

Costa Mesa Master Drainage Plan – Costa Mesa, California

Project Description

Hromadka & Associates is currently preparing a Master Drainage Plan (MDP) for the City of Costa Mesa, California. The City of Costa Mesa is a relatively built-out City with several existing drainage deficiencies.



The MDP encompasses approximately 20 square miles of generally flat coastal terrain with a few localized bluff areas. There are several additional components to this MDP including scanned inventory of drainage plans and conversion to GIS, GPS survey of catch basins and manholes, hydraulic analyses of storm drain system, detention basin evaluation, water quality issues in a sensitive coastal habitat, capital improvement plan development and implementation schedule, and development of funding alternatives.

Project Scope

The MDP involves extensive use of Geographic Information System (GIS) and imaging technology. During the inventory stage, the storm drain construction documents were scanned and registered into the City's GIS land base, then, vector representations of the storm drain facilities

were created for the GIS database. An interface will be developed to allow City personnel to access the scanned construction drawings from their desks, both from a GIS system and a tabular database application.



GIS will also be used to store all of the hydrologic parameters (soils, land use, rainfall, etc.) and then develop the required information for hydrologic and hydraulic modeling. Along with determining watershed boundaries and peak flow rates, the entire drainage system within the City will be analyzed hydraulically to determine capacity deficiencies. Recommended drainage improvements will then be prioritized using a cost-to-benefit analysis. An integrated 10- and 20-year capital improvement program will be presented to address structural and capacity deficiencies. The City's drainage fee structure will be reviewed and a revised fee structure will be proposed. The entire project will anticipate and provide critical information that the City can use to support GASB 34 reporting regulations.

Project Components

Owner – City of Costa Mesa

Date of Project – 2000 – Present