**Water Quality**

**Management Plan**

**(WQMP)**

**<Use for Private Development Projects>**

**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**

|  |
| --- |
| **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 Santa Ana Region or <San Diego Region>. 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 Page No.**

Section I Discretionary Permit(s) and Water Quality Conditions 3

Section II Project Description 4

Section III Site Description 10

Section IV Best Management Practices (BMPs) 12

Section V Inspection/Maintenance Responsibility for BMPs 24

Section VI Site Plan and Drainage Plan 26

Section VII Educational Materials 27

Attachments

**Attachment A Educational Materials**

**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 WIHMPs and 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 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 (ft2): \_\_\_\_\_\_\_  | 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 Section 2.2.3.1 in the TGD for* NOC *or Section 2.2.3.2 for* <SOC>*.*

[ ]  No – Show map

[ ]  Yes – Describe applicable hydrologic conditions of concern below. *Refer to Section 2.2.3 in the TGD.*

|  |
| --- |
|       |

## **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 |       |
|       |
| Land Use |       |
| Zoning |       |
| Acreage |       |
| Predominant Soil Type |       |

## ***III.2 Site Characteristics***

*Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. Refer to Section 2.3.2 in the TGD.*

|  |  |
| --- | --- |
| *Precipitation Zone* |  |
| *Topography* |  |
| *Drainage Patterns/Connections* |  |
| *Soil Type, Geology, and Infiltration Properties* |  |

|  |
| --- |
| ***Site Characteristics (continued)*** |
| *Hydrogeologic (Groundwater) Conditions* |  |
| *Geotechnical Conditions (relevant to infiltration)* |  |
| *Off-Site Drainage* |  |
| *Utility and Infrastructure Information* |  |

## **III.3 Watershed Description**

Fill out table with relevant information and include information regarding BMP sizing, suitability, and feasibility, as applicable. *Refer to Section 2.3.3 in the TGD.*

|  |  |
| --- | --- |
| 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:

* If the project has an approved WIHMP or equivalent, then any watershed specific criteria must be used and the project can evaluate participation in the approved regional or sub-regional opportunities. The local Permittee planning or NPDES staff should be consulted regarding the existence of an approved WIHMP or equivalent.
* Determine applicable hydromodification control performance criteria. *Refer to Section 7.II-2.4.2.2 of the Model WQMP.*
* Determine applicable LID performance criteria. *Refer to Section 7.II-2.4.3 of the Model WQMP.*
* Determine applicable treatment control BMP performance criteria. *Refer to Section 7.II-*3.2.2 *of the Model WQMP.*
* Calculate the LID design storm capture volume for the project. *Refer to Section 7.II-2.4.3 of the Model WQMP.*

|  |  |  |
| --- | --- | --- |
| (NOC Permit Area only) Is there an approved WIHMP or equivalent for the project area that includes more stringent LID feasibility criteria or if there are opportunities identified for implementing LID on regional or sub-regional basis? | YES [ ]  | NO [ ]  |
| If yes, describe WIHMP feasibility criteria or regional/sub-regional LID opportunities. |       |

|  |
| --- |
| **Project Performance Criteria (continued)** |
| If HCOC exists, list applicable hydromodification control performance criteria (Section 7.II-2.4.2.2 in MWQMP) |       |
| List applicable LID performance criteria (Section 7.II-2.4.3 from MWQMP) |       |
| List applicable treatment control BMP performance criteria (Section 7.II-3.2.2 from MWQMP)  |       |
| Calculate LID design storm capture volume for Project. |       |

**IV.2. SITE DESIGN AND DRAINAGE PLAN**

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
* 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 LID 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.*

### IV.3.1 Hydrologic Source Controls

If required 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. If design volume cannot be met state why BMPs cannot be met

|  |  |
| --- | --- |
| **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 below to demonstrate if the LID Design Strom Capture Volume 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.

|  |
| --- |
|  |

### IV.3.3 Evapotranspiration, Rainwater Harvesting BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, describe any evapotranspiration, rainwater harvesting BMPs. <Delete or leave blank if not used>

|  |  |
| --- | --- |
| **Name** | **Included?** |
| All HSCs; *See Section IV.3.1* | [ ]  |
| Surface-based infiltration BMPs | [ ]  |
| Biotreatment BMPs | [ ]  |
| Above-ground cisterns and basins | [ ]  |
| Underground detention | [ ]  |
| Other:       | [ ]  |
| Other:       | [ ]  |
| Other:       | [ ]  |

### Show calculations below to demonstrate if the LID Design Strom Capture Volume 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.

|  |
| --- |
|       |

### IV.3.4 Biotreatment BMPs

If the full Design Storm Capture Volume cannot be met with infiltration BMPs, and/or evapotranspiration and rainwater harvesting BMPs, describe biotreatment BMPs. 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 | [ ]  |
| Rain gardens with underdrains | [ ]  |
| Constructed wetlands | [ ]  |
| Vegetated swales | [ ]  |
| Vegetated filter strips | [ ]  |
| Proprietary vegetated biotreatment systems  | [ ]  |
| Wet extended detention basin | [ ]  |
| Dry extended detention basins | [ ]  |
| Other:       | [ ]  |
| Other:       | [ ]  |

### Show calculations below to demonstrate if the LID Design Strom Capture Volume can be met with infiltration, evapotranspiration, rainwater harvesting and/or biotreatment 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.

|  |
| --- |
|       |

### IV.3.5 Hydromodification Control BMPs

Describe hydromodification control BMPs. See Section 5 TGD. Include sections for selection, suitability, sizing, and infeasibility, as applicable. Detail compliance with Prior Conditions of Approval. <Delete or leave blank if not used>

|  |
| --- |
| **Hydromodification Control BMPs** |
| **BMP Name** | **BMP Description** |
|       |       |
|       |       |
|       |       |
|       |       |
|       |       |
|       |       |
|       |       |
|       |       |
|       |       |

### IV.3.6 Regional/Sub-Regional LID BMPs

Describe regional/sub-regional LID BMPs in which the project will participate. *Refer to Section 7.II-2.4.3.2 of the Model WQMP*. <Delete or leave blank if not used>

|  |
| --- |
| **Regional/Sub-Regional LID BMPs** |
|  |

### IV.3.7 Treatment Control BMPs

*Treatment control BMPs can only be considered if the project conformance analysis indicates that it is not feasible to retain the full design capture volume with LID BMPs. Describe treatment control BMPs including sections for selection, sizing, and infeasibility, as applicable.* <Delete or leave blank if not used>

|  |
| --- |
| **Treatment Control BMPs** |
| **BMP Name** | **BMP Description** |
|       |       |
|       |       |
|       |       |
|       |       |
|       |       |
|       |       |
|       |       |
|       |       |
|       |       |

### IV.3.8 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** |
| **Identifier** | **Name** | **Check One** | **If not applicable, state brief reason** |
|  |  | **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.3.9 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 Water Quality Credits**

Determine if water quality credits are applicable for the project. *Refer to Section 3.1 of the Model WQMP for description of credits and Appendix VI of the TGD for calculation methods for applying water quality 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.4.2 Alternative Compliance Plan Information**

Describe an alternative compliance plan (if applicable). Include alternative compliance obligations (i.e., gallons, pounds) and describe proposed alternative compliance measures. Refer to Section 7.II 3.0 in the 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** <optional – delete if not used>

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

If the local jurisdiction requires specialized electronic document formats (CAD, GIS) to be submitted, this section will be used to describe the contents (e.g., layering, nomenclature, georeferencing, etc.) of these documents so that they may be interpreted efficiently and accurately.

**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 | [ ]  | **Other Material** | **Check If****Attached** |
| Proper Disposal of Household Hazardous Waste | [ ]  |
| 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 Pool Maintenance | [ ]  |       | [ ]  |
| Tips for Residential Pool, Landscape and Hardscape Drains | [ ]  |       | [ ]  |
| Tips for Projects Using Paint | [ ]  |       | [ ]  |