

- **Board of Directors**
Engineering and Operations Committee

April 11, 2000 Board Meeting

9-5

Subject

Appropriate \$4,500,000 and Delegate Authority to Award Contracts for Repair of the Allen-McColloch Pipeline

Description

Following the rupture of the Allen-McColloch Pipeline (AMP) which occurred in December 1999, the pipeline was dewatered and thoroughly inspected. Remote field eddy current testing of the AMP in December 1999 and again in February 2000 has revealed sections of the prestressed concrete cylinder pipe (PCCP) that have been weakened by breakage of the steel reinforcing wires within the pipeline. Eighteen sections of pipes have been identified as containing 30 or more broken wires, with the maximum number of estimated breaks in a single pipe being 200. The remaining sections of distressed pipes show a smaller number of broken wires. The reason for the breaks is not necessarily related to the December 1999 event. Remedial repairs of the 18 weakened sections are necessary to ensure the continued structural integrity of the pipeline. In order to complete the repair prior to increased summer water demands an accelerated schedule is required. It is proposed that 18 identified sections of the concrete pipeline be removed and replaced with welded steel pipe during a two-week shutdown of the pipeline prior to the end of May. In order to minimize the disruption of water deliveries, two temporary interconnections to the Baker Pipeline are also proposed to convert a portion of the Baker Pipeline for treated water deliveries during the outage of the AMP. It is estimated that this work will cost approximately \$4,500,000. In order to accomplish the accelerated schedule, staff recommends that the General Manager be authorized to award competitively bid contracts for this work as soon as bids are received. See [Attachment 1](#) for detailed report, [Attachment 2](#) for location map, and [Attachment 3](#) for Financial Statement.

Policy

Existing: Pursuant to Section 8113 of the Administrative Code, award of contracts following competitive bidding may be delegated by the Board to the General Manager.

Board Options/Fiscal Impacts

Option #1

Appropriate \$4,500,000 and authorize the General Manager to award competitively bid contracts to repair the AMP. Consider the information contained in Addendum No. 1 to the Final Environmental Impact Report and find that there is no substantial evidence that the proposed action will create any new significant impacts and approve Addendum No. 1 and the proposed repairs to the AMP.

Fiscal Impact: Expenditure of \$4,500,000 of out-of-budget funds. Metropolitan costs to date are \$45,000.

Option #2

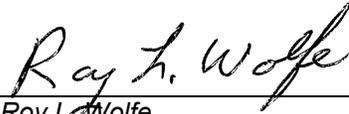
Take no further action regarding repair of AMP at this time.

Fiscal Impact: None.

Staff Recommendation

Option #1

Staff recommends repair of the Allen-McColloch Pipeline on an accelerated schedule.

	4/6/2000
<hr/>	<i>Date</i>
Roy L. Wolfe Acting Manager, Corporate Resources	
	4/6/2000
<hr/>	<i>Date</i>
Ronald R. Jester General Manager	

Attachment 1 – Detailed Report

Attachment 2 – Location Map

Attachment 3 – Financial Statement

Detailed Report

Purpose/Background. The Allen-McColloch Pipeline (AMP) is a critical water delivery pipeline. The pipeline is a highly pressurized pipe constructed by the Municipal Water District of Orange County (MWDOC) in the late 1970's and dedicated in 1981. Designed to handle a maximum capacity of 416 cubic feet per second (cfs), the AMP begins at the finished water reservoir of the Robert B. Diemer Filtration Plant in Yorba Linda and runs southward 26 miles to the El Toro Reservoir in Lake Forest (see Attachment 2). Approximately 9 miles of the AMP is prestressed concrete cylinder pipe (PCCP). Metropolitan purchased the pipeline from MWDOC in 1995, with the agreement that MWDOC would continue to operate the AMP until 1997. The AMP ruptured on Monday, December 13, 1999, due to a pressure surge that was caused by operational error. Around-the-clock repair activities began on Tuesday, December 14 and the pipeline was returned to service on Monday, December 20. The damaged pipe was replaced by 60-feet of fabricated steel pipe. Before returning the pipeline to service, Metropolitan crews patrolled the entire 26-mile line, visually inspecting its structures and air release valves. A total of 4,600 feet of the AMP was inspected internally including sound tests on 1,900 feet upstream and 400 feet downstream of the rupture. Another 2,300 feet of pipe downstream of Service Connection OC-88 was also inspected and tested. Following completion of the repairs, a more thorough investigation was initiated.

Recent Inspection Results. During February 8 through 10, 2000, non-destructive remote field eddy current/transformer coupling testing was performed along the 9 miles of the prestressed concrete portion of the AMP including the portions previously inspected in December, 1999. Of the 2478 PCCP pipes inspected, 280 sections, or 11.3 percent, showed evidence of broken reinforcing wires. Most of the distressed pipes showed a small number of broken wires. 18 pipes were identified as containing 30 or more broken wires, with the maximum number of estimated breaks in a single pipe being 200. These weakened pipe sections are considered serious enough to warrant immediate remedial repairs. The 18 pipe sections are situated at 6 locations along the AMP.

Accelerated Schedule. Metropolitan seeks to ensure the safety for its personnel, and the public, while minimizing the impact on water outages to its Member Agencies. Metropolitan's distribution system has a total of 356 service connections, 25 of which are on the AMP. In order to streamline award of the construction contracts and to complete the repair prior to increased summer water demands, this letter seeks the Board's approval of a delegation of authority to the General Manager to award the contracts immediately following competitive bids in accordance with Section 8113 of the Administrative Code.

Current project description. Metropolitan forces will fabricate all required steel replacement pipe at its La Verne Facilities. Removal and replacement by contract under competitive bidding procedures of the 6 reaches of the most severely damaged portions of the AMP will occur over a two-week shutdown of the pipeline. The work will include replacement of approximately 160 feet of 78-inch PCCP, 160 feet of 69-inch PCCP and 40 feet of 66-inch PCCP. Additionally, temporary interconnections to the Baker Pipeline will be constructed at AMP stations 630+75 (Contract No. 2, Reach D6) and 353+37 (Contract No. 4, Reach S5) to allow for delivery of approximately 40 cfs of treated water during the AMP outage.

Current cost estimate. Attachment 3 shows the breakdown of the total estimated costs of \$4,500,000.

CEQA Compliance / Environmental Documentation

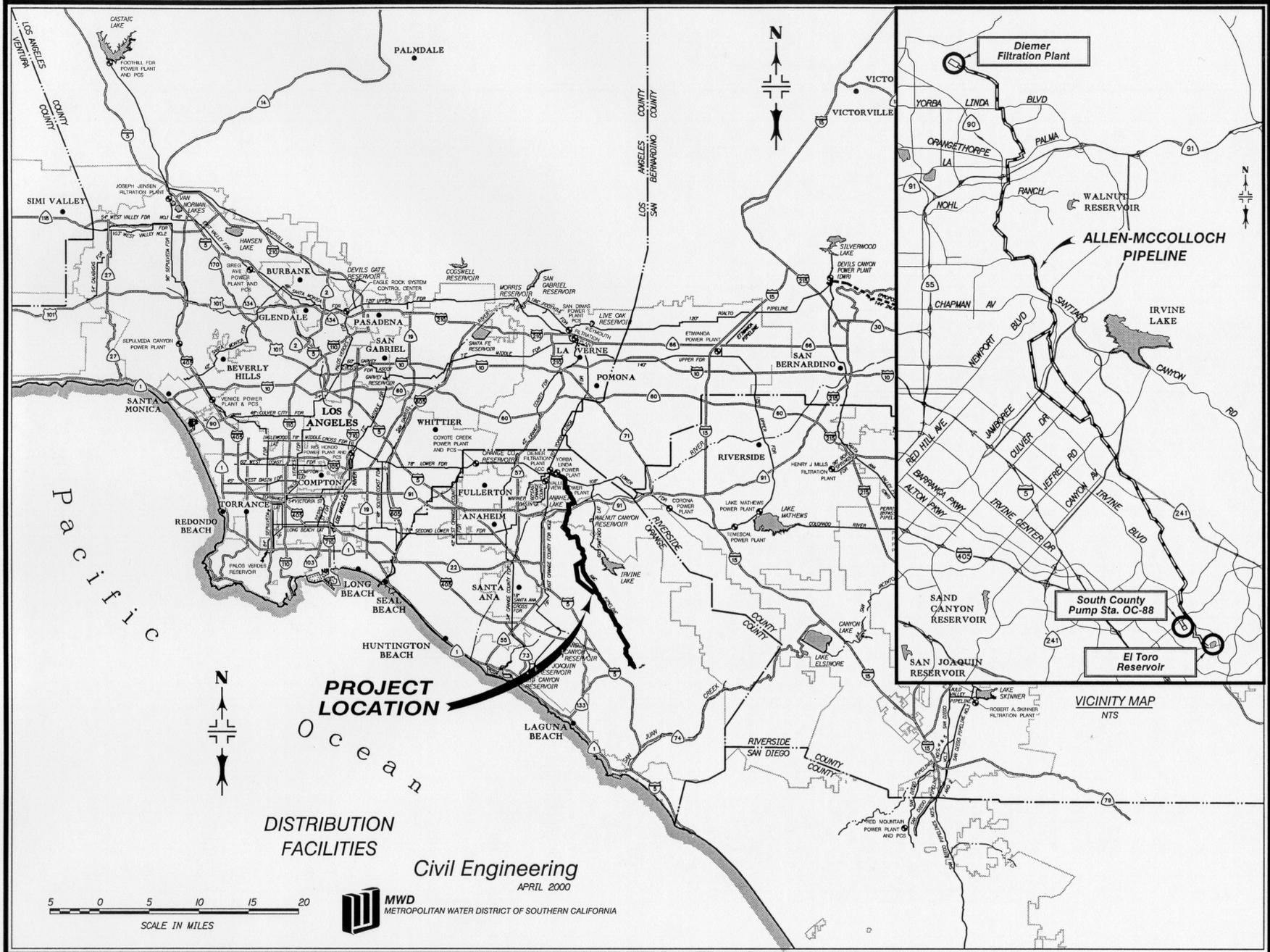
Pursuant to the California Environmental Quality Act (CEQA) an Environmental Impact Report (EIR) was prepared for the Santiago Aqueduct Parallel Reaches 2-6 (AMP) by the Municipal Water District of Orange County (MWDOC). As stated in the August 1978 Final EIR " the EIR has been prepared to objectively assess the primary environmental impacts associated with the construction and operation of the proposed parallel pipeline..." Subsequent to the construction of the AMP, Metropolitan participated in the development of the Natural Community Conservation Plan and Habitat Conservation Plan (NCCP/HCP) for the Central & Coastal Subregion of the County of Orange. An EIR was prepared for the NCCP/HCP with the County of Orange acting as the Lead Agency under CEQA. The NCCP/HCP provides for impacts to sensitive habitat and associated species associated with the operation and maintenance of the AMP.

Addendum No. 1 has been prepared to document the proposed pipeline segment replacements to the AMP. The California Environmental Quality Act requires the preparation of an addendum to a previously certified EIR if changes or additions are necessary but none of the conditions described in Section 15162 of the state CEQA Guidelines calling for the preparation of a Subsequent EIR have occurred. The proposed pipeline segment replacements do not meet any of the conditions requiring the preparation of a Subsequent EIR and would require only minor changes or additions to the evaluation in the certified EIR to make it adequate under CEQA.

The Board is required to consider the information contained in Addendum No. 1 with the FEIR prepared by MWDOC and find that there is no substantial evidence that the proposed AMP segment replacements will create any new significant impacts, and approve Addendum No.1. Copies of the Addendum No. 1 and the FEIR are available in the Office of the Executive Secretary to the Board.

ACTIONS AND MILESTONES

- April 2000- Complete final design, award contracts and start construction
- May 2000 - Complete construction



FINANCIAL STATEMENT

A breakdown of the Board Action No. 1 for Appropriation No. 15352 to finance design and construction to remediate the AMP is as follows:

	BOARD ACTION NO. 1
Study Phase	\$ 75,000
All Activities in Advance of Construction	317,000
Construction Support and Coordination	638,000
Materials and Supplies	391,000
Incidental Expenses	96,000
Right-of-Way & Land	38,000
Operating Equipment	388,000
Construction	2,557,000
Total	<u>\$ 4,500,000</u>

FUNDING REQUEST

Program Name: Allen-McColloch Pipeline Repair			
Source of Funds: Construction Funds (possibly General Obligation, Revenue Bonds, Pay-As-You-Go Fund)			
Appropriation No.: 15352	Board Action No.: 1	Budget:	\$4,500,000
Requested Amount:	\$4,500,000	Capital Program No.:	15352-A
Total Appropriated Amount:	\$4,500,000	Capital Program Page No.:	N/A
Total Program Estimate:	\$4,500,000	Program Category:	A- Asset/System Integrity