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METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

Daren E. Wolff
Executive Secretary

9-13

January 19, 1994

To: Board of Directors (Water Problems Committee--Information)
From: General Manager
Subject: Los Angeles Department of Water and Power Headworks
Spreading Grounds Pilot Study Final Report

Report

The use of reclaimed municipal wastewater for groundwater recharge could provide additional supply for future water demands. The acceptability of groundwater recharge with reclaimed water is dependent on the health effects that may result from the introduction of pathogens, inorganics, and trace organics into groundwater that may serve as a domestic supply. The Headworks Spreading Grounds Pilot Study (Study) was designed to assess health issues, obtain operational criteria for groundwater recharge with reclaimed water, and demonstrate the feasibility of using Los Angeles River (LAR) water as a source of recharge for the San Fernando Groundwater Basin (SFGB).

At the November 1990 meeting, your Board authorized the General Manager to enter into an agreement with the Los Angeles Department of Water and Power (LADWP) to conduct the Headworks Spreading Grounds Pilot Study. The final results of this two-year pilot project and comprehensive water quality monitoring program are summarized in this letter.

The study involved the construction of facilities to divert one cubic-foot per second of water from the LAR, which contains predominantly reclaimed effluent from the Tillman Reclamation Plant, to the Headworks Spreading Grounds, as shown in Figure 1 (attached). Monitoring wells and one extraction well were also constructed downgradient of the spreading grounds to monitor the movement and extraction of the diverted flow. In addition to constituents stipulated by the Regional Water Quality Control Board and drinking water standards regulated under Title 22 of the California Administrative Code, the comprehensive water quality monitoring and testing program

included microbiological analyses of the extracted water for bacterial removal, Giardia, Cryptosporidium, and enteric viruses. Operation at the Headworks Spreading Grounds began in June 1991 and was completed in July 1993.

Results from the water quality investigation indicated that there were no adverse impacts on water quality in the basin and that the extracted water complied with all current drinking water standards. There was a marked improvement in the microbiological quality and a significant reduction in the organic content of the extracted water compared to the spread water. Giardia and Cryptosporidium were removed by the filtering action of the soil and were not detected in the non-chlorinated extracted water. Similarly, no enteric viruses were detected in the three sample sets collected from the spread water, extracted water, or the monitoring wells. Since the data for pathogens are limited, additional monitoring for pathogens will be conducted during future testing. Furthermore, chemical analysis indicated that the spread water caused a temporary increase of chlorides in that portion of the groundwater basin affected by the project, but the concentrations did not exceed the basin water quality objective of 100 milligrams per liter.

Based on the encouraging results, LADWP has initiated development of an operational plan and engineering report for full-scale implementation of a spreading project that would divert up to 10,000 acre-feet of water from the Los Angeles River to the Headworks Spreading Grounds, where it would augment the City's groundwater supply in the SFGB. The operational plan and engineering report are subject to approval by the Department of Health Services and Regional Water Quality Control Board. It is suggested that a comprehensive water quality monitoring program continue during full-scale operations so that long-term water quality impacts could be assessed. This monitoring program would also provide information that may be critical to assess impacts caused by future water quality regulations.

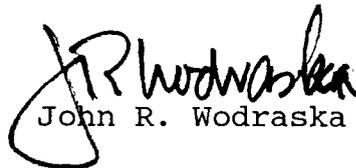
Copies of the water quality investigation for the project are available in the Executive Secretary's office.

Board Committee Assignment

This letter is referred to the Water Problems Committee pursuant to its duty to study, advise, and make recommendations with regard to water conservation, reclamation, reuse and underground storage of water and the use thereof imposed by Administrative Code Section 2481 (i).

Recommendation

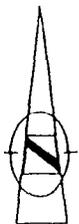
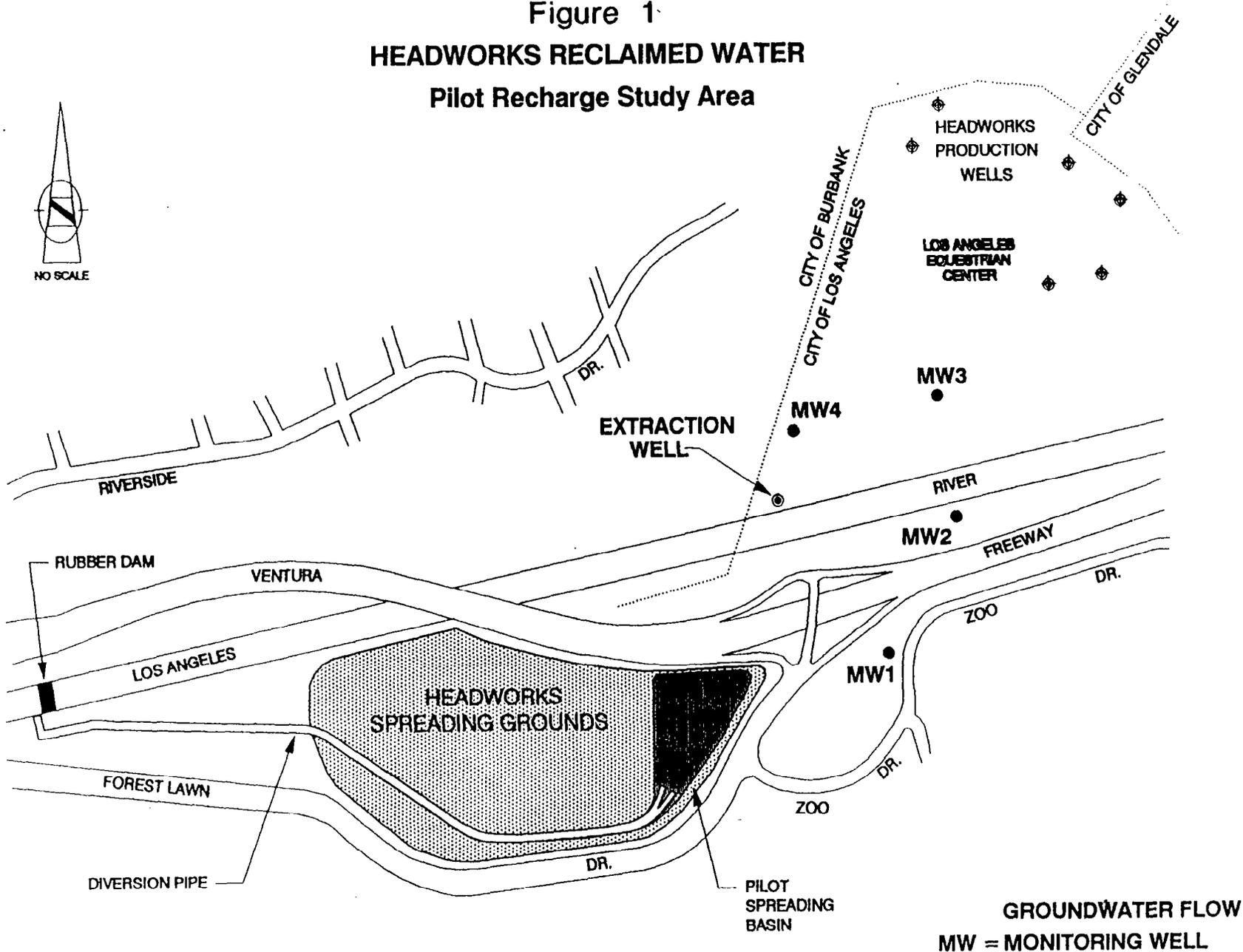
For information only.


John R. Wodraska

AMH:bvf

Attachment

Figure 1
**HEADWORKS RECLAIMED WATER
 Pilot Recharge Study Area**



NO SCALE

GROUNDWATER FLOW
MW = MONITORING WELL

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