**MOJAVE RIVER WATERSHED**

**Site Design Only Project**

**Post Construction Measures Plan**

**For:**

**Insert Project Name**

**where applicable, insert Grading Permit No., Building Permit No., Tract Number, Land development file no., CUP, SUP and/or APN (Specify Lot Numbers if site is a portion of a Tract)**

**Prepared for:**

**Insert Owner/Developer Name**

**Insert Address**

**Insert City, State, ZIP**

**Insert Telephone**

**Prepared by:**

**Insert Owner/Consulting/Engineering Firm Name**

**Insert Address**

**Insert City, State, ZIP**

**Insert Telephone**

**Submittal Date: Insert Initial Submittal Date**

**Revision No. and Date: Insert No and Current Revision Date**

**Revision No. and Date: Insert No and Current Revision Date**

**Revision No. and Date: Insert No and Current Revision Date**

**Final Approval Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Project Owner’s Certification**

This “Site Design Only” Mojave River Watershed Post Construction Measures Plan (PCMP) has been prepared for Insert Owner/Developer Name by Insert Consulting/Engineering Firm Name. The PCMP is intended to comply with the requirements of the Insert Jurisdiction and the Phase II Small MS4 General Permit for the Mojave River Watershed. 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 Phase II Small MS4 Permit and the intent of San Bernardino County (unincorporated areas of Phelan, Oak Hills, Spring Valley Lake and Victorville) and the incorporated cities of Hesperia and Victorville and the Town of Apple Valley. Once the undersigned transfers its interest in the property, its successors in interest and the city/county/town shall be notified of the transfer. The new owner will be informed of its responsibility under this PCMP. A copy of the approved PCMP shall be available on the subject site in perpetuity.

“I certify under a penalty of law that the provisions (implementation, operation, maintenance, and funding) of the PCMP have been accepted and that the plan will be transferred to future successors.”

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Project Data** | | | | | | |
| Permit/Application Number(s): | |  | Grading Permit Number(s): | |  | |
| Tract/Parcel Map Number(s): | |  | Building Permit Number(s): | |  | |
| CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract): | | | | |  | |
| **Owner’s Signature** | | | | | | |
| **Owner Name:** | | | | | | |
|  |  | | | | | |
|  |  | | | | | |
| Address |  | | | | | |
| Email |  | | | | | |
| Telephone # |  | | | | | |
| Signature |  | | | Date | |  |

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Introduction

This PCMP template has been prepared specifically for the “Site Design Criteria Only” projects within the Phase II Small MS4 General Permit in the Mojave River Watershed. This location is within the jurisdiction of the Lahontan Regional Water Quality Control Board. This document should not be confused with the WQMP template for the regulated projects within the Phase II Small MS4 General Permit in the Mojave River Watershed or the Santa Ana Phase I area of San Bernardino County. **“Site Design Criteria Only” projects are projects with new impervious area of greater than 2500 square feet but less than 5000 square feet.**

Document preparers must refer to the Phase II Small MS4 General Permit (Mojave Watershed) Site Criteria Only PCMP Technical Guidance document found at: <http://cms.sbcounty.gov/dpw/Land/NPDES.aspx> to find pertinent arid region and Mojave River Watershed specific references and requirements.

Section 1 Project Information

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Form 1-1 Project Information** | | | | | | |
| Project Name | |  | | | | |
| Project Owner Contact Name: | |  | | | | |
| Mailing Address: |  | | E-mail Address: |  | Telephone: |  |
| Permit/Application Number(s): | |  | | Tract/Parcel Map Number(s): |  | |
| Additional Information/  Comments: | |  | | | | |
| Description of Project: | |  | | | | |
| Provide summary of Conceptual Project Site Design conditions. | |  | | | | |

Section 2 Project Description

2.1 Project Information

This section of the Site Design Criteria Only PCMP should provide the information listed below. The information provided for the Conceptual/Preliminary PCMP (approved at time of planning department approvals) should give sufficient detail to identify the major proposed site design and Low Impact Development (LID) Best Management Practices (BMPs) and other anticipated water quality features that impact site planning. Final Project PCMP (approved prior to grading plan approval) must specifically identify all BMP incorporated into the final site design and provide other detailed information as described herein.

The purpose of this information is to help document the selected site design BMPs and long term maintenance responsibilities for the project. This information will be used in conjunction with the information in Section 3, Site Description, to establish the performance criteria and to select the Site Design BMPs for the project, which are described in Section 4.

2.1.1 Project Sizing Categorization

If the Project is greater than 5,000 square feet, and not on the excluded list as found on Section 1.4 of the TGD, the Project is a Regulated Development Project. Please use the appropriate Water Quality Management Plan (WQMP) template for this project type.

**If the Project is creating and/or replacing greater than 2,500 square feet but less than 5,000 square feet of impervious surface area, then it is considered a Site Design Only project.** **This project type requires a PCMP**. This criterion is applicable to all development types including detached single family homes that create and/or replace greater than 2,500 square feet of impervious area and are not part of a larger plan of development.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Form 2.1-1 Description of Proposed Project** | | | | | |
| **1** Development Project Category: | | | | | |
| Site Design Only (Project Total Square Feet > 2,500 but < 5,000 sq.ft.) | | | | | |
| **2** Project Area (ft2): |  | **3** Number of Dwelling Units: |  | **4**SIC Code1: |  |
| **5** Is Project going to be phased? Yes  No  *If yes, ensure that the PCMP evaluates each phase as a distinct DA, requiring LID BMPs to address runoff at time of completion.* | | | | | |

1 – Commercial and Industrial sites only

2.2 Property Ownership/Management

Describe the ownership/management of all portions of the project and site. State whether any infrastructure will transfer to public agencies (City, County, Caltrans, etc.) after project completion. State if a homeowners or property owners association will be formed and be responsible for the long-term maintenance of project stormwater facilities. Describe any lot-level stormwater features that will be the responsibility of individual property owner.

|  |
| --- |
| **Form 2.2-1 Property Ownership/Management** |
| Describe property ownership/management responsible for long-term maintenance of the site design: |
|  |

Section 3 Site and Watershed Description

Describe the project site conditions that will facilitate the selection of Site Design BMPs through an analysis of the physical conditions and limitations of the site. Identify distinct drainage areas (DA) that collect flow from each portion of the site and describe how runoff from each DA is conveyed to the site outlet(s). Refer to Section 3.2 in the TGD for PCMP. ***A map presenting the DAs must be included as an appendix to the PCMP document. Most small sites will have one DA.***

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Form 3-1 Site Location and Hydrologic Features** | | | | |
| Site coordinates *take GPS measurement at approximate center of site* | | Latitude | Longitude | Thomas Bros Map page |
| **1** San Bernardino County climatic region:  Desert | | | | |
| **2** Does the site have more than one drainage area (DA): Yes No U*se this form to show a conceptual schematic describing DAs and hydrologic feature connecting DAs to the site outlet(s).* | | | | |
|  | | | | |
| Conveyance | Briefly describe on-site drainage features to convey runoff that is not retained within a DA | | | |
|  | *Ex. Roof runoff to rock-lined swale with 4’ bottom width, 5:1 side slopes and bed slope of 0.01. Conveys runoff for 400’ through DA 1 to existing catch basin on SE corner of property* | | | |
| DA1 flows to Outlet 1 |  | | | |
| DA2 flows to Outlet 2 |  | | | |
|  |  | | | |

Section 4 Best Management Practices (BMP)

4.1 Source Control and Site Design BMPs

The information and data in this section are required for Site Design Only Projects. Source Control and Site Design BMPs are the basis of site-specific pollution management.

**4.1.1 Source Control BMPs**

Non-structural and structural source control BMP are required to be incorporated into all new development and significant redevelopment projects. Form 4.1-1 and 4.1-2 are used to describe specific source control BMPs used in the PCMP or to explain why a certain BMP is not applicable. Table 7-3 of the TGD for PCMP provides a list of applicable source control BMP for projects with specific types of potential pollutant sources or activities. The source control BMP in this table must be implemented for projects with these specific types of potential pollutant sources or activities.

The site owner has reviewed the source control BMP requirements for new development and significant redevelopment projects. The owner has also reviewed the specific BMP required for project as specified in Forms 4.1-1 and 4.1-2. All applicable non-structural and structural source control BMPs shall be implemented in the project.

The identified list of source control BMPs correspond to the CASQA Stormwater BMP Handbook for New Development and Redevelopment found at: <https://www.casqa.org/resources/bmp-handbooks/new-development-redevelopment-bmp-handbook>.

| **Form 4.1-1 Non-Structural Source Control BMPs** | | | | |
| --- | --- | --- | --- | --- |
| Identifier | Name | Check One | | Describe BMP Implementation OR,  if not applicable, state reason |
| Included | Not Applicable |
| N1 | Education of Property Owners, Tenants and Occupants on Stormwater BMPs |  |  |  |
| N2 | Activity Restrictions |  |  |  |
| N3 | Landscape Management BMPs |  |  |  |
| N4 | BMP Maintenance |  |  |  |
| N6 | Local Water Quality Ordinances |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Form 4.1-2 Structural Source Control BMPs** | | | | |
| Identifier | Name | Check One | | Describe BMP Implementation OR,  If not applicable, state reason |
| Included | Not Applicable |
| S2 | Design and construct outdoor material storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-34) |  |  |  |
| S4 | Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control (Statewide Model Landscape Ordinance; CASQA New Development BMP Handbook SD-12) |  |  |  |
| S5 | Finish grade of landscaped areas at a minimum of 1-2 inches below top of curb, sidewalk, or pavement |  |  |  |
| S6 | Protect slopes and channels and provide energy dissipation (CASQA New Development BMP Handbook SD-10) |  |  |  |
| S13 | Hillside landscaping (CASQA New Development BMP Handbook SD-10) |  |  |  |

**4.1.2 Site Design BMPs**

As part of the planning phase of a project, the site design practices associated with new LID requirements in the Phase II Small MS4 Permit must be considered. Site design BMPs are simple design methods to manage reducing runoff generation.

As is stated in the Permit, it is necessary to evaluate site conditions such as soil type(s); existing vegetation and flow paths will influence the overall site design.

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 plan incorporates preventive site design practices
* Include an attached Site Plan layout which shows how preventative site design practices are included in PCMP

Refer to Section 4.3 of the TGD for PCMP for more details.

|  |
| --- |
| **Form 4.1-3 Site Design Practices Checklist** |
| **Site Design Practices**  *If yes, explain how preventative site design practice is addressed in project site plan. If no, other LID BMPs must be selected to meet targets* |
| Stream Setbacks. Includes a specified distance from an adjacent steam: : Yes  No  Explanation: |
| Maximize natural infiltration capacity; Including improvement and maintenance of soil: Yes  No  Explanation: |
| Re-vegetate disturbed areas. Including planting and preservation of drought tolerant vegetation. : Yes  No  Explanation: |
| Minimize impervious areas: Yes  No  Explanation: |
| Disconnect impervious areas. Including rerouting of rooftop drainage pipes to drain stormwater to storage or infiltration BMPs instead of to storm drain : Yes  No  Explanation: |
| Use of Porous Pavement.: Yes  No  Explanation: |
| Arid Region Rock-lined Swales: Yes  No  Explanation: |
| Use of Rain Barrels and Cisterns, Including the use of on-site water collection systems.: Yes  No  Explanation: |

It is noted that, in the Phase II Small MS4 Permit, site design elements for green roofs and vegetative swales are required. Due to the local climatology in the Mojave River Watershed, proactive measures are taken to maximize the amount of drought tolerant vegetation. It is not practical in this region to have green roofs or vegetative swales. As part of site design, the project proponent should utilize locally recommended vegetation types for landscaping. Typical landscaping recommendations are found in following local references:

**San Bernardino County Special Districts:**

Guide to High Desert Landscaping - <http://www.specialdistricts.org/Modules/ShowDocument.aspx?documentid=795>

Recommended High-Desert Plants - <http://www.specialdistricts.org/modules/showdocument.aspx?documentid=553>

**Mojave Water Agency:**

Desert Ranch: <http://www.mojavewater.org/files/desertranchgardenprototype.pdf>

Summertree: <http://www.mojavewater.org/files/Summertree-Native-Plant-Brochure.pdf>

Thornless Garden: <http://www.mojavewater.org/files/thornlessgardenprototype.pdf>

Mediterranean Garden: <http://www.mojavewater.org/files/mediterraneangardenprototype.pdf>

Lush and Efficient Garden: <http://www.mojavewater.org/files/lushandefficientgardenprototype.pdf>

Alliance for Water Awareness and Conservation (AWAC) outdoor tips –

<http://hdawac.org/save-outdoors.html>

**4.3.1 Exceptions to Requirements**

Contingent on a demonstration that use of all of the LID BMPs or a facility of equivalent effectiveness is infeasible, other types of biotreatment or media filters (such as tree-box-type biofilters or in-vault media filters) may be used for the following categories:

1) Projects creating or replacing an acre or less of impervious area, and located in a designated pedestrian-oriented commercial district (i.e., smart growth projects), and having at least 85% of the entire project site covered by permanent structures;

2) Facilities receiving runoff solely from existing (pre-project) impervious areas; and

3) Historic sites, structures or landscapes that cannot alter their original configuration in order to maintain their historic integrity.

**4.3.2 Site Design BMPs**

Section E.12.b.ii of the Small Phase II MS4 Permit lists the required Site Design Low Impact Design preventative measures. As this is a Statewide Permit, the State of California Water Resources Control Board (SWRCB) and California State University, Sacramento have developed an on-line program and worksheet set to assist with site design BMP selection and sizing.

The on-line worksheets will require site specific inputs and it will provide the Permit required outputs for the Project’s compliance. The goal of the on-line program is to assist the property owner with:

* Correctly calculating the runoff volume from the site;
* Adequately calculating the site design BMPs;
* Providing options for site design; and
* Summarizing the final results.

The calculations are in three main steps:

1. Site data is entered to calculate existing and proposed site runoff volumes
2. Site design BMPs are selected and criteria entered for sizing
3. The compliance criteria is calculated and summarized

The on-line worksheets/programs are found at the following website links:

**Post Construction Calculator for Small Projects**:

<http://www.waterboards.ca.gov/water_issues/programs/stormwater/docs/phase_ii_municipal/120214_post_const_calc.xls>

IMPORTANT: THIS CALCULATOR CAN ONLY BE USED FOR PROJECTS THAT CREATE AND/OR REPLACE BETWEEN 2,500 SQUARE FEET AND 5,000 SQUARE FEET OF IMPERVIOUS SURFACE (OR DETATCHED SINGLE FAMILY HOMES THAT CREATE AND/OR REPLACE OVER 2,500

**California Phase II LID Sizing Tool:**

<http://owp-web1.saclink.csus.edu/LIDTool/Start.aspx>

Neither of these website links are developed or maintained by the County of San Bernardino

**4.3.2.1 Using On-line Calculators**

Please refer to the PCMP Technical Guidance Document for instructions on using the on-line calculators.

Section 5 WQMP Attachments

5.1. Site Design and Drainage Plan

Include a site plan with the drainage and BMP information containing the following minimum information:

* Project location
* Site boundary
* Land uses and land covers, as applicable
* Source Control BMP locations
* Site Design BMP locations
* LID BMP details
* Drainage points and flow direction

A modified Erosion Control Plan can be used for the Site Plan submittal.

5.2 Submittal Package Summary

The PCMP submittal package will include:

1. This template with the appropriate sections filled out
2. A copy of the “Post Construction Calculator for Small Projects” worksheets:
3. Site design and drainage plan

Once approved, a copy of this document should be kept with other important property records. This document would be transferable to future ownership. At the time of writing, this document did not have to be recorded against the property.