

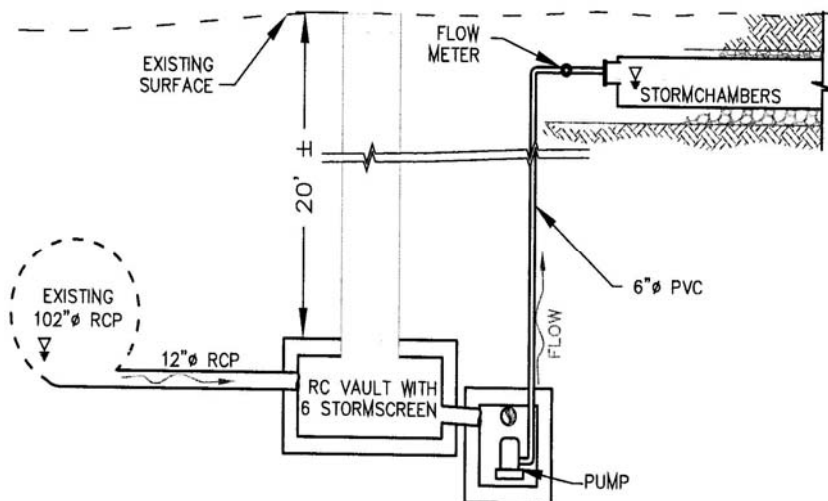
# Infiltration and Bioremediation of Urban Runoff to Las Virgenes Creek

Last Update: October 2005

The City of Calabasas is tasked to design and build a storm water treatment facility to improve the quality of water entering Malibu Lagoon via Las Virgenes Creek and Malibu Creek. The facility will treat runoff from approximately 670 acres watershed of mixed urban (including landfill and freeway uses) and open space areas that run through an existing 102" diameter storm drain (PD1851). Dry season flow from PD 1851 is between 0.66 and 1.3 cubic feet per second (cfs), with a peak measured flow rate of 2.2 cfs based on the August through September 2003 study period. This dry season flow is identified as one of the contributors of trash/debris, nutrients and bacteria to Surfrider Beach, via Malibu Lagoon. The design of two-stage filtration and infiltration system was completed in July 2005, with construction contract awarded shortly thereafter.



The first stage of treatment includes gross solids removal through the use of StormScreen<sup>®</sup> by Stormwater Management, Inc. The StormScreen is a 12-ft diameter circular concrete vault that houses six (6) screen assemblies with a total filtering capacity of 3 cfs of water. This will filter 100% of the average dry weather flow observed in the storm drain and will retain all solid pollutant larger than 0.25 inch. A pump unit is integrated with this filter system to bring the filtered water upwards several feet to the sub-surface level where the second stage of the system begins.



The second stage is an infiltration bed utilizing a perforated HDPE dome pipe system known as StormChambers<sup>®</sup> by HydroLogic Solutions, Inc. Filtered water from the first stage of treatment will be pumped to this infiltration unit, and then monitored by flow meter placed at the pump discharge line. Water in the infiltration unit (StormChambers) will be infiltrated to the ground

using an area of about 2,400 sq. ft. When the StormChambers are full and the pump turns off, the filtered flow will be returned to the 102" pipe through a connection upstream of the outfall to the creek. This will maintain filtration of 100% of the dry weather flow, thus removing all gross pollutants.

The design phase is 100% complete and the construction of the facility has been awarded to local contractor whose expertise is in construction of environmental projects. CEQA was completed in March of 2004 with filing of a Categorical Exemption. LA County Flood Control District issued a connection permit in August 2005. Construction is expected to begin on October 24, 2005 and the treatment facility should be in operation by December 2005.