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# WATER QUALITY MANAGEMENT PLAN (WQMP) HANDOUT

***SUMMARY***

The purpose of the WQMP is to control site sediments, treat site pollutants, maintain the predeveloped site infiltration, and to control downstream erosion and creation of sediment.

The WQMP documents LID BMPs, pollutant treatment BMPs and mitigation structural BMPs; provides the requirements on how to minimize the pollutants as a result of the development; and provides the instructions and requirements of the post construction operation and maintenance of the WQMP facilities.

## *WHAT IS THE FORMAT OF A WQMP REPORT?*

- Title Sheet
- Project Owner's Certification
- Preparer's Certification
- Table of Contents
- Section 1 – Discretionary Permits
- Section 2 – Project Description
- Section 3 – Site and Watershed Description
- Section 4 – Best Management Practices
- Section 5 – Inspection and Maintenance Responsibility of Post Construction BMPs
- Section 6 – Site Plan and Drainage Plan
- Forms
- Appendix

## *WHEN SHOULD A WQMP REPORT BE PREPARED?*

The WQMP Report consists of two reports: The **Preliminary WQMP** and the **Final WQMP**.

### *Preliminary WQMP*

The Preliminary WQMP should be prepared during the conceptual site design. The project team: the developer, planners, architects, civil engineers, landscape architect, etc. should confer at the project inception to discuss design strategies that meet the WQMP requirements.

The key to the above statement is to understand what the **design strategies** are to meet the WQMP requirements.

A Preliminary WQMP is required to be submitted with your application for entitlements and development approvals, and must be approved before approvals or entitlements will be granted.

### *Final WQMP*

The Final WQMP is required to be submitted and approved prior to issuance of permits.

## *PLAN AHEAD TO AVOID THE THREE MOST COMMON MISTAKES*

The most common and costly error made by applicants for development approval with respect to WQMP compliance are:

1. Not planning early enough. Plan for compliance during the conceptual site design. The project team: the developer, planners, architects, civil engineers, landscape architect, etc. should confer at the project inception to discuss design strategies that meet the WQMP requirements.
2. Assuming proprietary Treatment Control BMPs will be adequate for compliance. LID BMPs that maximize LID site design, infiltration, harvest, evapotranspiration and bio-treatment are now required for nearly all projects.
3. Not planning to minimize the expense of the long-term operation, inspection and maintenance of the BMPs.

## *SEMI-TECHNICAL*

The WQMP is required to address discharges from the post-construction use of the site. The WQMP is a requirement of the City's MS4 permit and under the jurisdiction of the City of Hesperia.

The WQMP is a separate document from the Stormwater Pollution Prevention Plan (SWPPP).

A SWPPP provides for temporary measures to control discharges of sediment and other pollutants during construction at sites that disturb more than one acre or more. The SWPPP is a requirement of the California Water Quality Control Board General Construction Permit and is under their jurisdiction.

The WQMP address issues related to specific watersheds. Be sure to use the watershed the project is in.

To assist in developing the WQMP Report, a WQMP Template and the Technical Guidance Document (TGD) that explains how to fill out the WQMP Template are available from San Bernardino County (http://cms.sbcounty.gov/dpw/Land/WQMPTemplatesandForms.aspx). **The WQMP TGD and Template should be used as a guide in preparing the WQMP Report. Guidance texts and sections that are not relevant should not be used, and should be deleted.**

As previously mentioned, the WQMP lists a hierarchy of **design strategies** that are required to be considered in designing the site. The design strategies are divided into two categories: Preventive Measures and Mitigation Measures. Below are brief summaries of the LID BMP requirements, please refer to the WQMP TGD and Template for details.

### *PREVENTIVE MEASURES LID BMPs*

Site Design BMPs

- Maximize natural infiltration capacity
- Preserve existing drainage patterns and increase time of concentration
- Protect existing vegetation and sensitive areas
- Minimize impervious area
- Disconnect impervious areas
- Integrated with watershed planning

### *MITIGATIVE MEASURES LID BMPs*

Hydrologic Source Control (HSC) is a class of BMPs integrated with site design that retain stormwater runoff and reduce the volume (and potentially the rate) of stormwater discharge to the downstream system.

- Implementation of impervious area dispersion BMP (i.e. routing runoff from impervious to pervious areas), excluding impervious areas planned to on-lot infiltration BMP
- Implementation of localized on-lot infiltration BMPs (e.g. on-lot rain gardens)
- Implementation of evapotranspiration BMP (green, brown, or blue roofs)
- Implementation of street trees
- Implementation of residential rain barrels/ cisterns

Remaining DCV not retained by HSC, if any, should be mitigated by LID BMPs in the following hierarchy,

1. Infiltration
2. Harvest and Use
3. Biofiltration
4. Alternative Compliance

For most site developments, infiltration will capture the entire DCV. The remaining BMP would only be considered if infiltration cannot capture the entire DCV. The DCV is based upon a calculation outlined in the WQMP Template.

It should be noted that there is a difference between infiltration and percolation. Infiltration is the vertical movement of water through the soil, whereas percolation is the horizontal movement of water through the soil. There are several distinct methods of performing soil infiltration test and soil percolation test. When a soil percolation test method is used, the percolation value is converted through a mathematical equation to an infiltration value.

### *HYDROMODIFICATION*

The City of Upland is located within HCOC exempt areas. Therefore, no Hydromodification Control BMP is needed.

### *MAINTENANCE RESPONSIBILITIES*

The WQMP requires a detailed Operation and Maintenance (O&M) Plan for all BMPs, along with a Maintenance Agreement. The O&M Plan shall describe the designated responsible party to manage the stormwater BMPs, as well as defining employee training program and duties, operating schedule, maintenance frequency, routine service schedule, specific maintenance activities, copies of resource agency permits, and any other necessary activities. The Maintenance Agreement must be completed, approved, signed, notarized, and submitted to the City prior to building permit issuance. A recorded Maintenance Agreement shall be submitted to the City before final building inspection.