

FINAL DRAFT

Project WQMP Preparation Guidance Manual



December 8, 2005

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- B WQMP Template
- C Preparer’s WQMP Checklist
- D Operation and Maintenance (O&M) Plan

1.0 INTRODUCTION

This guidance document explains the new development and significant redevelopment requirements of the Orange County Drainage Area Management Plan (DAMP) and has been prepared for project applicants with the intent of improving the completeness of Project Water Quality Management Plans (WQMPs), to facilitate the expeditious review and approval of Project WQMPs, and to reduce the number of revisions and re-submittals of Project WQMPs before approval is granted. Project plans submitted for plan check must be consistent with the approved Project WQMP, and the Project WQMP must be approved prior to the issuance of building or grading permits.

Whether the origin is stormwater (e.g., precipitation) or non-stormwater, runoff draining from structures and surfaces of the urban environment transports pollutants to creeks, rivers, streams, bays and coastal waters. Those pollutants may be toxic to aquatic life, accumulate in the food chain, contribute to algal blooms, impair recreational uses, and degrade water supply resources. A Project WQMP is a plan for managing the stormwater or urban runoff that flows from a developed site after construction is completed and the facilities or structures are occupied and/or operational. A Project WQMP describes the Best Management Practices (BMPs) that will be implemented and maintained throughout the life of a project and is used by property owners, facility operators, tenants, facility employees, maintenance contractors, etc. to prevent and minimize water pollution that can be caused by stormwater or urban runoff.

A WQMP Template is available providing the required structure and prompting the content that must be included in a Project WQMP. Content or information that is often overlooked in preparing a Project WQMP includes:

- A dated cover page (month, day, and year),
- Identification of the tract or discretionary permit number(s) and condition number(s) pertinent to the project,
- Stating the conditions related to water quality verbatim, and
- Describing specifically how BMPs will be implemented and maintained throughout the life of the project.

Omission of any of the required information will require a revision and re-submittal of a Project WQMP. A copy the Model WQMP and WQMP Template are included with this guidance as Appendices A and B, respectively.

Project WQMPs should not include materials that are not directly pertinent to the proposed project. Examples of such materials include copies of federal regulations, vendor information or BMP fact sheets on stormwater filtration and treatment devices that are not part of the project plans, booklets and other educational materials for activities that will not be conducted during the operational phase of the project, copies of Section 7 of the Orange County DAMP, and copies of the Model WQMP, etc. Including irrelevant material increases review time and does not facilitate approval of the Project WQMP.

Since a Project WQMP addresses the **post-construction** phase of a project, information related to stormwater management during the construction phase is not relevant and should not be included. However, such information should be included in the Storm Water Pollution Prevention Plan (SWPPP) required by the NPDES General Permit for Construction Activities issued by the State Water Resources Control Board for construction sites of 1 acre or more. Information regarding stormwater management during the construction phase is also appropriate with respect to applications for grading permits.

Regulatory Requirements: Orange County Waste Discharge Requirements for Urban Runoff

Under the provisions of the Orange County Waste Discharge Requirements for urban runoff from municipal separate storm sewer systems (referred to as “MS4 permits”) issued by the Santa Ana and San Diego Regional Water Quality Control Boards (Order Nos. R8-2002-0010 and R9-2002-001, respectively), the County of Orange and the incorporated cities of Orange County are obligated to require a Project Water Quality Management Plan for all new development and significant redevelopment projects. A Project WQMP must be prepared in accordance with the 2003 Orange County DAMP, the Model WQMP (Exhibit 7-II of the DAMP), the **City/County** of **[insert name]** Local Implementation Plan, and this guidance document for preparing a Project WQMP.

2.0 REQUIREMENTS FOR DEVELOPMENT PROJECTS

Proponents of all new development and significant redevelopment projects should take the following steps before preparing a Project WQMP to make preparation of the plan easier, as well as thorough.

Step 1

There are two types of new development and significant redevelopment projects:

- Priority Projects
- Non-Priority Projects

The WQMP preparer must first identify whether the proposed project is a Priority Project or a Non-Priority Project. A project is a Priority Project if it includes any one of the following project features:

Priority Projects	Included?	
	Yes	No
1. Residential development of 10 units or more		
2. Commercial and industrial development greater than 100,000 square feet including parking area		
3. Automotive repair shops (SIC codes 5013, 5014, 5541, 7532-7534, and 7536-7539)		
4. Restaurants where the land area of development is 5,000 square feet or more including parking area (SIC code 5812)		
5. Hillside developments on 10,000 square feet or more, which are located on areas with known erosive soil conditions or where natural slope is twenty-five percent or more (<i>Santa Ana RWQCB jurisdiction</i>) Hillside development greater than 5,000 square feet (<i>San Diego RWQCB jurisdiction</i>)		
6. Impervious surface of 2,500 square feet or more located within, directly adjacent to (within 200 feet), or discharging directly to receiving waters within Environmentally Sensitive Areas (see Note 1)		
7. Parking Lots 5,000 square feet or more, or with 15 parking spaces or more, and potentially exposed to urban stormwater runoff.		
8. Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater (<i>San Diego RWQCB jurisdiction</i>)		
9. All Significant Redevelopment projects, where Significant Redevelopment is defined as the addition of 5,000 or more square feet of impervious surface on an already developed site. Significant Redevelopment includes, but is not limited to (see Note 2): <ul style="list-style-type: none"> • Expansion of a building footprint. • Addition of a building and/or structure. • Addition of an impervious surface, such as construction of a new parking lot, which is not part of a routine maintenance activity. • Replacement of impervious surfaces, buildings and/or structures when 5,000 or more square feet of soil is exposed during replacement construction. Replacement does not include routine maintenance activities, trenching and resurfacing associated with utility work, resurfacing and reconfiguring the surface of parking lots (unless 5,000 or more square feet of impervious surface is added to the existing parking lot area) or reconfiguration of pedestrian ramps and replacement of damaged pavement. 		

- 1 Generally, these are areas "in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which would easily be disturbed or degraded by human activities and developments" (California Public Resources Code §30107.5). Examples are Areas of Special Biological Significance as designated by the State Water Resources Control Board, areas identified in Habitat Conservation Plans as supporting endangered or threatened species, and receiving waters that are designated as being impaired. These areas are shown on maps that are available upon request or can be found at www.ocwatersheds.com/StormWater/documents_damp_section7.asp.
- 2 Page 7-26, 2003 Drainage Area Management Plan, Section 7 – New Development/Significant Redevelopment dated September 24, 2003.

If the project is determined to be a Priority Project, the Project WQMP must:

- Incorporate all Source Control BMPs (routine structural and routine non-structural), unless not applicable to the project due to project characteristics. Provide reasonable and accurate reasons for not including applicable Source Control BMPs.
- Incorporate Site Design BMPs, as appropriate, and describe how the Site Design BMPs have been reflected in the project.
- Either incorporate Treatment Control BMPs, by including a selection of such BMPs into the project design, or participate in or contribute to an acceptable regional or watershed-based program.

If only a project feature falls into a Priority Project category, only that feature is subject to the Priority Project requirements. For example, in a situation where there is a 6,000 square foot parking lot for an industrial development that is less than 100,000 square feet, only the parking lot is subject to the Priority Project requirements.¹

If the project is determined to be a Non-Priority Project, the Project WQMP must:

- Incorporate all Source Control BMPs (routine structural and routine non-structural), unless not applicable to the project due to project characteristics. Provide reasonable and accurate reasons for not including applicable Source Control BMPs.
- Incorporate Site Design BMPs, as appropriate, and describe how the Site Design BMPs have been reflected in the project.

Step 2

If the proposed project is determined to be a Priority Project, the WQMP preparer must identify anticipated pollutants of concern associated with the project that will be managed by the Treatment Control BMPs set forth in the Project WQMP. This step is not necessary for Non-Priority Projects.

For the purpose of identifying pollutants of concern and the associated Treatment Control BMPs, pollutants are grouped into the following categories:

- Bacteria and Viruses
- Metals
- Nutrients
- Pesticides
- Organic Compounds
- Sediments
- Trash and Debris
- Oxygen-Demanding Substances
- Oil and Grease

Additional information regarding each of these pollutant categories can be found in Section 7.II-3.2.1 (General Categories of Pollutants of Concern) of the Model WQMP.

Using Table 7.II-2 on page 7-II-10 of Exhibit 7.II, Model WQMP to the 2003 Orange County DAMP, identify the potential/anticipated pollutants the proposed Priority Project based on the appropriate land use category and the proposed project's features and activities.

¹ Page 7.II-3, Orange County Stormwater Program, Exhibit 7.II – Model Water Quality Management Plan dated September 26, 2003.

Site-specific conditions must also be considered as potential pollutant sources, such as legacy pesticides or nutrients in site soils as a result of past agricultural practices or hazardous substances in site soils from past industrial uses. However, soil that has been remediated and does not pose a threat to the quality of stormwater or urban runoff is not considered a pollutant of concern.

To identify the pollutants of concern to receiving waters, the WQMP preparer must, at a minimum, do the following:

- For each of the proposed project discharge points, identify the receiving water for each point of discharge and all water bodies downstream of the receiving water, using the most recent version of:
 - (1) Water Quality Control Plan for the Santa Ana Basin prepared by the Santa Ana Regional Water Quality Control Board (www.waterboards.ca.gov/santaana/html/basin_plan.html),
 - (2) Water Quality Control Plan for the San Diego Basin prepared by the San Diego Regional Board (www.waterboards.ca.gov/sandiego/programs/basinplan.html), **and**
 - (3) Water Quality Control Plan for Ocean Waters of California (Ocean Plan) prepared by the State Water Resources Control Board (www.waterboards.ca.gov/plnspols/oplans/index.html)
- Identify known impairments of the downstream receiving waters, where receiving waters are:
 - (1) Included in the most recent list of Clean Water Act Section 303(d) impaired water bodies—see www.waterboards.ca.gov/tmdl/303d_lists.html), **or**
 - (2) Have established Total Maximum Daily Loads (TMDLs)—see www.waterboards.ca.gov/tmdl/tmdl.html.

To identify the proposed project's pollutants of concern, compare the list of pollutants for which the receiving waters are impaired with the potential/anticipated pollutants for the proposed project after construction is completed (post-construction).

- **Primary Pollutants of Concern** – Those potential/anticipated pollutants from the project that have also been identified as causing impairment of project receiving waters.
- **Other Pollutants of Concern** – Those potential/anticipated pollutants from the project that have not been identified as causing impairment of project receiving waters.

If a comprehensive evaluation of site-specific conditions has been completed (e.g., a water quality technical study for a CEQA document) and supported by scientific and engineering studies, the site-specific information may be used to modify the pollutants anticipated for the project.

Step 3

If the project is determined to be a Priority Project, the WQMP preparer must identify hydrologic conditions of concern that will be managed by the BMPs set forth in the Project WQMP. This step is not necessary for Non-Priority Projects.

- Common impacts to hydrologic conditions resulting from development include increased runoff volume and velocity; reduced infiltration; increased flow frequency, duration, and peaks; faster time to reach peak flow; and water quality degradation. These changes have the potential to permanently impact downstream channels and habitat integrity, and therefore must be addressed in a Project WQMP.

- A change in hydrologic conditions would be considered a condition of concern if there would be a significant impact on downstream natural channels and habitat integrity, alone or in conjunction with impacts of other projects. Because of these potential impacts, the WQMP preparer must determine whether a downstream stream channel is fully natural or partially improved and determine whether the channel has the potential for erosion and/or alteration of habitat integrity due to upstream development to a degree that adversely affects beneficial uses. If either of these conditions exists, follow steps 2 through 5 in Section 7.II - 3.2.4 (Identify Hydrologic Conditions of Concern) of the Model WQMP.

Step 4

Given the information identified through Steps 1, 2, and 3, an understanding of site characteristics for soil types, depth to groundwater, slopes, etc., and project objectives and operational activities, the WQMP preparer should consider how Site Design BMPs², Routine Structural Source Control BMPs³, and Treatment Control BMPs⁴ can be incorporated into the Project to meet water quality requirements and project objectives. Since these BMPs may affect the quantity of runoff generated by the proposed project and have a “footprint” or other constraints, consideration of Site Design BMPs, Routine Structural Source Control BMPs, and Treatment Control BMPs may be an iterative process.

3.0 WQMP PREPARATION

Once the necessary project information has been identified and/or obtained, the WQMP preparer should create the document in the format described in this guidance document and should include all of the required information. The Preparer’s WQMP checklist included as Appendix C must be used to ensure that all of the necessary information has been addressed in the Project WQMP. The Preparer’s WQMP Checklist must be completed and submitted with a Project WQMP.

3.1 Cover Page

The cover page must provide the name and address of the project, the name and address of the project applicant (that is, the owner or developer), the name and address of the WQMP preparer, and the month, day, and year the Project WQMP was prepared or subsequently revised.

3.2 Owner’s Certification

The 2003 Orange County DAMP requires a signed, dated statement certifying that the provisions of the Project WQMP have been accepted by the project applicant and will be implemented and/or maintained. This statement must be signed by the owner or corporate representative with authority to make such a commitment on behalf of the owner. Please note that the Owner’s Certification includes a statement that a copy of the Project WQMP will be maintained at the project site or project office, and that the Project WQMP will be reviewed with the facility operator, facility supervisors, employees, tenants, maintenance and service contractors, or any other party having responsibility for implementing portions of this Water Quality Management Plan. Figure 1 shows the certification statement.

² Pages 7.II-14 through 7.II-18 of the Model WQMP dated September 26, 2003.

³ Pages 7.II-21 through 7.II-29 of the Model WQMP dated September 26, 2003.

⁴ Pages 7.II-32 through 7.II-40 of the Model WQMP dated September 26, 2003.

3.3 Project WQMP Table of Contents

The Table of Contents must include the numbers and names for each section of the Project WQMP, from Section I to Section VII and the first page number of each section must be listed. The Project WQMP must include a separating tab for each major section and each appendix. It will be very helpful to the eventual users of the Project WQMP if all pages are numbered including the educational materials that are included in Section VII. An example of a Table of Contents for a Project WQMP is provided in Figure 2.

Figure 2. Example Table of Contents

TABLE OF CONTENTS	
Section I Tract or Discretionary Permit Number(s), Water Quality Condition(s) Number(s) and Conditions	1
Section II Project Description.....	2
Section III Site Description.....	4
Section IV Best Management Practices (BMPs).....	6
IV.1 Site Design BMPs	
IV.2 Source Control BMPs	
IV.2.1 Routine Non-Structural BMPs	
IV.2.2 Routine Structural BMPs	
IV.3 Treatment Control BMPs	
Section V Implementation, Maintenance and Inspection Responsibility for BMPs (O&M Plan)	11
Section VI Location Map, Site Plan, and BMP Details	12
Section VII Educational Materials.....	14
Tables	
1 Site Design BMPs	
2 Routine Non-Structural BMPs	
3 Routine Structural BMPs	
4 Treatment Control BMPs	
Appendix	
A Conditions of Approval, Planning Commission Resolution _____ dated _____	

3.4 WQMP Section I, Tract or Discretionary Permit Number(s), Water Quality Condition Number(s) and Conditions.

This section should specify the Lot and Tract/Parcel Map number describing the subject property. For example, such a sentence could read “The proposed Tract/Parcel Map is a subdivision of Tract/Parcel Map _____,” or “The **City/County** of [insert name] Permit/Application Number _____ is proposed for Lot Number _____ of Tract/Parcel Map. The conditions of approval related to managing the quality of stormwater and urban runoff must be provided verbatim in the Project WQMP. The WQMP preparer should ensure that the final conditions of approval are used as a basis for preparing the Project WQMP. A complete copy of the final Resolution of Approval (that is, the conditions of approval) should be included as an appendix to the Project WQMP. Therefore, Section I should also include the following statement:

“A complete copy of the signed Conditions of Approval, Planning Commission Resolution _____ dated _____ are included as Appendix A.”

3.5 WQMP Section II, Project Description

The objective in preparing the Project Description is to completely and accurately describe the proposed project, where facilities and structures 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, what kinds of wastes will be generated, what BMPs are being implemented, etc. A comprehensive and well-written project description will minimize review time and preclude questions that arise from a poorly written project description that does not provide all of the necessary information.

For all Project WQMPs, the Project Description must:

- Identify the planning area or community name.
- Provide the project size, including buildings and any related improvements and landscaping.
- Identify the percent of site that will be covered by impermeable surfaces.
- Describe paved areas, including type and location of parking (e.g., surface, garage, carport, etc.), type of paved surface to be constructed, and portion(s) of the site (perimeter, northeast corner, carport adjacent to each structure, etc.) on which parking will be located.
- Describe landscaped areas in relation to the project site layout.
- Clearly describe each of the types of facilities/structures included in the project and the activities that will be conducted once the project is completed. For example, a commercial development project may include multiple types of facilities such as a car wash, fuel dispensing facility and a convenience store.
- Identify what kinds of materials will be used and/or stored and where. Describe the location(s) of outdoor materials storage area(s) and type(s) of materials expected to be stored outdoors, if any.
- Describe how and where materials will be delivered. Specify location (s) of designated delivery entrances/areas and loading docks. Below-grade loading docks must be identified as such.
- Identify what kinds of wastes will be generated.
- Identify the activities (including materials/waste storage and/or handling) that will occur or be conducted outdoors and the associated areas that will be exposed to precipitation, stormwater runoff, or authorized non-stormwater discharges. [Authorized non-stormwater discharges are uncontaminated flows of water such as potable water, atmospheric condensates from refrigeration

units, air conditioning units, or compressors, landscape irrigation overspray or drainage, foundation or footing drainage, or fire hydrant flushing.]

- Describe activities or equipment that may generate dust and particulates as well as the area that would be impacted by the dust or particulates.
- Describe ownership of all portions of the project (e.g., open space, landscaped lots, easements, streets or stormwater drainage facilities that will remain privately owned, streets or stormwater drainage facilities that will revert to public ownership and operation, etc.).
- Identify if a homeowners or property owner's association will be formed and the conditions that will ensure the establishment of the association.
- Identify the potential/anticipated stormwater or urban runoff pollutants reasonably anticipated to be associated with the project.

For commercial/industrial projects, the Project Description must:

- Provide the Standard Industrial Classification (SIC) Code(s) that best describes the post-construction operation/activity. SIC Codes can be found at www.osha.gov/oshstats/sicser.html.
- Specify location(s) for each type of food preparation, cooking and/or eating area(s), if any.
- Specify if there will be commercial car washing, auto repair (include number of service bays), and/or vehicle fueling (include number of fuel pumps).

For residential projects, the Project Description must:

- Provide the range of lot and home sizes, identify number of attached versus detached dwelling units, etc.
- Describe pools, parks, open spaces, tot lots, etc., and any maintenance issues related to them.

3.6 WQMP Section III, Site Description

The Site Description must describe the project area and surrounding areas in sufficient detail to allow the project location to be plotted on a map.

For all projects, the WQMP Site Description must:

- Provide the general and specific location, site address, and size (acreage to the nearest 1/10 acre). If the project is part of a larger already developed site, only give the acreage of the project.
- Identify the zoning or land use designation.
- Identify the site soil types and the quantity and percentage of pervious and impervious surface for pre-project and project conditions.
- Include a description of site drainage (pre-project and project conditions) and how it ties with drainage of surrounding property. For example, "Prior to project construction, the on-site drainage sheet flows to the north and discharges via curb drains to Washburn Street, which discharges to Rock Creek." After completion of construction, the on-site underground drainage system will connect underground to the municipality's 48-inch storm drain line which discharges into Badger Channel, which ultimately discharges into Rock Creek." This section should include a statement that the Project WQMP Site Plan shows drainage flow arrows and how site drainage ties into the vicinity's drainage system.
- Identify the watershed in which the project is located as well as the downstream receiving waters.

- Identify known water quality impairments (e.g., 303(d) list) and established TMDLs.
- Identify known Environmentally Sensitive areas (ESAs) and Areas of Special Biological Significance (ASBSs) within the vicinity and their proximity to the project.

Additionally, for all **Priority Projects**, the Project WQMP must identify hydrologic conditions of concern, if any.

3.7 WQMP Section IV, Best Management Practices

A Project WQMP describes the Best Management Practices (BMPs) that will be implemented and maintained throughout the life of a project. It will be used by property owners, facility operators, tenants, facility employees, maintenance contractors, etc. to prevent and minimize water pollution that can be caused by stormwater or urban runoff. As such, the description of each BMP should reflect the nature of the activities to be conducted and provide guidance specific to their application in the project. **Merely restating the BMP categories and/or descriptions presented in the Model WQMP does not provide sufficient guidance to those with responsibility for implementing the Project WQMP.**

If the project has been identified as a **Priority Project**, the Project WQMP must incorporate:

- Site Design BMPs, as appropriate;
- Source Control BMPs (routine non-structural and routine structural); and
- Treatment Control BMPs (or participation in a regional or watershed program).

Non-Priority Projects must incorporate:

- Site Design BMPs, as appropriate, and
- Source Control BMPs (routine non-structural and routine structural).

3.7.1 WQMP Section IV.1, Site Design BMPs

Site Design BMPs should be considered for all projects and must be considered for **Priority Projects**. The Site Design BMPs subsection of the Project WQMP must describe how site design concepts were considered and incorporated, as appropriate, into the project plans.

Projects, through a combination of BMPs, should be designed to:

- Minimize the introduction of pollutants generated from site runoff to the municipal storm drain system.
- Control operational phase peak stormwater runoff discharge rates and velocities in order to maintain or reduce pre-development downstream erosion rates and to protect stream habitat.

Projects can address these two objectives by the incorporation of Site Design BMPs, as appropriate, which are intended to mimic the natural hydrologic environment by:

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

In order to adequately address Site Design BMPs in a Project WQMP, the WQMP preparer must review pages 7.II-15 through 7.II-18 in the Model WQMP. Table 1, Site Design BMPs, must be completed and included in the Project WQMP in the Site Design BMP subsection. If a Site Design BMP Concept is not utilized, justification must be provided in Table 1. Following the completed Table 1, provide the narrative describing how Site Design BMPs were incorporated, as appropriate, into the proposed project.

Table 1. Site Design BMPs

Site Design BMP Concept	Included?		If no, state justification.
	Yes	No	
Minimize Directly Connected Impervious Areas (DCIAs) (C-Factor Reduction)			
Create Reduced or "Zero Discharge" Areas (Runoff Volume Reduction) ¹			
Minimize Impervious Area/Maximize Permeability (C-Factor Reduction) ²			
Conserve Natural Areas (C-Factor Reduction)			

- 1 Detention and retention areas incorporated into landscape design provide areas for retaining and detaining stormwater flows, resulting in lower runoff rates and reductions in volume due to limited infiltration and evaporation. Such Site Design BMPs may reduce the size of Treatment Control BMPs.
- 2 The "C Factor" is a representation of the ability of a surface to produce runoff. Surfaces that produce higher volumes of runoff are represented by higher C Factors. By incorporating more pervious, lower C Factor surfaces into a development, lower volumes of runoff will be produced. Lower volumes and rates of runoff translate directly to lowering treatment requirements.

3.7.2 Section IV.2: Source Control BMPs

Routine Source Control BMPs (routine non-structural BMPs, routine structural BMPs, and BMPs for individual categories/project features) are required to be incorporated in **all** new development and redevelopment projects, unless they do not apply due to the project features and characteristics.

Section IV.2.1, Routine Non-Structural BMPs

Table 2, Routine Non-Structural BMPs, must be completed and included in the Project WQMP. The table must indicate all BMPs that will be incorporated in the proposed project. For those designated as not applicable, briefly state the reason why in the appropriate column.

Following Table 2 in the Project WQMP, provide narrative describing each BMP that will be implemented by the proposed project including implementation procedures, frequency, and the entity or party responsible for implementation. **Again, merely restating the BMP descriptions presented in the Model WQMP does not provide sufficient guidance to those with responsibility for implementing the Project WQMP.**

Table 2. Routine Non-Structural BMPs

BMP No.	Name	Check One		If not applicable, state brief reason.
		Included	Not Applicable	
N1	Education for Property Owners, Tenants and Occupants			
N2	Activity Restriction			
N3	Common Area Landscape Management			
N4	BMP Maintenance			
N5	Title 22 CCR Compliance			
N6	Local Water Quality Permit Compliance		X	The City/County of _____ does not issue water quality permits.
N7	Spill Contingency Plan			
N8	Underground Storage Tank Compliance			
N9	Hazardous Materials Disclosure Compliance			
N10	Uniform Fire Code Implementation			
N11	Common Area Litter Control			
N12	Employee Training			
N13	Housekeeping of Loading Docks			
N14	Common Area Catch Basin Inspection			
N15	Street Sweeping Private Streets and Parking Lots			
N17**	Retail Gasoline Outlets			

** There is no BMP with the designation N16.

N1, Education for Property Owners, Tenants and Occupants

Materials (brochures, booklets, operating manuals, etc.) applicable and appropriate for educating and/or training property owners, tenants, facility operators, employees, and others must be provided in Section VII of the Project WQMP. Therefore, this BMP narrative should include a statement to that effect. The concepts that will be addressed by the educational and training materials must be described in the narrative for BMP N1, as well as the schedule (frequency) and entity responsible for providing education/training. For example, in a residential development, homeowners might receive educational materials upon closing escrow and annually thereafter, or industrial facility employees may receive training during new employee orientation and annually thereafter.

The educational or training materials described and then included in Section VII should reflect the facilities and activities to be conducted by the proposed project. For residential development, some of the topics included in the educational materials may address landscape maintenance, maintenance of irrigation systems, proper disposal of pet waste, and/or illegal dumping (used oil, paints, masonry or concrete washout, etc.). For industrial or commercial development, some of the topics that may be applicable are grounds and building maintenance, proper storage of materials and wastes, parking lot cleaning, spill containment and cleanup, etc. Educational or training materials that are not relevant to a project should not be included in Section VII of the Project WQMP.

For developments with no Home Owners Association (HOA)/Property Owners Association (POA) or with HOAs/POAs of less than 50 dwelling units, educational materials regarding general housekeeping practices that contribute to the protection of stormwater quality must be provided to the first residents/occupants/tenants by the developer. Thereafter, such materials will be available through the

municipal stormwater education program. Activity-specific materials should be provided for residential, office commercial, retail commercial, vehicle-related commercial and industrial uses.

For developments with a HOA/POA and residential projects of more than 50 dwelling units, project conditions of approval will require that the HOA/POA provide environmental awareness education materials, made available by the municipal stormwater education program. These materials will describe the use of chemicals (including household type) that should be limited to the property, with no discharge of wastes via hosing or other direct discharge to gutters, catch basins and storm drains.

N2, Activity Restrictions

The Project WQMP must identify the specific Conditions, Covenants, and Restrictions (CC&Rs), lease terms, or other policies that are or will be applicable to a project in restricting or prohibiting activities once the project is operational. The Project WQMP must also identify the entity or person that will enforce activity prohibitions or restrictions.

Some examples of activity restrictions that promote water quality protection are:

- Prohibit discharges of fertilizer, pesticides, or animal wastes to streets or storm drains.
- Prohibit blowing or sweeping of debris (leaf litter, grass clippings, litter, etc.) into streets or storm drains.
- Prohibit connections of pool/spa drains to streets or storm drains.
- Requirement to keep dumpster lids closed at all times.
- Requirement to keep trash receptacles covered or sheltered by a roof overhang or canopy.
- Prohibit discharges of paint or masonry wastes to streets or storm drains.
- Prohibit the washing kitchen wastes or kitchen equipment (restaurant, fast food, grocery store deli, bakery, etc.) to stormwater drainage features.
- Prohibit vehicle washing, maintenance, or repair on the premises or restrict those activities to designated areas.

N3, Common Area Landscape Management

The Project WQMP must identify the specific procedures that will be implemented by a project (post-construction) to manage landscaped common areas, comply with the applicable water conservation ordinance, and to properly manage the use of fertilizers and pesticides. Reference to County of Orange Ordinance No. 3802 should not be made unless the project is in the unincorporated area of Orange County. The WQMP preparer should obtain the appropriate water conservation ordinance and identify the provisions that would relate to properly managing irrigation to reduce usage and/or minimize excess runoff. Additionally, if the project will utilize reclaimed water for irrigation, the special conditions that apply to the use of reclaimed water must be described. The BMP narrative must briefly describe maintenance activities, identify the person or entity responsible for these activities and specify a schedule of maintenance. The WQMP preparer should consider the following questions: Will the irrigation system be inspected periodically to identify and correct excessive overspray, poorly directed sprinkler heads, broken sprinkler heads, etc.? Will the turf and planters be inspected periodically for dead or dying vegetation or for areas that are eroding? What policies will be followed for the application of fertilizers and pesticides?

N4, BMP Maintenance

The preference for the discussion of BMP maintenance is that implementation frequency/schedule and implementation and maintenance procedures be described with each specific BMP rather than in this separate section. If this approach is used, then the only statement necessary in this section is, “BMP maintenance, implementation schedules, and responsible parties are included with each specific BMP narrative.”

N5, Compliance with Title 22 California Code of Regulations

If no hazardous wastes will be generated during operation of a project, that fact should be provided as the “brief reason” in the Table 2 (Routine Non-Structural BMPs). However, if hazardous wastes will be generated and/or stored, the Project WQMP must describe how a project will comply with local and state requirements, what type of waste will be generated, how it will be stored and disposed, and who will be responsible for maintaining records. A general statement that the facility will comply with the requirements is not sufficient.

N6, Local Water Quality Permit Compliance

At this time, neither the County of Orange nor the Cities issue water quality permits.

N7, Spill Contingency Plan

Typically spill contingency plans apply to those facilities having bulk liquid storage such as aboveground or underground storage tanks, pipelines, storage of multiple 55-gallon drums, fueling pumps, etc. Where applicable, a Project WQMP must describe the types and quantities of containment and cleanup materials that will be available onsite and where; and describe agency notification containment, cleanup, and disposal procedures as well as reporting requirements. If a formal spill plan will be prepared, the Project WQMP must identify the party responsible for developing and updating the spill plan and must state where the spill plan will be kept onsite.

N8, Underground Storage Tank Compliance

If the proposed project includes underground storage tanks, the Project WQMP must describe how the facility will comply with State regulations for underground storage tanks. These regulations are enforced by the County Environmental Health Department on behalf of the State. Information regarding California’s underground storage tank regulations can be found at www.waterboards.ca.gov/ust/. A general statement that the facility will comply with the requirements is not sufficient.

N9, Hazardous Materials Disclosure Compliance

If the proposed project (post-construction) will include the storage and use of hazardous materials, the Project WQMP must provide guidance to the owner, operators and employees regarding compliance with hazardous materials disclosure regulations. If hazardous materials will be stored or used, the Project WQMP must identify the person/entity responsible for preparation of the “Chemical Inventory and Business Emergency Plan” and the administering agency for hazardous materials disclosure. For the **City/County** of **[insert name]** the **[insert name]** is the administering agency. [Note: The Orange County Fire Authority is the administering agency for hazardous materials disclosure either directly or through contract for many cities and the unincorporated area of Orange County. More information regarding compliance with hazardous materials disclosure regulations can be found at www.ocfa.org/business/hmss/rmppage2.htm.] A general statement that the facility will comply with the requirements is not sufficient.

N10, Uniform Fire Code Implementation

Article 80 of the Uniform Fire Code addresses the proper management of hazardous materials and emergency response plans. The Project WQMP must provide guidance to the owner, operators and employees in the compliance with Article 80 of the Uniform Fire Code enforced by the applicable fire protection agency. [Note: The Orange County Fire Authority is the fire protection agency either directly or through contract for many cities and the unincorporated area of Orange County. More information regarding compliance with Article 80 can be found at www.ocfa.org/business/hmss/index.htm.] A general statement that the facility will comply with the requirements is not sufficient.

N11, Common Area Litter Control

For industrial/commercial developments and for developments with HOAs/POAs, the projects are required to implement trash management and litter control procedures in the common areas. The Project WQMP must describe the common area litter control measures including where trash receptacles will be provided for public use, how frequently trash receptacles will they be emptied, inspection of common areas for litter, noting trash disposal violations by tenants/homeowners or businesses, reporting violations to the owner/HOA/POA for investigation, and identifying the person or entity responsible for implementation.

N12, Employee Training

This BMP refers to the education program (see N1), as it would apply to employees of industrial or commercial facilities. In addition to the information required by BMP N1, if the proposed project is being constructed for an unspecified use, the developer/owner must describe how this education requirement will be met by future operators/owners.

N13, Housekeeping of Loading Docks

Loading docks or shipping/receiving areas are typically found at retail, wholesale, and industrial facilities, and some types of commercial buildings. These loading docks and shipping/receiving areas should be kept in a clean and orderly condition through regular 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 contained, collected, and disposed of in an approved manner and not discharged to the storm drain system. The Project WQMP must describe the procedures, frequency (e.g., daily cleaning), and responsible party for loading dock or shipping/receiving area housekeeping. If the loading dock is below grade, procedures for properly managing spills or accumulated runoff in truck wells must be described, including signage and training of employees.

N14, Common Area Catch Basin Inspection

For industrial/commercial developments and for developments with privately maintained drainage systems, the owner is required to have at least 80% of drainage facilities inspected, cleaned and maintained on an annual basis with 100% of the facilities included in a 2-year period. Cleaning should take place in the late summer/early fall prior to the start of the rainy season. Drainage facilities include catch basins (storm drain inlets) detention basins, sediment basins, open channels, and lift stations.

The Project WQMP must provide guidance to the owner, operators and/or employees for conducting catch basin inspections and cleaning. The Project Description section of the Project WQMP identifies which catch basins will remain private property as opposed to ownership being transferred to another entity (e.g., a city, Orange County Flood Control District, Caltrans, etc.). The Project WQMP must identify the frequency (i.e., annually in the month of October, monthly, bi-annually) for catch basin

inspection, the criteria for determining when a catch basin requires cleaning (e.g., 40% full, 75% full, with every inspection, etc.), and the responsible party.

N15, Street Sweeping Private Streets and Parking Lots

At a minimum, streets and parking lots are required to be swept prior to the rainy season, in late summer or early fall. The Project WQMP must describe the manner and frequency of private street and parking lot cleaning and proper disposal of the accumulated sweeping waste. As examples, parking lots of commercial office buildings might be swept weekly or monthly, while parking lots for grocery stores or fast food establishments might be swept daily. Private streets in residential developments might be swept bi-weekly during October through April and monthly during May through September. Parking areas for automotive repair facilities may establish a schedule for periodically removing accumulated automotive fluids from exposed parking areas.

N17, Retail Gasoline Outlets

Retail gasoline outlets (RGOs) are required to follow operations and maintenance BMPs described in the California Stormwater Quality Association (CASQA) Best Management Practice Guide for Retail Gasoline Outlets. This document may be obtained by downloading from the CASQA website (www.casqa.org) under “Publications and Work Products”. In the Guide for Retail Gasoline Outlets, BMPs are listed separately for existing and new or substantially remodeled facilities. Each BMP listed in the Guide for Retail Gasoline Outlets for an on-site activity/area must be implemented.

Section IV.2.2, Routine Structural BMPs

Table 3, Routine Structural BMPs, must be completed and included in the Project WQMP. The table must indicate all BMPs that will be incorporated into the project plans. For those designated as not applicable, briefly state an appropriate and accurate reason in the appropriate column.

Following Table 3 in the Project WQMP, provide narrative describing each BMP that will be incorporated into the proposed project plans including location, fundamental design features, and specific maintenance requirements if not described elsewhere in the Project WQMP.

Table 3. Routine Structural BMPs

Name	Check One		If not applicable, state brief reason
	Included	Not Applicable	
Provide storm drain system stenciling and signage			
Design and construct outdoor material storage areas to reduce pollution introduction			
Design and construct trash and waste storage areas to reduce pollution introduction			
Use efficient irrigation systems & landscape design			
Protect slopes and channels and provide energy dissipation			
Incorporate requirements applicable to individual project features			
a. Dock areas			
b. Maintenance bays			
c. Vehicle wash areas			
d. Outdoor processing areas			
e. Equipment wash areas			
f. Fueling areas			
g. Hillside landscaping			
h. Wash water control for food preparation areas			
i. Community car wash racks			

Provide Storm Drain System Stenciling and Signage.

Storm drain stencils are typically placed directly adjacent to storm drain inlets and contain either a graphical icon and/or a brief statement such as “NO DUMPING-DRAINS TO OCEAN” that warns against dumping wastes into the municipal storm drain system.

The catch basin label/sign may be a painted stencil, concrete etching, thermoplastic, ceramic tile, metal plaques, etc. These labels are subject to wear and damage and require maintenance. The type of label that will be used, the applicable maintenance procedures, and the frequency of inspection must be described in the Project WQMP. For catch basins that will remain privately owned, the party responsible for maintaining the catch basin labels must be identified. [Alternatively, the maintenance of catch basin labels may be discussed as part of BMP N14, Common Area Catch Basin Inspection.]

Design Outdoor Material Storage Areas to Reduce Pollutant Introduction

Since storage of materials outdoors may increase the potential for pollutants to enter the storm drain system, if a proposed project includes outdoor storage areas for materials the following BMPs are required:

- Hazardous materials must be placed in an enclosure such as a cabinet or shed or must be protected by secondary containment structures such as berms, dikes, or curbs.
- The storage area must be paved and sufficiently impervious to prevent leaks and spills from penetrating the surface and impacting underlying soils.
- The storage area must have a roof or awning to minimize direct contact with precipitation and collection of stormwater within the secondary containment area.

- Any stormwater retained within the containment structure must not be discharged to the street or storm drain system.

A description of the structural BMPs that will be incorporated into project plans to manage outdoor storage areas must be included in the BMP narrative and the BMPs must be shown in the WQMP Site Plan. The Project WQMP must also discuss the schedule of inspection, specific maintenance procedures for the BMPs, and the responsible party, if not described elsewhere in the Project WQMP.

Use Efficient Irrigation Systems and Landscape Design

Projects must be designed such that the timing and application methods of irrigation water minimizes runoff into the storm drain system. The methods listed on pages 7.II-22 and 7.II-23 of the Model WQMP for reducing excessive irrigation runoff must be considered. The Project WQMP must identify the primary features of the irrigation system. The location of irrigation timers or controls must also be shown on the WQMP Site Plan. [The procedures for irrigation system and landscape maintenance and inspection must be described as part of BMP N3, Common Area Landscape Management.]

Protect Slopes and Channels

Project plans must include BMPs to decrease the potential for erosion of slopes and downstream drainages or channels. The design principals for the protection of slopes and channels found on pages 7.II-23 and 7.II-24 in the Model WQMP must be incorporated and implemented were applicable. The Project WQMP must fully describe the methods used for slope and/or channel protection including the location of each measure. The measures identified should address the hydrologic conditions of concern associated with the proposed project, if any. Guidance for the owner, operators and/or employees in the proper maintenance of each measure, the schedule of inspection and maintenance, and the responsible party must be provided.

Requirements Applicable to Individual Features

All projects must incorporate each of the individual project feature requirements that are applicable to the proposed project. For example, a restaurant must incorporate BMPs for Wash Water Controls for Food Preparation Areas. Table 7.II-4 in the Model WQMP must be used to identify the structural BMPs that must be incorporated into the project plans. Pages 7.II-26 through 7.II-29 of the Model WQMP provide specific requirements for each of the BMPs. Guidance for the owner, operators and/or employees in the proper maintenance of each measure, the schedule of inspection and maintenance, and the responsible party must be provided.

3.7.3 Section IV.3: Treatment Control BMPs

Priority Projects are required to incorporate Treatment Control BMPs into project plans. In order for Treatment Control BMPs to be adequately incorporated into the project, they must be selected and designed as described in pages 7.II-33 through 7.II-40 of the Model WQMP.

Table 4, Treatment Control BMPs, must be completed and included in the Project WQMP. The table must indicate all Treatment Control BMPs to be incorporated in the project. Following Table 4 in the Project WQMP, provide narrative describing how site conditions (e.g., soils, slopes, groundwater levels, etc.) were considered, the rationale for selecting the proposed Treatment Control BMP(or BMPs) over others, location(s) of Treatment Control BMPs, the design basis (i.e., Stormwater Quality Design Volume or Stormwater Quality Design Flow), preliminary design calculations for sizing BMPs, maintenance procedures, and frequency and the entity or party responsible for each Treatment Control BMP to be

incorporated in the project plans. The location of each Treatment Control BMP must also be shown on the WQMP Site Plan.

Table 4. Treatment Control BMPs

Name	Included?	
	Yes	No
Vegetated (Grass) Strips		
Vegetated (Grass) Swales		
Dry Detention Basin		
Wet Detention Basin		
Constructed Wetland		
Detention Basin/Sand Filter		
Porous Pavement Detention		
Porous Landscape Detention		
Infiltration Basin		
Infiltration Trench		
Media Filter		
Proprietary Control Measures		

3.8 WQMP Section V, Implementation, Maintenance and Inspection Responsibility for BMPs (O&M Plan)

The property owner is responsible for the operation, inspection and maintenance of each Source Control and Treatment Control BMP. Where applicable, the contractor for a property owner shall be identified including name, title, company, address and telephone number. This section of the Project WQMP must identify the means by which long-term implementation and maintenance of the BMPs will be funded. Examples of long-term funding include, but are not limited to:

- Business operating revenues.
- Home Owners Association or Property Owners Association fees.
- Special district assessments.

This section of the Project WQMP is effectively an Operation and Maintenance (O&M) Plan for the implementation, operation and maintenance of post-construction BMPs. The O&M Plan shall describe and/or include:

- Structural and non-structural BMPs;
- Entity or person/position responsible for implementing, operating, or maintaining each BMP;
- Training for BMP implementation, operation and maintenance;
- Implementation/operating schedule;
- Inspection/maintenance frequency and schedule;
- Specific maintenance activities;
- Required permits from resource agencies, if any;
- Forms to be used in documenting implementation/maintenance activities;

- Recordkeeping requirements (at least 5 years).

A format that may be used for the O&M Plan is provided as Appendix D to this guidance. If ownership of the Treatment Control BMPs will transfer to a public agency, the Project WQMP must include a copy of the document indicating the public agency's intent to accept the Treatment Control BMPs as designed.

3.9 WQMP Section VI, Figures

A Location Map and Site Plan must be included to identify the location of the project and project features relevant to managing the quality of stormwater and urban runoff. It may be most appropriate to identify receiving waters on the Location Map. The Location Map and Site Plan must be of sufficient size to be readily legible (11" by 17" is preferred) and must include a complete legend with north arrow and scale.

The Site Plan must identify:

- Structures and buildings (number of units and the type of use uses).
- Landscaped areas.
- Storm drain facilities, including storm drain inlets, catch basins, inlet trash racks, loading dock drainage, water quality inlets and energy dissipaters.
- Drainage flow information, (i.e., general surface flow lines including runoff that is directed offsite or to landscaped areas, concrete or other surface ditches or channels).
- Drainage facilities to be transferred to another entity for ownership and maintenance.
- Where and how on-site drainage ties into the off-site drainage system.
- Receiving water(s)—this may be accomplished through a note.
- Concrete paved and covered areas for fuel dispensing.
- Detail regarding the direction of surface flow in the vicinity of the fuel dispensing area.
- Clarifiers within fuel dispensing areas.
- Dumpster and trash container locations.
- Exterior food preparation or wash areas associated with food preparation establishments.
- Outdoor areas where activities (for example, washing, maintenance, repair, fabrication, etc.) will be conducted.
- Outdoor surfaces where particulates from activities (sawing, crushing, milling, etc.) or exhaust stacks may accumulate.
- Interior hazardous materials storage locations.
- Locations of spill cleanup materials.
- Location(s) of outdoor materials storage areas.
- Locations of irrigation timers or controls.
- All structural source control BMPs. Also include detail drawings as separate exhibits as necessary to demonstrate compliance with each BMP. Each detail shall include the BMP title (and number if any), and shall depict how the design features of the project implement the BMP.
- Car wash racks.
- Washing/cleaning/maintenance/repair areas.

- Loading docks (and drainage).
- Parking areas.
- Treatment Control BMPs.

3.10 WQMP Section VII, Educational Materials

A summary describing the concepts that will be addressed by the education and training program must also be included at the beginning of this section. Then each educational handout used for educating and/or training property owners, tenants, facility operators, employees, and others must be listed, preferably with a page number. The educational materials listed are included in this section of the Project WQMP. All of the materials included in this section should have page numbers to make the materials easy to find by the end-user.

All educational or training materials included in the Project WQMP should reflect the facilities and activities to be conducted once the project is operational or occupied. Educational or training materials that are not directly relevant to a project should not be included the Project WQMP. At a minimum, the WQMP preparer must review and consider the educational materials available through the following websites:

- www.ocwatersheds.com/StormWater/documents_bmp_existing_development.asp
- www.ocwatersheds.com/PublicEducation/pe_introduction.asp

4.0 REVIEW, APPROVAL AND IMPLEMENTATION OF PROJECT WQMPs

Project WQMPs may be submitted as “preliminary” during the land use entitlement phase with the content and level of detail reflecting what is known or contemplated at the time project approval is sought. In any case, prior to issuance of grading or building permits, the project applicant must submit the final Project WQMP for review and approval.

An approved Project WQMP must be implemented for the life of the project. The Project WQMP continues with the property after the completion of construction. The City/County of [insert name] [requires recordation with the County Recorder’s office by the property owner or successive owners or a Notice of Transfer Responsibility Form to notify the City/County of [insert name] that a change of ownership has occurred and to notify the new owner of the responsibility for implementation of the Project WQMP]. Additionally, Project WQMPs must be amended to reflect up-to-date conditions on the site consistent with the current Orange County DAMP.

The City/County of [insert name] has a program through which it verifies the ongoing implementation of Project WQMPs. [City/County would add a brief description of their program for verification.]

Appendix A. Model WQMP dated September 26, 2003

Appendix B. WQMP Template

Appendix C. Preparer's WQMP Checklist

Appendix D. Operations and Maintenance (O&M) Plan