WATERSHED MANAGEMENT DIVISION

WATERSHED ENGINEERING, MAPPING & FEMA SUPPORT

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Section Background

This Section was formed with the creation of WMD in August 2001 . The Section combined various functions from Water Resources Division and the former Planning Division in an effort to bring integrated support and services to the general public and to help facilitate the delivery of Public Works' projects. Support and services are provided in four major categories: groundwater recharge planning, development of drainage/ special projects, FEMA and mapping coordination, and environmental documents review.

The objective for the Groundwater Planning Unit is to explore opportunities for multiuse benefits throughout the Los Angeles County without existing flood control facilities to bring improvements and better management of natural resources. This is accomplished by enhancing water conservation efforts throughout the Los Angeles County without compromising Public Works flood control functions. The Drainage/Special Projects Unit tracks and maintains the historical files for over 2,500 unmet drainage needs and 1,500 flooding complaints. Based on the degree of urgency determined by the cities and the Flood Control District, a significant number of established drainage needs have become construction projects.

The FEMA and Mapping Coordination Unit ensures the County is in compliance with FEMA regulations which contribute to further reduce flood insurance premiums to residents of the County. This Unit also assists the public and other divisions with flood related questions or issues.

The Environmental Document Review Unit is responsible for coordinating review of environmental documents within Public Works. This Unit screens and distributes documents to appropriate divisions for review and comments. Comments received are compiled into a response to be sent to the submitting agency.

Mission

To provide engineering based support and high quality service that ensure proactive groundwater recharge planning, delivery of projects and special studies that target drainage relief, compliance with FEMA regulations, and coordination of the environmental document review.

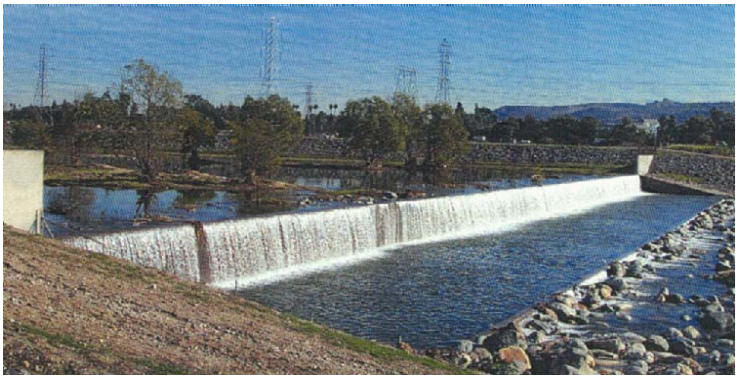
Projects in the Watershed Engineering, Mapping & FEMA Support

San Gabriel River Rubber Dams Construction

During storms, water flows rapidly down the SGR. While this protects local communities from flooding, much fresh water that could be added to the local water supply is lost.

By capturing this valuable resource and recharging it into the groundwater supply, it can reduce the dependency on imported water from northern California and create a healthier environment for both regions.

Rubber dams are long, hollow tubes filled with air that can be inflated to capture water or deflated to allow storm flows to pass. This project is to construct two rubber dams in the river to hold back water long enough to percolate and recharge the groundwater supply.



Rio Hondo Pipeline Crossover to San Gabriel River Construction

During storm operations, high flows from Walnut Creek and San Jose Creek enter the SGR up-stream of the Whittier Narrows Dam. The gate on the San Gabriel side is set to release water at a rate that corresponds to the intake capacity of San Gabriel Coastal Spreading Grounds and to fill the eight rubber dams in the system. Frequently, the storm flows greatly exceed the outlet gate flow setting and the water spills into the crossover channel, flows to the lower Rio Hondo side, and pools behind the dam. By far, the majority of the capacity allocated for water conservation is on the Rio Hondo side of the dam. Presently, there is no way to bring water back to the San Gabriel system once it has crossed over to the Rio Hondo side. Water is frequently wasted to the ocean when the Rio Hondo Spreading Grounds are full and the Corps discharges from the dam to drain the pool.

Connecting a pipeline to the existing storm drain system below Whittier Narrows Dam would provide operational flexibility to bring water back to the San Gabriel System from the Rio Hondo Channel. This flexibility will allow water to percolate behind five existing rubber dams along the SGR during post-peak storm releases from Whittier Narrows Dam.

Proposed Crossover Location from Rio Hondo Channel

Los Angeles Basin Groundwater Recharge Study and GIS Tool

The purpose of this study is to identify favorable groundwater recharge sites throughout the Los Angeles County and to develop a planning device to facilitate groundwater recharge planning efforts. About a third of our local water supplies come from local groundwater sources. Identifying additional sites for recharge will help us plan additional facilities to capture more of local runoff and reduce our de-pendency on imported water sources.

Rio Hondo Coastal Spreading Grounds

In addition to a hard copy of the study findings, the final report will be converted into a GIS Smart Tool. The GIS-based tool will consist of a database that identifies the fundamental suitability of a property for groundwater recharge based on evaluation parameters including aquifer type, surface soil type, infiltration capacity, vadose zone quality, and storage potential.

Typical Water Conservation Facility

Hazard Mitigation Grant Program Malibou Lake

During major storms, the rising water would flood most homes near Malibou Lake. This usually results in multiple disaster relief claims from FEMA. Homes that have filed two or more claims, in the last 10 years, are classified as "repetitive loss property homes." This classification requires the communities of such homes to conduct a floodplain management plan study to mitigate the flooding problem. Failure to come up with the solution will result in the loss of rights to file future claims.

WMD conducted the study for Malibou Lake and recommended the homes be elevated above the base flood levels. WMD also applied for a $1.3 million hazard mitigation grant from FEMA for the elevation of these homes. FEMA is currently reviewing the grant application and when approved, WMD will proceed with the elevation of those homes.

Malibou Lake

Accomplishments

- Completed project concept reports for the SGR Valley Boulevard Rubber Dams, Catch Basin Retrofit 2002-03, Paso Real/ Pathfinder – Drainage Issue, and Woodland Duck Farm.
- Obtained $2.15 million of Proposition 13 grant funding from the Department of Water Resources on for the San Gabriel River Valley Boulevard Rubber Dams project.
- Developed Scope of Work on a Request For Proposal for obtaining consultant services to establish a monetary value on watershed improvements which is fundamental in providing justifications for future watershed projects.

- As required by FEMA, WMD coordinated the completion of the Floodplain Management Plan in 2001 to replace the existing Repetitive Loss Plan adopted by the Board in 1992. The new plan will focus on mitigating flooding problems for properties with more than two claims in a ten-year period.
- Completed an application for a hazard mitigation grant of $1.3 million from FEMA for the elevation of 17 repetitive loss property homes in Malibou Lake.
- Participated in Departmentwide Study to examine current processes and make recommendations to streamline environmental document review processing.

Lessons Learned

The Section has benefited from experiences and learned the following lessons:

- As a supporting Section, lessons are drawn from projects that always affect one or more watersheds. The Section has come to realize that it is essential to work closely with affected watershed managers on all projects. Conversely, the Section should be aware of projects originating in other sections in order to maximize efficiency and avoid duplication of efforts.
- The public is gradually increasing its awareness and understanding of the available options for dealing with flood hazards as well as the need to promote prudent use and management of the nation's flood plains. Proper planning and employment of constructive land use techniques will create a balance on issues of human settlement on floodplains.
- The current method of processing environmental documents is cumbersome and manually intensive. There is no standardization for submitting and tracking environmental documents that require review from multiple divisions. Based on examination of the current process, the Section has arrived at five recommendations in streamlining the coordination efforts for environmental document review.

Future

Groundwater Recharge Planning

In addition to the existing responsibilities, the future role of the Groundwater Recharge Planning Unit will include the development of new program concepts to provide a set of guidelines and standards for protection of groundwater supplies, water conservation and water quality, and water recycling and reuse. As part of the program concepts, a list of potential projects in each of the new programs would be recommended for budgeting and resource allocation purposes. In addition to traditional means of groundwater recharge, the Unit will continue to explore nontraditional means of groundwater recharge and look to enhance quality of life issues by focusing on multiuse projects.

Drainage and Special Studies - The future role of the Drainage/Special Projects Unit is to develop new design standards/criteria for watershed improvement projects, pilot demonstration projects to present new technologies, and work with other sections to address all known Unmet Drainage Needs through watershed management principles and development of regional relief concepts.

FEMA & Mapping Coordination -

The FEMA's current map modernization program will produce updated digital flood insurance rate maps for the nation to enable convenient access by the communities and members of the public . These digitized maps are expected to be more accurate in flood zone delineations than the existing flood insurance rate maps. This effort will enhance, in a large measure, our overall ability to manage flood related issues and problems.

Environmental Document Review -

As recommended by the Departmentwide Streamlining Project, the environmental document review function will be transferred to combine with existing duties of Land Development Division (LDD). The implementation of a computer-based tracking and screening system for processing of environmental documents will be assumed by LDD.