

Hydromodification Management Plan (HMP)

July 2010 Update

Sacramento Municipal Stormwater Permit requirement

The HMP shall require controls to manage the increases in the magnitude (e.g., flow control), frequency, volume and duration of runoff from development projects in order to protect receiving waters from the increased potential for erosion and other adverse impacts with consideration towards maintaining (or reproducing) the pre-development hydrology.

Timeframe

- The HMP Workplan has been submitted to the Regional Water Quality Control Board (Regional Board) with the revised Stormwater Quality Improvement Plan (SQIP) in September of 2009 and was approved on **01/29/2010** (http://www.sacramentostormwater.org/documents/reports/2009-SQIP/SQIP_Apx2_Joint.pdf).
- As stated in the permit and the permittees' workplans, the first stage of the HMP will be submitted to the Regional Board on **01/29/2011** (one year after approval of the HMP workplan) and will include the development of an applicability map, interim criteria (as applicable), analysis and mitigation tools. Once the first phase of the HMP is approved by the Regional Board, the permittees will have six months to update their development standards.
- In October 2009, the Sacramento Stormwater Quality Partnership (SSQP) selected a consultant team to help with the development of the Sacramento areawide HMP.

Current Developments

- Applicability Mapping – the applicability mapping task includes developing a GIS-based map showing areas within the Sacramento MS4 permit area that will be subject to the new HMP criteria. In addition, the applicability map will show the exempted areas and include characterizations of the receiving channels for applicability determination.
- Hydromodification Criteria – HMP performance criteria will be developed to evaluate compliance with the HMP requirements for projects of various scales.
- Analysis tools
 1. For large projects required to comply with the HMP requirements, continuous simulation modeling is necessary to demonstrate that the pre-development hydrology will be maintained by matching peak flow frequency and flow duration curves for pre- and post-project conditions. Guidelines for the use of continuous simulation modeling for analyzing the impacts of hydromodification are being developed by the SSQP.
 2. A simplified modeling methodology was developed for smaller projects to simplify the hydrograph matching analysis. Acceptance of this methodology

varies by the local permitting agency, so please check with the local permitting agency for more details.

- Mitigation tool – A BMP sizing tool is to be developed to assist engineers and project applicants with selecting appropriate BMPs to meet the HMP requirements.

Low Impact Development (LID) and Hydromodification

On-site LID measures are one alternative to mitigate the hydromodification impacts. LID practices include the following examples: stormwater planters, infiltration trenches, vegetated filter strips. An LID sizing calculator is being developed to assist applicants with assessing the benefits of LID to mitigate for hydromodification impacts.

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