Lessons Learned: The Caltrans Storm Water Best Management Practice Retrofit Pilot Study

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ABSTRACT

In 1997, Caltrans began an extensive program to evaluate structural best management practices (BMPs) for the treatment of storm water. Thirty-nine structural BMPs were designed for installation at Caltrans facilities in the Los Angeles and San Diego areas including roadways, maintenance yards, and park and ride lots. BMPs being evaluated include: extended detention basins, drain inlet inserts, infiltration basins and trenches, oil/water separators, media filters, multi-chambered treatment trains, biofiltration swales and strips, wet basins, and Continuous Deflective Separators™ (CDS). Constituent removal efficiencies, capitol costs, and annual operation and maintenance costs are key factors in determining the cost effectiveness of the BMPs. BMP influent and effluent water quality are being monitored to determine each BMP's constituent removal efficiency. Issues concerning siting, design, construction, operation, maintenance, monitoring, and vector control are also significant factors in determining the effectiveness and applicability of retrofitting BMPs into Caltrans facilities. This paper will describe the lessons learned during siting, designing, constructing, and the first year of operating and monitoring the BMPs. The unique challenges associated with siting, constructing, and monitoring BMPs on existing Caltrans facilities has been reflected in the BMP construction costs.