MWD
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

8-4

August 18, 1998

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

From: General Manager

Submitted by: Gary M. Snyder
Chief Engineer

Subject: Appropriate $4,180,000 for the Joseph Jensen Filtration Plant Ferric Chloride Retrofit

Reference: Appropriation No. 15344

RECOMMENDATION(S)

For the retrofit of ferric chloride facilities at the Joseph Jensen Filtration Plant (Jensen), it is recommended that your Board:

1. Appropriate $4,180,000 in budgeted funds to finance all costs;
2. Authorize the General Manager to have all work performed; and
3. Delegate authority to the General Manager to award a procurement contract for tanks, in an amount not to exceed $600,000.

EXECUTIVE SUMMARY

Currently the Jensen plant does not have the capability to treat water with ferric chloride. Approval of these recommendations will retrofit the existing alum system at the Jensen plant into a ferric chloride-compatible system including new storage, unloading and feed systems. The total estimated cost of this program is $4,180,000.

JUSTIFICATION

Ferric chloride is more effective at treating water under adverse raw water conditions. All other Metropolitan filtration plants have ferric chloride-compatible chemical storage and feed facilities or are in the process of retrofit due to its superior treatment for high pH source water.

ALTERNATIVE TO PROPOSED ACTION

Defer Retrofit

The alternative to the proposed action is to defer the project and complete this work as part of the Oxidation Retrofit Program (ORP). This would reduce near-term capital expenditures, but would increase the risk of not meeting water quality standards in the interim period before the ORP work is completed in 2003.

FUNDING REQUEST

Program Name:	Joseph Jensen Filtration Plant Ferric Chloride Retrofit		
Source of Funds:	Pay-As-You-Go Fund		
Appropriation No.:	15344	**Board Action No.** 1	**FY 98/99 Budget:** $429,900

Requested Amount:	$4,180,000	**Capital Program No.:**	98909-W
Total Appropriated Amount:	$4,180,000	**Capital Program Page No.:**	E-46
Total Program Estimate:	$4,180,000	**Program Category:**	Water Quality

ACTIONS AND MILESTONES

- ❒ Complete Preliminary Design Report in August 1998
- ❒ Complete Final Design by June 1999
- ❒ Complete Construction by August 2000

CEQA COMPLIANCE / ENVIRONMENTAL DOCUMENTATION

The proposed project qualifies for a Class 1 Categorical Exemption under the California Environmental Quality Act (CEQA) because it consists of the minor alteration of an existing public facility with negligible expansion of use beyond that which previously existed (State CEQA Guidelines, Section 15301). No other environmental documentation is required for this project.

DETAILED REPORT

Based on studies conducted over the past ten years, it has long been the plan to retrofit all Metropolitan's treatment plants with ferric chloride-compatible chemical storage and feed systems. Metropolitan's other treatment plants currently have ferric chloride systems or are in the process of retrofit. The Jensen ferric chloride retrofit project was incorporated into the Jensen Oxidation Retrofit Project (ORP). The ORP has been delayed with a new on-line date of

2003. Therefore, the retrofit of ferric chloride at Jensen was identified in a separate program in the Capital Program Appendix for Fiscal Year 1998/99.

Over the past few years it has been observed that variances in influent water quality (primarily pH and turbidity) have periodically made the Jensen plant perform poorly when alum was used as the primary chemical coagulant in the water treatment process. Under these conditions, an increase in the filter effluent turbidity was observed. Treatment performance will be improved when ferric chloride is used as the primary coagulant. Studies have shown that ferric chloride operates over a broader pH range, provides superior water treatment, and typically requires a lower dosage than alum.

After reviewing the Water Quality Division's requirements and the Jensen ORP design, the scope of work for this project has been defined to retrofit the existing alum system into a ferric chloride-compatible system, including new storage, unloading and feed systems, to meet the current plant maximum flow of 750 million gallons per day (mgd).

Metropolitan staff will perform all design, purchase of equipment and materials, and construction work for the project.

The total estimated cost of the program is $4,180,000. A breakdown of estimated costs is shown on the attached Financial Statement (Attachment A).

JIM\bm:rev9
(Jensen Ferric Chloride Retrofit)
Attachment(s)

Attachment A

FINANCIAL STATEMENT

(Capital Program No. 98909-W)

The breakdown of the total estimated cost of the Jensen Ferric Chloride Retrofit is as follows:

	BOARD ACTION NO. 1
Labor:	
Water Quality/Environmental Compliance	$ 14,000
Engineering	
Preliminary Design	36,900
Final Design	262,600
Project Management	30,000
Construction Support	171,800
As-builts	35,500
Operations (Construction)	833,000
Subtotal Labor	**$1,383,800**
Material and Supplies	1,330,400
Incidental Expenses	100,000
Professional/Technical Services	6,500
Operating Equipment	35,000
Administrative Overhead	764,000
Contingencies	560,300
Total	**$4,180,000**

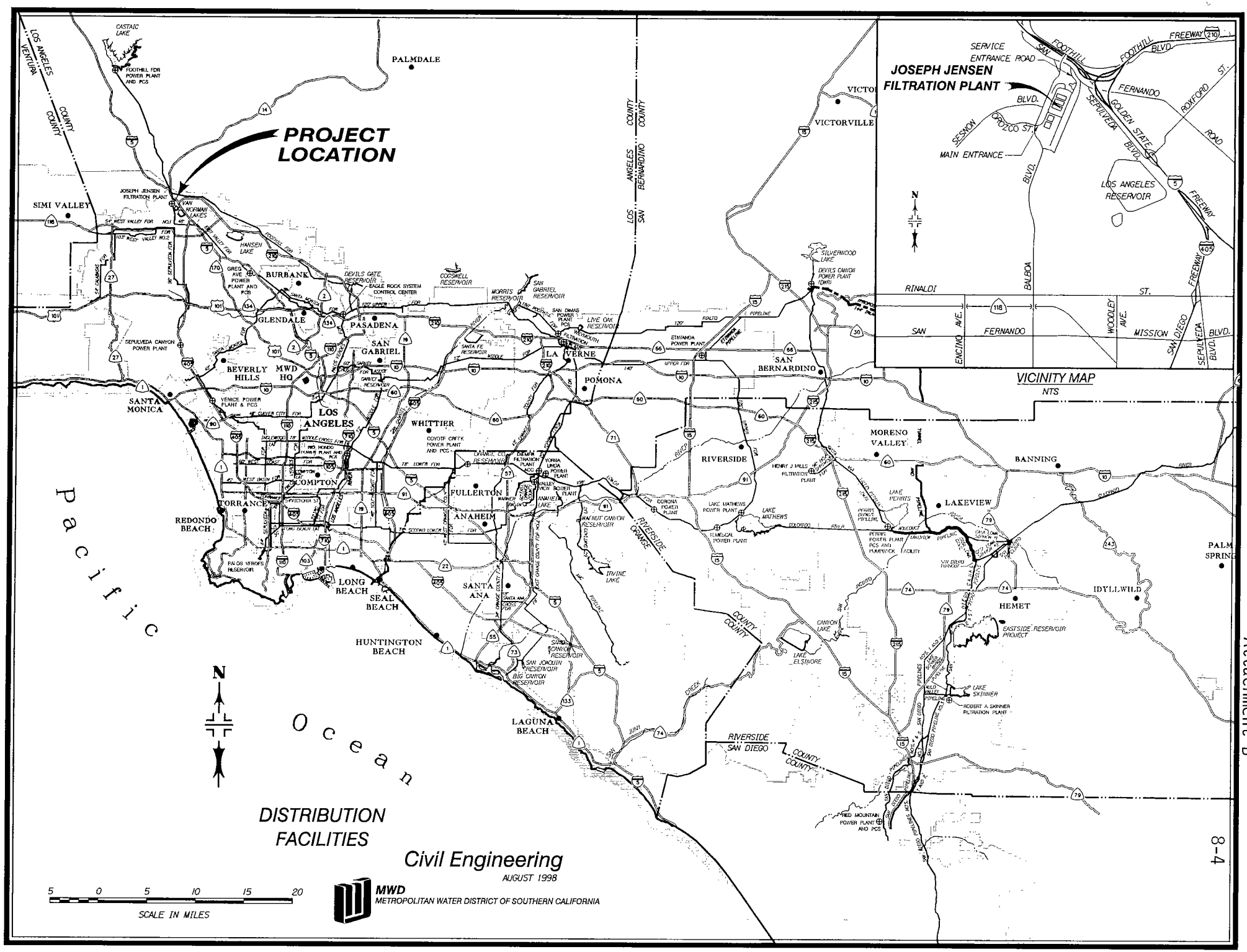
Source of Funds: Pay-As-You-Go Fund

Projected Expenditures of Funds :

Through Fiscal Year 1997/98	30,000
Fiscal Year 1998/99	550,000
Fiscal Year 1999/00	2,900,000
Fiscal Year 2000/01	139,700
Contingencies	560,300
Total	**$4,180,000**

Capital Program for Fiscal Year 1998/99

Total Program Estimate	$4,180,000
Program Estimate for FY 1998/99	$ 429,900



Engineering Division
Attachment B