



**MWD**  
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

SEP 12 1995

7-3

*Karen E. Duff*  
EXECUTIVE SECRETARY

August 29, 1995

**To:** Board of Directors (Engineering and Operations Committee--Action)  
(Finance and Insurance Committee--Action)  
**From:** General Manager  
**Subject:** Appropriation No. 718 in the Amount of \$190,000 to Finance All Costs for Design of Flocculator Equipment to Replace 24 Vertical Flocculators at the Robert A. Skinner Filtration Plant, Modules 1 and 2

**RECOMMENDATION:**

That the General Manager be authorized to have all work performed, other than work to be performed under competitively bid equipment and material procurement contracts involving contracts of \$250,000 or more, for design of flocculator equipment to replace 24 vertical flocculators at the Robert A. Skinner Filtration Plant, Modules 1 and 2.

Authorize Appropriation No. 718 in the amount of \$190,000 from the Pay-As-You-Go Fund to finance all estimated costs for design of flocculators to replace 24 vertical flocculators at the Robert A. Skinner Filtration Plant, Modules 1 and 2.

John R. Wodraska  
General Manager

Submitted by:

*for* *JR* *Gary Snyder*  
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Gary M. Snyder  
Chief Engineer

Concur:

*for* *John R. Wodraska*  
\_\_\_\_\_  
John R. Wodraska  
General Manager

GDB:aj  
(718-apr.doc/08255)  
Attachment

<b>CAPITAL FUNDING REQUEST</b>		
<b>PROJECT NAME:</b> FLOCCULATOR REPLACEMENT FOR MODULES 1 AND 2 AT ROBERT A. SKINNER FILTRATION PLANT		
<b>APPROPRIATION NO.:</b> 718	<b>FUNDING REQUEST NO.:</b> NEW	<b>AMOUNT:</b> \$190,000
<b>SOURCE OF FUNDS:</b> PAY-AS-YOU-GO FUND		
<b>FY 95/96 BUDGET:</b> No <input type="checkbox"/> Yes <input checked="" type="checkbox"/> @ \$260,300		<b>CAPITAL PROGRAM PAGE NO. REFERENCE: 33</b>
<b><u>PROJECT JUSTIFICATION AND TYPE:</u></b>		
<input type="checkbox"/> MEET WATER DEMANDS	<input type="checkbox"/> NEW FACILITY	<input checked="" type="checkbox"/> REPLACEMENT
<input type="checkbox"/> MANDATED BY LAW	<input type="checkbox"/> IMPROVEMENT	<input type="checkbox"/> EXPANSION
<input type="checkbox"/> ASSET PROTECTION/RISK MGT.		
<input checked="" type="checkbox"/> COST AVOIDANCE		
<input type="checkbox"/> OTHER _____		

<b><u>PROJECT DESCRIPTION:</u></b>
<p>The Robert A. Skinner Filtration Plant, Modules 1 and 2, were originally constructed with vertical flocculators. Each module is equipped with 12 vertical turbine flocculator units which were installed in 1973. Over the years replacement parts for these units have become very difficult to obtain. In addition, the existing 15 horsepower drive motors are not energy efficient. A study determined that modern equipment with half the horsepower of the current equipment could provide better flocculation at much lower costs. Replacement of these flocculators would provide savings in energy and maintenance costs.</p> <p>It is proposed that Metropolitan complete the design and specification work required for replacing 24 flocculators at the Skinner filtration plant on Modules 1 and 2. Competitive bidding procedures would be used to obtain equipment and materials. Board approval would be obtained for award of an equipment contract and funding for installation of the equipment by Metropolitan. The total project cost is currently estimated to be \$1,610,000</p> <p>Class: Three—Project not directly related to the delivery of water, but demonstrating economic savings outweighing program costs due to reduced labor and energy costs during operations and unscheduled maintenance.</p>

**BENEFIT:**

The current flocculator equipment is old, expensive to maintain, and inefficient in its operation. The installation of new flocculator equipment would result in savings in maintenance and repair costs of approximately \$5,700 monthly, and reduce energy costs by approximately \$4,000 monthly. The payback period would be eleven years.

**PROJECT PLAN:**

PHASE	COST	% COMPLETE	COST THRU 8/95	1995	1996	1997
PRE. DESIGN	\$ 39,100	30%	\$12,300	<input type="checkbox"/>		
FINAL DESIGN	\$ 123,600	0%	\$	<input type="checkbox"/>		
PROCUREMENT	\$ 950,000	0%	\$		<input type="checkbox"/>	
INSTALLATION	\$ 226,100	0%	\$		<input type="checkbox"/>	
TESTING	\$ 57,100	0%	\$			<input type="checkbox"/>
CONTINGENCY	\$ 214,100		\$			
<b>TOTAL</b>	<b>\$ 1,610,000</b>	<b>0.8%</b>	<b>\$12,300</b>			

**ALTERNATIVES TO PROPOSED ACTION:**

The alternative to this proposed project is to continue using the existing equipment and contend with higher operating and maintenance costs associated with the continued use of the old flocculator units. It would cost Metropolitan an estimated \$10,000 more per month to operate the existing system.

**CEQA COMPLIANCE / ENVIRONMENTAL DOCUMENTATION:**

The proposed project is categorically exempt from the provisions of the California Environmental Quality Act as it consists of modifications of existing facilities involving no expansion of use beyond that previously existing (State CEQA Guidelines Section 15301).

**FINANCIAL ANALYSIS:**

EVALUATION PERIOD: 11 YEARS

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

	THROUGH FY 95-96	FY 96-97	FY 97-98	OUT YEARS	TOTAL
LABOR/ADDITIVES	\$ 198,100	\$ 69,100	\$	\$	\$ 267,200
PROFESSIONAL SERVICES	0	0			0
OTHER	864,500	264,200			1,128,700
CONTINGENCY	162,400	51,700			214,100
<b>TOTAL</b>	<b>\$ 1,225,000</b>	<b>\$ 385,000</b>	<b>\$</b>	<b>\$</b>	<b>\$ 1,610,000</b>

**B. PROJECTED SAVINGS:**

	FY 95-96	FY 96-97	FY 97-98	OUT YEARS	TOTAL
LABOR/ADDITIVES	\$	\$	\$ 75,000	\$ 989,800	\$ 1,064,800
PROFESSIONAL SERVICES	0	0			
OTHER	0	0	52,900	698,900	751,800
<b>TOTAL</b>	<b>\$</b>	<b>\$</b>	<b>\$ 127,900</b>	<b>\$ 1,688,700</b>	<b>\$ 1,816,600</b>

<b>C. DIFFERENCE (B-A)</b>	(\$1,225,000)	(\$ 385,000)	\$ 127,900	\$ 1,688,700	\$ 206,600
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<b>D. CUMULATIVE DIFFERENCE</b>	(\$1,225,000)	(\$1,610,000)	(\$ 1,482,100)	\$ 206,600	\$ 206,600
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PAYBACK PERIOD: 11 YEARS

ESTIMATED LIFE OF PROJECT: 25 YEARS

**ASSUMPTIONS:**

5% AVERAGE INFLATION RATE PER YEAR

6% RETURN ON INVESTMENT PORTFOLIO

## Attachment

FINANCIAL STATEMENT

(Program No. 5-0515-31)

The total estimated cost breakdown is as follows:

	<u>Cost Estimate</u>
Labor:	
Engineering Design	\$ 85,500
Operations	7,400
Water Quality	4,800
Planning/Environmental	700
Total Labor	\$ 98,400
Materials	7,400
Incidental Expenses	5,000
Operating Equipment	1,000
Administrative Overhead	50,900
Contingency	27,300
TOTAL	\$ 190,000
Projected Expenditure of Funds:	
Through Fiscal Year 1995/96	\$1,225,000
Fiscal Year 1996/97	385,000
TOTAL	\$1,610,000
Source of Funds: Pay-As-You-Go Fund	
Capital Program for Fiscal Year 1995/96 (Program No.5-0515-31)	
Total Program Estimate	\$5,600,000
Program Estimate for F.Y. 1995/96	260,800

Class: Three--Project not directly related to the delivery of water but demonstrate economic savings outweighing program's costs due to reduced labor and energy costs during operations and unscheduled maintenance.

Project Benefit: Will provide for more cost-efficient and reliable operations of the treatment plant by reducing unscheduled maintenance and lost revenues to Metropolitan.

Estimated O&M Savings: \$10,000/Month