WQMP. Further, the measurable goal for LID/Site Design BMPs is considered to have been met (100%) for such projects, and therefore '100%' must be entered into Column 3 of Table 6 of the WQMP Template.

Details for sizing and design of retention facilities to comply with local ordinance can be obtained from the applicable local land use authority.

Q.28 – What is the "50% rule", and when does it apply?

The "50% rule" applies to projects which require a WQMP, and will take place on a previously developed site (known as a Priority Redevelopment Project). The rule states that for Priority Redevelopment Projects that add or replace less than 50% of the impervious surfaces on the existing developed site, the WQMP design standards apply only to the added or replaced impervious area, and not to the entire developed site. However, for Priority Redevelopment Projects that add or replace 50% or more of the impervious surfaces on the existing developed site, the WQMP design standards apply to the entire development.

Q.29 – What is the LID/Site Design BMP "Measurable Goal" and how is it calculated? When does a BMP qualify as a LID/Site Design BMP?

The WQMP Guidance document requires that project proponents implement LID/Site Design BMPs to address the volumetric and/or flow-based Treatment Control BMP design criteria for their site (WQMP Guidance Document Section 3.5.1.1), to the extent feasible. The "measurable goal" is 100% implementation of LID/Site Design. Projects which are subject to a local land use authority's onsite retention ordinance are considered to have met the 100% LID/Site Design measurable goal; for these projects, Sections V.1.A and B of the WQMP Template (Exhibit 1 to the WQMP Guidance document) do not need to be completed; however, in these instances, project proponents must still include retention facility sizing calculations and design details in Appendix F of their project-specific WQMP, and '100%' must be entered into Column 3 of Table 6 of the WQMP Template. A list of local permitting authorities requiring onsite retention of urban runoff can be found in Section 3.5.1.2 of the Whitewater River Region WQMP Guidance document.

The 'hidden text' instructions located in Section V.1 of the WQMP Template (Site Design BMP Concepts, LID/Site Design and Treatment Control BMPs) describe the criteria and types of LID/Site Design BMPs and Site Design BMP concepts which will count toward the LID/Site Design BMP measurable goal; essentially, they are those BMPs which the project proponent has selected from Table 2 of the WQMP Template which promote retention and/or feature a natural treatment mechanism.

Once LID/Site Design BMPs have been selected, the project proponent must detail in table 4 of WQMP Template Section V.1.A, each of the project's drainage sub-areas for which the volumetric and/or flow-based Treatment Control BMP design criteria will be 100% addressed by LID/Site Design BMPs; Self-Retaining and Self-Treating areas should also be included here. The total area (to the nearest 0.1 acre) of each drainage sub-area which has been completely addressed with LID/Site Design BMPs must be included at the end of each row of the table. The sum total of all drainage sub-areas must then be calculated at the bottom of table 4; this number must also be entered into column 1 of Table 6 of Section V.1.C of the WQMP Template. If the number located at the bottom of Table 4 is not 100% of the total project area, the project proponent must then move on to table 5 of Section V.1.B to list any Treatment Control BMPs which may have been selected to address the remaining portion of the volumetric and/or flow-based BMP design criteria. Instructions for filling data into Table 5 are the same as for Table 4; the final number located at the bottom of Table 5 should be entered into column 2 of Table 6 of Section V.1.C of the WQMP Template.

The value in column 3 of Table 6 of Section V.1.C of the WQMP Template is the percent of the project's Treatment Control BMP requirement that was addressed using LID/Site Design BMPs. It is calculated using the following formula (column numbers correspond to Table 6):

$$\% \text{ Project Area Addressed through LID/Site Design} = \left[\frac{\text{Column}(1)}{\text{Column}(1) + \text{Column}(2)} \right] * 100$$