

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

April 11, 2006 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through February 2006 [**Any discussion of litigation to be heard in closed session. Conference with legal counsel--existing litigation (Shank/Balfour Beatty, a Joint Venture vs. Metropolitan Water District of Southern California, LASC Case No. BC 283438); to be heard in closed session pursuant to Gov. Code Section 54956.9(a). Conference with legal counsel--potential litigation relating to contractor claims on Contract No. 1542 for the Arrowhead Tunnels; to be heard in closed session pursuant to Gov. Code Section 54956.9(b) (one potential case)**]

Description

Work Completed to Date

The Inland Feeder Program consists of 44 miles of pipeline and tunnels that will enable Metropolitan to convey up to 1,000 cubic feet per second of State Water Project supplies from Devil Canyon Afterbay to Diamond Valley Lake. To date, eight of nine construction contracts totaling \$542 million have been completed. These completed contracts represent 36.3 miles or 82% of the Inland Feeder's length. Remaining program work includes completion of the Arrowhead East and West Tunnels, which are presently under construction by a joint venture of Shea/Kenny.

Arrowhead Tunnels

Arrowhead East Tunnel – During February, mining operations focused on moving past a shear / fault zone with high water pressure and flow rates, and unconsolidated rock. Significant efforts were expended on grouting the ground in front of the tunnel boring machine (TBM) to ensure that mining could proceed without incident. The TBM advanced 50 feet in February, while another 260 feet were mined in the first two weeks of March. The TBM successfully moved past the difficult geologic feature in mid-March. The total length of tunnel mined to date is 11,475 feet (51% of the tunnel's length).

Arrowhead West Tunnel – In early February, high water flow conditions were encountered, which slowed mining operations. The contractor successfully managed the water issues and continued to progress by performing alternating cycles of grouting and mining. The TBM advanced a total of 300 feet in February, while another 155 feet were mined in the first two weeks of March. The total length of tunnel mined to date is 5,935 feet (31% of the tunnel's length).

Program Management Team

Teamwork and cooperation remain high among Metropolitan and contractor personnel, at both the management and working levels. This heightened level of cooperation has been beneficial in dealing with the difficult mining conditions encountered in February and early March on Arrowhead East Tunnel. The staff is developing options for completing the project, to be presented at the April Board meetings.

Budget and Schedule

As of February 28, 2006, the projected cost to complete the Inland Feeder Program is \$980 million. This amount is under review, however, and will be updated over the next several months. Total expenditures through February 2006 are \$846.3 million (see [Attachment 1](#) for a budget comparison and schedule summary for the entire Inland Feeder Program, and budget status for the Arrowhead Tunnels construction contract). The board-approved budget for the entire program remains at \$1.186 billion.

The on-line date for the Inland Feeder is dependent upon completion of the Arrowhead Tunnels. The estimated completion date of late 2008 for the Arrowhead Tunnels was reported to the Board in October 2005. However, that date is currently under review. A revised project completion date, and costs associated with the schedule impacts, will be brought to the Board when the review has been completed.

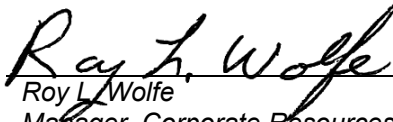
Upon completion of construction, environmental mitigation measures will continue along the Arrowhead Tunnels alignment for up to two years in accordance with the Environmental Impact Report.

Policy


Submitted per request of the Board

Fiscal Impact

Refer to [Attachment 1](#).


Roy L. Wolfe
Manager, Corporate Resources

3/24/2006
Date


Jeffrey Kightlinger
General Manager

3/24/2006
Date

Attachment 1 – Inland Feeder Program Budget Comparison and Schedule Summary, and Arrowhead Tunnels Construction Contract Budget Status

Inland Feeder Program Budget Comparison and Schedule Summary (\$ in Millions)				
	Total Program Estimate (FY 2005/6 CIP)	Projected Cost to Complete (Updated Feb 2006)	Expenditures to Date (Feb 2006)	% Complete Based on Expenditures (Feb 2006)
<u>Active Construction</u>				
Arrowhead Tunnels	\$ 289.3	\$ * 265.0	\$ 153.5	53%
Construction Inspection and Support	\$ 39.1	\$ * 39.1	\$ 25.3	65%
Subtotal, Active Construction	\$ 328.4	\$ 304.1	\$ 178.8	54%
<u>Other Components</u>				
Completed Projects	\$ 575.4	\$ 574.8	\$ 573.2	100%
Others (R/W, Env., Prog. Mgt.)	\$ 101.1	\$ 101.1	\$ 94.3	99%
Subtotal, Other Components	\$ 676.5	\$ 675.9	\$ 667.5	99%
Expended To Date			\$ 846.3	71%
Subtotal, All Projects	\$ 1,004.9	\$ 980.0		
Remaining Budget	\$ 181.5	\$ 206.4		
Board-Authorized Budget	\$ 1,186.4	\$ 1,186.4		

* Under review

NOTE: Overall completion = 36.3 of 44.2 miles (82%)

Arrowhead Tunnels Construction Contract Budget Status (\$ in Millions)			
Construction Contract No. 1542	Current Contract Amount (Feb 2006)	Amount of Contract Committed (Feb 2006)	% of Contract Committed
Mobilization	\$ 7.4	\$ 7.1	96%
Plant equipment / materials	\$ 76.2	\$ 60.1	79%
<u>Arrowhead East</u>			
Portal / pipeline work	\$ 10.9	\$ 6.4	59%
Excavation / final lining	\$ 64.2	\$ 28.9	45%
Grouting	\$ 11.6	\$ 3.3	28%
<u>Arrowhead West</u>			
Portal / pipeline work	\$ 6.6	\$ 1.4	21%
Excavation / final lining	\$ 53.8	\$ 18.2	34%
Grouting	\$ 11.6	\$ 7.7	66%
Subtotal	\$ 242.3	\$ 133.1	55%
Authorized Change Orders	\$ 28.0	\$ 28.0	100%
Construction Contract Total	\$ 270.3	\$ 161.1	60%
Length of Tunnels Mined Through 3/14/06			
Arrowhead East	11,475 ft of 22,708 ft (51%)		
Arrowhead West	5,935 ft of 21,303 ft (31%)		
Total	17,410 ft of 44,011 ft (40%)		

NOTE: Contractor invoices paid through February 2006 = \$153.5M