Water Quality Management Plan (WQMP)

Project Name:

Prepared for:

Insert Owner/Developer Name-then TAB.

Insert Address 1 then press ENTER to insert Address 2 or TAB to next field.

Insert City, State, ZIP-then TAB.

Insert Telephone-then TAB.

Prepared by:

Insert Consulting/Engineering Firm Name-then TAB.

Engineer _____ Registration No._____ (optional if not used)

Insert Address-then TAB.

Insert City, State, ZIP-then TAB.

Insert Telephone-then TAB

Prepared on:

Insert Date-then TAB.

Template Prepared:

December 20, 2013

Project Owner's Certification

Permit/Application No.		Grading Permit No.	
Tract/Parcel Map No.		Building Permit No.	
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract)			

This Water Quality Management Plan (WQMP) has been prepared for Owner/Developer Name by Consulting/Engineering Firm Name. The WQMP is intended to comply with the requirements of the local NPDES Stormwater Program requiring the preparation of the plan.

The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the current Orange County Drainage Area Management Plan (DAMP) and the intent of the non-point source NPDES Permit for Waste Discharge Requirements for the County of Orange, Orange County Flood Control District and the incorporated Cities of Orange County within the San Diego Region (South Orange County). Once the undersigned transfers its interest in the property, its successors-in-interest shall bear the aforementioned responsibility to implement and amend the WQMP. An appropriate number of approved and signed copies of this document shall be available on the subject site in perpetuity.

Owner:			
Title			
Company			
Address			
Email			
Telephone #			
Signature		Date	

Contents

Attachments

Section I   Discretionary Permit(s) and Water Quality Conditions

Provide discretionary permit and water quality information. Refer to Section 2.1 in the Technical Guidance Document (TGD) available from the Orange County Stormwater Program (ocwatersheds.com).

Project Infomation			
Permit/Application No.		Tract/Parcel Map No.	
Additional Information/ Comments:			
Water Quality Conditions			
Water Quality Conditions (list verbatim)			
Watershed-Based Plan Conditions			
Provide applicable conditions from watershed - based plans including TMDLS.			

Section II   Project Description

II.1   Project Description

Provide a detailed project description including:

- Project areas;

- Land uses;

- Land cover;

- Design elements;

- A general description of site drainage (not broken down by drainage management areas (DMAs)).

Include attributes relevant to determining applicable source controls. Refer to Section 2.2 in the TGD for information that must be included in the project description.

Description of Proposed Project				
Development Category (Verbatim from WQMP):				
Project Area (ft^2):	Number of Dwelling Units:		SIC Code:	
Narrative Project Description:				
Project Area	Pervious		Impervious	
	Area (acres or sq ft)	Percentage	Area (acres or sq ft)	Percentage
Pre-Project Conditions				
Post-Project Conditions				
Drainage Patterns/Connections				

II.2 Potential Stormwater Pollutants

Determine and list expected stormwater pollutants based on land uses and site activities. Refer to Section 2.2.2 and Table 2.1 in the TGD for guidance.

Pollutants of Concern			
Pollutant	Circle One: E=Expected to be of concern N=Not Expected to be of concern		Additional Information and Comments
Suspended-Solid/ Sediment	E	N	
Nutrients	E	N	
Heavy Metals	E	N	
Pathogens (Bacteria/Virus)	E	N	
Pesticides	E	N	
Oil and Grease	E	N	
Toxic Organic Compounds	E	N	
Trash and Debris	E	N	

II.3   Hydrologic Conditions of Concern

Determine if streams located downstream from the project area are determined to be potentially susceptible to hydromodification impacts. Refer to Appendix C of the Model WQMP for reference to applicable technical guidance for determining if downstream channels are susceptible to HCOCs.

☐ No – Show map and/or describe and reference supporting documentation in the space below.

☐ Yes – Describe applicable hydrologic conditions of concern in the space below.

II.4   Post Development Drainage Characteristics

Describe post development drainage characteristics. Refer to Section 2.2.4 in the TGD.

II.5   Property Ownership/Management

Describe property ownership/management. Refer to Section 2.2.5 in the TGD.

Section III   Site Description

III.1   Physical Setting

Fill out table with relevant information. Refer to Section 2.3.1 in the TGD.

Planning Area/ Community Name	
Location/Address	
Project Area Description	
Land Use	
Zoning	
Acreage	
Predominant Soil Types, Slopes, Groundwater Conditions, etc.	

III.2   Site Characteristics

Fill out table with relevant information and include information as it relates to BMP sizing, suitability, and feasibility, as applicable. Refer to Section 2.3.2 in the TGD. Include additional narrative, as applicable, to summarize findings of site investigations. Include references to applicable studies/reports related to investigation of the site and evaluation of feasibility of LID BMPs.

Precipitation Zone	
Topography	
Drainage Patterns/Connections	
Soil Type, Geology, and Infiltration Properties	
Hydrogeological (Groundwater) Conditions	
Geotechnical Conditions (relevant to infiltration)	
Off-Site Drainage	
Utility and Infrastructure Information	

III.3   Watershed Description

Fill out table with relevant information. Refer to Section 2.3.3 in the TGD. Expand discussion beyond summary table, as needed. Include references to applicable studies/reports related to the watershed description.

Receiving Waters	
303(d) Listed Impairments	
Applicable TMDLs	
Pollutants of Concern for the Project	
Environmentally Sensitive and Special Biological Significant Areas	

Section IV   Best Management Practices (BMPs)

IV. 1   Project Performance Criteria

Describe project performance criteria. Several steps must be followed in order to determine what performance criteria will apply to a project. These steps include:

- Determine applicable hydromodification control performance criteria. Refer to Appendix C of the Model WQMP.
- Determine applicable LID performance criteria. Refer to Section 7.II-2.4.3 of the Model WQMP.
- Calculate the LID DCV (DCV) for the project. Refer to Section 7.II-2.4.3 of the Model WQMP.

Project Performance Criteria	
If HCOC exists, list applicable hydromodification control performance criteria (MWQMP Appendix C)	
List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP)	
Calculate LID DCV for Project.	

IV.2. SITE DESIGN AND DRAINAGE PLAN DETAILS

Describe site design and drainage plan including
- A narrative of site design practices utilized or rationale for not using practices;
- A narrative of how site is designed to allow BMPs to be incorporated to the MEP, including consideration of feasibility constraints
- A table of DMA characteristics and list of LID BMPs proposed in each DMA.
- Reference to the WQMP plot plan.
- Calculation of Design Capture Volume (DCV) for each drainage area.
- A listing of GIS coordinates for LID and Treatment Control BMPs (unless not required by local jurisdiction).

Refer to Section 2.4.2 in the TGD.
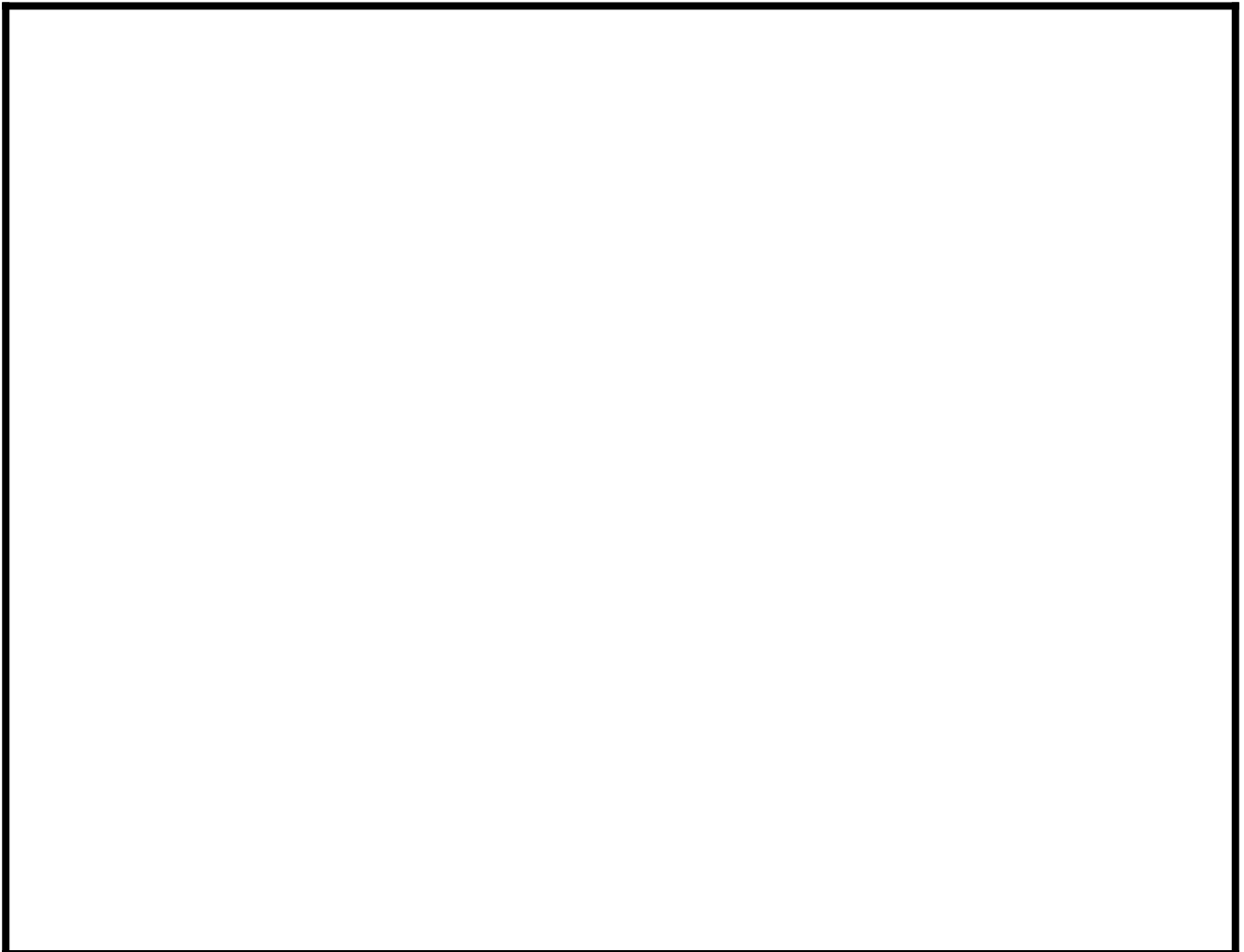
IV.3 BMP SELECTION AND PROJECT CONFORMANCE ANALYSIS

Each sub-section below documents that the proposed design features conform to the applicable project performance criteria via check boxes, tables, calculations, narratives, and/or references to worksheets. Refer to Section 2.4.2.3 in the TGD for selecting LID BMPs and Section 2.4.3 in the TGD for conducting conformance analysis with project performance criteria. Refer to Appendix C of the Model WQMP for hydromodification criteria and analysis methods.

IV.3.1 Hydrologic Source Controls

If HSCs are included, fill out applicable check box forms. If the retention criteria are otherwise met with other LID BMPs, include a statement indicating HSCs not required.

Name	Included?
Localized on-lot infiltration	☐
Impervious area dispersion (e.g. roof top disconnection)	☐
Street trees (canopy interception)	☐
Residential rain barrels (not actively managed)	☐
Green roofs/Brown roofs	☐
Blue roofs	☐
Impervious area reduction (e.g. permeable pavers, site design)	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐
Other:	☐

IV.3.2 Infiltration BMPs

Identify infiltration BMPs to be used in project. Include sections for selection, suitability, sizing, and infeasibility, as applicable.

Name	Included?
Bioretention without underdrains	☐
Rain gardens	☐
Porous landscaping	☐
Infiltration planters	☐
Retention swales	☐
Infiltration trenches	☐
Infiltration basins	☐
Drywells	☐
Subsurface infiltration galleries	☐
French drains	☐
Permeable asphalt	☐
Permeable concrete	☐
Permeable concrete pavers	☐
Other:	☐
Other:	☐

Show calculations and summarize feasibility findings below to demonstrate if the LID DCV can be met with infiltration BMPs. If not, document how much can be met with infiltration and document why it is not feasible to meet the full volume with infiltration BMPs. Included reference to applicable findings from site assessment activities, including references to studies prepared to substantiate findings of feasibility or infeasibility, as applicable.

IV.3.3 Evapotranspiration, Rainwater Harvesting BMPs

If the full DCV cannot be met with infiltration BMPs, describe any evapotranspiration, rainwater harvesting BMPs. Include sections for selection, suitability, sizing, and infeasibility, as applicable. <Delete or leave blank if not used>

Name	Included?
All HSCs; See Section IV.3.1	☐
Surface-based infiltration BMPs	☐
Other vegetated BMPs	☐
Above-ground cisterns and basins	☐
Underground detention	☐
Other:	☐
Other:	☐
Other:	☐

Show calculations and provide narrative below to demonstrate if the LID DCV can be met with evapotranspiration, rainwater harvesting BMPs in combination with infiltration BMPs. If not document how much can be met with either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, or a combination, and document why it is not feasible to meet the full volume with either of these BMPs categories. Included reference to applicable findings from site assessment activities, including references to studies prepared to substantiate findings of feasibility or infeasibility, as applicable.

IV.3.4 Biofiltration BMPs

If the full DCV cannot be met with infiltration BMPs, and/or evapotranspiration and rainwater harvesting BMPs, describe the biofiltration BMPs use to address the remainder of the DCV. Include sections for selection, suitability, sizing, and infeasibility, as applicable.

<Delete or leave blank if not used>

Name	Included?
Bioretention with underdrains	☐
Stormwater planter boxes with underdrains	☐
Proprietary vegetated biotreatment systems	☐
Other:	☐
Other:	☐

Show calculations below to demonstrate if the LID Design Storm Capture Volume can be met with a combination of infiltration, evapotranspiration, rainwater harvesting and/or biotreatment BMPs. Show calculations to demonstrate that the "pre-filter detention volume plus pore volume" in biofiltration BMPs is at least 0.75 of the remaining DCV (after accounting for retention achieved before using biofiltration BMPs). If it is not feasible to meet the DCV with a combination of either infiltration BMPs, evapotranspiration, rainwater harvesting BMPs, document why it is not feasible to meet the full volume with either of these BMPs categories and document how much can be feasibily retained plus biofiltered.

IV.3.5 Hydromodification Control BMPs

Describe hydromodification control BMPs. Include sections for BMP descriptions, sizing calculations, and coarse sediment management, as applicable. Describe calculations to demonstrate that hydromodification performance criteria are met. Attach calculations and model files, as applicable. <Delete or leave blank if not used>

Hydromodification Control BMPs	
BMP Name	**BMP Description**

Note: Hydromodification requirements were in flux at the time of publication of this document. Appendix C of the Model WQMP includes a summary of current requirements at the time of publication and references to the associated technical resource(s) for implementing these requirements. Model WQMP Appendix C is subject to change as the applicability of requirements changes. Please refer to http://ocwatersheds.com/documents/wqmp/ to determine whether a newer version of Model WQMP Appendix C is in effect.

IV.3.6 Non-structural Source Control BMPs

Fill out non-structural source control check box forms or provide a brief narrative explaining if non-structural source controls were not used.

Non-Structural Source Control BMPs				
		Check One		**If not applicable, state brief reason**
Identifier	**Name**	**Included**	**Not Applicable**	
N1	Education for Property Owners, Tenants and Occupants	☐	☐	
N2	Activity Restrictions	☐	☐	
N3	Common Area Landscape Management	☐	☐	
N4	BMP Maintenance	☐	☐	
N5	Title 22 CCR Compliance (How development will comply)	☐	☐	
N6	Local Industrial Permit Compliance	☐	☐	
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	☐	☐	
N16	Retail Gasoline Outlets	☐	☐	

IV.3.7 Structural Source Control BMPs

Fill out structural source control check box forms or provide a brief narrative explaining if Structural source controls were not used.

		Structural Source Control BMPs		
Identifier	**Name**	**Check One**		**If not applicable, state brief reason**
		Included	**Not Applicable**	
S1	Provide storm drain system stenciling and signage	☐	☐	
S2	Design and construct outdoor material storage areas to reduce pollution introduction	☐	☐	
S3	Design and construct trash and waste storage areas to reduce pollution introduction	☐	☐	
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control	☐	☐	
S5	Protect slopes and channels and provide energy dissipation	☐	☐	
	Incorporate requirements applicable to individual priority project categories (from SDRWQCB NPDES Permit)	☐	☐	
S6	Dock areas	☐	☐	
S7	Maintenance bays	☐	☐	
S8	Vehicle wash areas	☐	☐	
S9	Outdoor processing areas	☐	☐	
S10	Equipment wash areas	☐	☐	
S11	Fueling areas	☐	☐	
S12	Hillside landscaping	☐	☐	
S13	Wash water control for food preparation areas	☐	☐	
S14	Community car wash racks	☐	☐	

IV.4 ALTERNATIVE COMPLIANCE PLAN (IF APPLICABLE)

IV.4.1 Request of Waiver of LID BMPs

Provide documentation of feasibility analysis if implementation if LID BMPs is technically infeasible. Refer to Section 7.II-3.1 in the Model WQMP. Calculate the amount of remaining obligation that must be met with alternative compliance (See TGD Appendix VI). <Delete or leave blank if not used>

IV.4.2 Water Quality Credits

Determine if water quality credits are applicable for the project. Refer to Section 7.II-3.2 of the Model WQMP for description of credits and TGD Appendix VI for calculation methods for applying WQ credits.

Description of Proposed Project			
Project Types that Qualify for Water Quality Credits (Select all that apply):			
☐Redevelopment projects that reduce the overall impervious footprint of the project site.	☐Brownfield redevelopment, meaning redevelopment, expansion, or reuse of real property which may be complicated by the presence or potential presence of hazardous substances, pollutants or contaminants, and which have the potential to contribute to adverse ground or surface WQ if not redeveloped.		☐ Higher density development projects which include two distinct categories (credits can only be taken for one category): those with more than seven units per acre of development (lower credit allowance); vertical density developments, for example, those with a Floor to Area Ratio (FAR) of 2 or those having more than 18 units per acre (greater credit allowance).
☐ Mixed use development, such as a combination of residential, commercial, industrial, office, institutional, or other land uses which incorporate design principles that can demonstrate environmental benefits that would not be realized through single use projects (e.g. reduced vehicle trip traffic with the potential to reduce sources of water or air pollution).	☐ Transit-oriented developments, such as a mixed use residential or commercial area designed to maximize access to public transportation; similar to above criterion, but where the development center is within one half mile of a mass transit center (e.g. bus, rail, light rail or commuter train station). Such projects would not be able to take credit for both categories, but may have greater credit assigned		☐ Redevelopment projects in an established historic district, historic preservation area, or similar significant city area including core City Center areas (to be defined through mapping).
☐Developments with dedication of undeveloped portions to parks, preservation areas and other pervious uses.	☐ Developments in a city center area.	☐ Developments in historic districts or historic preservation areas.	☐ Live-work developments, a variety of developments designed to support residential and vocational needs together – similar to criteria to mixed use development; would not be able to take credit for both categories.	☐In-fill projects, the conversion of empty lots and other underused spaces into more beneficially used spaces, such as residential or commercial areas.
Calculation of Water Quality Credits (if applicable)			

IV.4.3   Treatment Control BMPs

Treatment control BMPs can only be considered if the project conformance analysis indicates that it is not feasible to retain and/or biofilter the full DCV with LID BMPs. Describe treatment control BMPs used as part of an alternative compliance program, including sections for selection and sizing, as applicable. Refer to Section 7.II-3.3 in the Model WQMP. <Delete or leave blank if not used>

Treatment Control BMPs	
BMP Name	**BMP Description**

IV.4.4   Regional/Sub-Regional LID BMPs

Describe regional/sub-regional LID BMPs in which the project will participate as part of alternative compliance. Include references to applicable reports or prior approvals of regional/sub-regional BMPs, as applicable; to demonstrate that use of regional/sub-regional BMPs is consistent with Model WQMP requirements. Refer to Section 7.II-3.5 of the Model WQMP. <Delete or leave blank if not used>

Regional/Sub-Regional LID BMPs

IV.4.5   Other Alternative Compliance Measures

Describe additional alternative compliance measures that will fully or partially meet the remaining LID obligations in association with treatment control BMP use (i.e., off-site mitigation project and/or stormwater mitigation fund). Include calculations to demonstrate how remaining alternative compliance. Refer to Section 7.II-3.4 in the Model WQMP.

Section V   Inspection/Maintenance Responsibility for BMPs

Fill out information in table below. Prepare and attach an Operation and Maintenance Plan. Identify the mechanism through which BMPs will be maintained. Inspection and maintenance records must be kept for a minimum of five years for inspection by the regulatory agencies. Refer to Section 7.II-4.0 in the Model WQMP.

BMP Inspection/Maintenance			
BMP	**Reponsible Party(s)**	**Inspection/ Maintenance Activities Required**	**Minimum Frequency of Activities**

BMP Inspection/Maintenance

BMP	Reponsible Party(s)	Inspection/ Maintenance Activities Required	Minimum Frequency of Activities

Section VI   Site Plan and Drainage Plan

VI.1   SITE PLAN AND DRAINAGE PLAN

Include a site plan and drainage plan sheet set containing the following minimum information:

- Project location
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural BMP locations
- Drainage delineations and flow information
- Drainage connections
- BMP details

VI.2   ELECTRONIC DATA SUBMITTAL

The minimum requirement is to provide submittal of PDF exhibits in addition to hard copies. Format must not require specialized software to open.

Section VII Educational Materials

Refer to the Orange County Stormwater Program (ocwatersheds.com) for a library of materials available. For the copy submitted to the Permittee, only attach the educational materials specifically applicable to the project. Other materials specific to the project may be included as well and must be attached.

Education Materials			
Residential Material **(http://www.ocwatersheds.com)**	**Check If** **Applicable**	**Business Material** **(http://www.ocwatersheds.com)**	**Check If** **Applicable**
The Ocean Begins at Your Front Door	☐	Tips for the Automotive Industry	☐
Tips for Car Wash Fund-raisers	☐	Tips for Using Concrete and Mortar	☐
Tips for the Home Mechanic	☐	Tips for the Food Service Industry	☐
Homeowners Guide for Sustainable Water Use	☐	Proper Maintenance Practices for Your Business	☐
Household Tips	☐	Compliance BMPs for Mobile Businesses	☐
Proper Disposal of Household Hazardous Waste	☐	**Other Material**	**Check If** **Attached**
Recycle at Your Local Used Oil Collection Center (North County)	☐		
Recycle at Your Local Used Oil Collection Center (Central County)	☐		☐
Recycle at Your Local Used Oil Collection Center (South County)	☐		☐
Tips for Maintaining a Septic Tank System	☐		☐
Responsible Pest Control	☐		☐
Sewer Spill	☐		☐
Tips for the Home Improvement Projects	☐		☐
Tips for Horse Care	☐		☐
Tips for Landscaping and Gardening	☐		☐
Tips for Pet Care	☐		☐
Tips for Projects Using Paint	☐		☐