

APPROVED
By the Board of Directors of
The Metropolitan Water District
of Southern California
at its meeting held

NOV 14 1995

**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

[Signature]
EXECUTIVE SECRETARY

October 24, 1995

To: Board of Directors (Engineering and Operations Committee--Action)
(Finance and Insurance Committee--Action)

From: General Manager

Subject: Appropriation No. 719 to Expend Budgeted Funds in the Amount of \$1,650,000 to Finance All Estimated Costs of Conducting a Detailed Facilities Location Study and Geotechnical and Environmental Investigations for a Second Finished-Water Reservoir at the Robert B. Diemer Filtration Plant

RECOMMENDATION:

It is recommended that your Board authorize a detailed facilities location study and geotechnical and environmental investigations for a second finished-water reservoir at the Robert B. Diemer Filtration Plant.

It is recommended that your Board authorize Appropriation No. 719 in the amount of \$1,650,000 from the Pay-As-You-Go Fund, to finance a detailed facilities location study and geotechnical and environmental investigations for a second finished-water reservoir at the Robert B. Diemer Filtration Plant.

John R. Wodraska
General Manager

Submitted by:

[Signature]

Gary M. Snyder
Chief Engineer

Concur:

[Signature]

John R. Wodraska
General Manager

DWC:mg/Rev4
(719A-apr)
Attachment

CAPITAL FUNDING REQUEST		
PROJECT NAME: ROBERT B. DIEMER FILTRATION PLANT FINISHED-WATER RESERVOIR NO. 2 STUDY		
APPROPRIATION No.: 719	FUNDING REQUEST No. NEW	AMOUNT: \$ 1,650,000
SOURCE OF FUNDS: PAY-AS-YOU-GO FUND		
FY 95/96 BUDGET:	NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> \$3,516,100	CAPITAL PROGRAM 5-0501-31 PAGE NO. REFERENCE: 28
<u>PROJECT JUSTIFICATION AND TYPE:</u>		
<input checked="" type="checkbox"/> MEET WATER DEMANDS <input type="checkbox"/> MANDATED BY LAW <input type="checkbox"/> ASSET PROTECTION/RISK MGT. <input type="checkbox"/> COST AVOIDANCE <input type="checkbox"/> OTHER _____		
<input checked="" type="checkbox"/> NEW FACILITY <input type="checkbox"/> REPLACEMENT <input checked="" type="checkbox"/> IMPROVEMENT <input type="checkbox"/> EXPANSION		

<p><u>PROJECT DESCRIPTION:</u></p> <p>To keep pace with water demands, operational needs and changing regulations, it is essential for Metropolitan to plan and anticipate facility requirements before they become critical to operations. The Diemer filtration plant has limited area available for expansion of new facilities that are presently planned and for future requirements. Such requirements include the Oxidation Retrofit Program to replace chlorine for initial disinfection, sludge handling and dewatering facilities to meet a potential enhanced Surface Water Treatment Rule, tightened restrictions on landfills and potential requirements for augmenting chemical feed and storage facilities. In addition, the need for a second finished-water reservoir to increase storage capacity is becoming a critical operational concern at the Diemer filtration plant.</p> <p>The primary function of the finished-water reservoir is to provide emergency water storage, ensure adequate disinfectant contact time and to provide operational flexibility and a "safety net" in the event of a process failure. The tables on Attachment B are comparisons of the finished-water reservoirs at Metropolitan's filtration plants for design capacities and emergency storage utilizing design or nameplate flows. As these comparisons illustrate, the existing finished-water reservoir at the Diemer filtration plant is considerably undersized. This situation becomes more critical since the plant regularly operates at 80 to 100 percent of present capacity of 520 million gallons per day (MGD) during the summer months. Even during the winter months, the plant's flows rarely drop below 60 percent or 312 MGD. The Diemer plant is also a significant contributor to the central pool and is increasingly relied upon to provide the majority of water to Orange County.</p> <p>The Surface Water Treatment Rule (SWTR), which became effective June 29, 1993, includes very stringent requirements, which, if not met, require public notification. To ensure the water delivered to member agencies meets the standards of quality and safety, Metropolitan has adopted a goal of at least 120 minutes of detention contact time for disinfection by chloramines, and regulatory storage. In May 1990, CH2M Hill completed an up-rating design report for the R. B. Diemer</p>
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Filtration Plant, which recommended an additional 22 million gallons of finished-water storage in order to provide adequate disinfectant contact time. The report also indicated an increase in plant capacity may be possible in the future with increased finished-water storage.

The addition of a second 22 to 25 million-gallon, finished-water reservoir at the Diemer filtration plant would provide a margin of safety in the event of a process failure by providing additional disinfectant contact time, by allowing continuation of water service from the proposed reservoir while problems are diagnosed and corrected, or by providing storage for inadequately treated water until the problems are corrected. This would minimize the potential of releasing improperly treated water into the distribution system and avoid public notification as required by the SWTR.

The Diemer filtration plant is located at the top of a ridge which presents a major constraint to development, since the elevation of the existing developable land is below the existing processing facilities and finished-water reservoir. Previous studies have identified preferred locations for the oxidation retrofit project, and also indicated the need to acquire additional land adjacent to the plant to accommodate future requirements. With the impetus growing for a second finished-water reservoir, Metropolitan completed a conceptual reservoir site investigation and geotechnical reconnaissance in late 1994. This investigation and reconnaissance identified six possible locations for a second finished-water reservoir at or adjacent to the Diemer filtration plant.

It is hereby proposed to proceed with a study by District personnel for locating a second finished-water reservoir at the Diemer filtration plant, and to conduct geotechnical and environmental investigations by consultants, including documentation required under the California Environmental Quality Act (CEQA). The estimated cost for a detailed facilities location study and geotechnical and environmental investigations is \$1,650,000. A breakdown of the estimated costs is contained in the Financial Statement on Attachment A. The siting of the proposed finished-water reservoir shall be coordinated with other ongoing studies for treatment and support facilities. Should it be subsequently determined to proceed with project implementation, a definitive cost estimate will be presented to your Board at the time design funding is requested.

The need for additional land for the Oxidation Retrofit Program and other operations support facilities, to provide a buffer from impending adjacent residential development, and to mitigate impact to sensitive species have been identified by previous studies. Steps toward land acquisition and implementation of mitigation measures through a Habitat Conservation Plan (HCP) have been under way and will be presented to your Board for consideration separately.

BENEFITS:

- Identify facilities requirements, configuration, and location for a second finished-water reservoir.
- Identify potential for increased plant capacity.

PROJECT PLAN: CAPITAL PROGRAM NO. 5-0501-31								
PHASE	ESTIMATED COSTS	% COMPLETE	COSTS THRU FY 1994/95	FY 1995/96	FY 1996/97	FY 1997/98	FY 1998/99	FY 1999/2000
CONCEPTUAL								
SITE STUDY/RECONN	\$ 45,000	100%						
DETAILED SITE								
STUDY	\$ 642,200	0%						
*GEOTECHNICAL & ENVIRONMENTAL	\$ 753,800	0%						
CONTINGENCY	\$ 209,000							
TOTAL	\$1,650,000		* Includes Aerial Topography					

ALTERNATIVES TO PROPOSED ACTION:

Alternative to proposed action is to proceed with implementing facilities at the Diemer filtration plant without considering all site requirements.

CEQA COMPLIANCE / ENVIRONMENTAL DOCUMENTATION:

Actions requested by this letter are only for funding site feasibility studies and the preparation of environmental documentation in compliance with CEQA. Completion of appropriate CEQA documentation will be necessary for your Board to act on any future recommendation to implement this project.

FINANCIAL ANALYSIS:

EVALUATION PERIOD: 3 YEARS

A. PROJECTED COSTS (CAPITAL AND O&M):

	THROUGH FY 94/95	FY 95/96	FY 96/97	OUT YEARS	TOTAL
LABOR/ADDITIVES	\$ 30,000	\$ 180,000	\$ 198,000	\$ 0	\$ 408,000
PROFESSIONAL SERVICES	0	280,000	525,000	0	805,000
LAND PURCHASE	0	0	0	0	0
OTHER	15,000	101,000	112,000	0	228,000
CONTINGENCY	0	84,300	124,700	0	209,000
TOTAL	\$ 45,000	\$ 645,300	\$ 959,700	\$ 0	\$ 1,650,000

B. PROJECTED SAVINGS:

	FY 94/95	FY 95/96	FY 96/97	OUT YEARS	TOTAL
LABOR/ADDITIVES	\$0	\$0	\$0	\$0	\$0
PROFESSIONAL SERVICES	0	0	0	0	0
OTHER	0	0	0	0	0
TOTAL	\$0	\$0	\$0	\$0	\$0

C. DIFFERENCE (B-A)	\$(45,000)	\$(645,300)	\$(959,700)	\$ 0	\$(1,650,000)
D. CUMULATIVE DIFFERENCE	\$(45,000)	\$(690,300)	\$(1,650,000)	\$ 0	\$(1,650,000)

PAYBACK PERIOD: N/A YEARS

ESTIMATED LIFE OF PROJECT: N/A YEARS

Attachment A

FINANCIAL STATEMENT

(Capital Program No. 5-0501-31)

The total estimated cost breakdown for Appropriation No. 719 is as follows:

Costs Through 6/30/95	\$	Initial Funding 45,000
Labor:		
Engineering/Project Management	\$	157,000
Survey		110,000
Real Estate Services		46,000
Water Quality		8,000
Planning Division		52,000
Operations		<u>5,000</u>
Total Labor	\$	378,000
Incidental Expenses	\$	5,000
Professional/Technical		
Geotechnical		350,000
Environmental		280,000
Aerial Topography		175,000
Administrative Overhead		208,000
Contingency		<u>209,000</u>
Total	\$	<u>1,650,000</u>
Projected Expenditure of Funds:		
Through Fiscal Year 1995/96	\$	690,300
Fiscal Year 1996/97		959,700
Total	\$	<u>1,650,000</u>
Source of Funds: Pay-As-You-Go Fund		
Capital Program Estimate For FY 1995/96	\$	3,516,000

Class: One--Project directly related to the delivery of water.

Project Benefit: Identification of facility requirements, configuration, and location for a second finished-water reservoir; and long-range planning information for future process and support facilities to support potential increased plant capacity.

**METROPOLITAN'S FINISHED-WATER RESERVOIR CAPACITIES AND
EMERGENCY STORAGE HOURS**

TABLE 1

TOTAL STORAGE AT DESIGN FLOWS			
PLANT	DESIGN FLOW million gallon/day	STORAGE million gallons	EMERGENCY storage hours
JENSEN	750	100	3.20
SKINNER	520	110	5.08
WEYMOUTH	520	50	2.31
MILLS	326	50	3.66
DIEMER	520	25	1.15

TABLE 2

TOTAL STORAGE AT MAXIMUM FLOWS			
PLANT	MAXIMUM FLOW million gallon/day	STORAGE million gallons	EMERGENCY storage hours
JENSEN	1000	100	2.40
SKINNER	649	110	4.07
WEYMOUTH	600	50	2.00
MILLS	**326	50	3.66
DIEMER	710	25	0.85

- Plant design flows are California Department of Health Services approved rates.
- Plant flows and reservoir capacities are current, under construction, or will start construction soon.
- Maximum design flows are based on plant hydraulic capacity or maximum allowable filtration rates. These are to be short-term flows only.

** The Box Springs Feeder will limit Mills plant hydraulically.