

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

May 16, 2006 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through March 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.

In March, the Board directed staff to present strategies and recommendations for completing the project at the April Engineering and Operations Committee meeting.

Arrowhead Tunnels

Arrowhead East Tunnel – Since moving past a shear/fault zone with high water pressure, high flow rates, and unconsolidated rock in February, the tunnel boring machine (TBM) advanced into good rock conditions in late March. Once the TBM reached good rock, it was halted to make minor repairs to the cutterhead and remove equipment added to safely cross the shear/fault zone. The contractor has performed alternating cycles of mining and grouting to proceed 395 feet in March, while another 115 feet were mined in the first two weeks of April. The total length of tunnel mined to date is 11,725 feet (52% of the tunnel's length).

Arrowhead West Tunnel – In March, high water flow conditions and a shear/fault zone were encountered, which slowed mining operations. The contractor successfully managed the water and continued to progress by slowly mining through this difficult rock feature. The TBM advanced a total of 215 feet in March, while another 30 feet were mined in the first two weeks of April. The total length of tunnel mined to date is 6,155 feet (29% 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.

Budget and Schedule

As of March 31, 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 March 2006 are \$850.3 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.

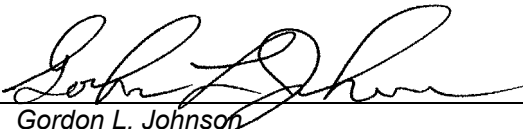
Upon completion of construction, environmental mitigation measures will continue along the Arrowhead Tunnels alignment for up to two years in accordance with the Environmental Impact Report.

Policy

Submitted per request of the Board

Fiscal Impact

Refer to [Attachment 1](#).

		4/17/2006
	Gordon L. Johnson	Date
for	Roy L. Wolfe	
	Manager, Corporate Resources	

		4/21/2006
	Jeffrey Lightlinger	Date
	General Manager	

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 Mar 2006)	Expenditures to Date (Mar 2006)	% Complete Based on Expenditures (Mar 2006)
<u>Active Construction</u>				
Arrowhead Tunnels	\$ 289.3	\$ * 265.0	\$ 156.3	54%
Construction Inspection and Support	\$ 39.1	\$ * 39.1	\$ 26.1	67%
Subtotal, Active Construction	\$ 328.4	\$ 304.1	\$ 182.4	56%
<u>Other Components</u>				
Completed Projects	\$ 575.4	\$ 574.8	\$ 573.2	100%
Others (R/W, Env., Prog. Mgt.)	\$ 101.1	\$ 101.1	\$ 94.7	99%
Subtotal, Other Components	\$ 676.5	\$ 675.9	\$ 667.9	99%
Expended To Date			\$ 850.3	72%
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 4/10/06			
Arrowhead East	11,725 ft of 22,708 ft (52%)		
Arrowhead West	6,155 ft of 21,303 ft (29%)		
Total	17,880 ft of 44,011 ft (41%)		

NOTE: Contractor invoices paid through March 2006 = \$156.3M

Contractor's March 2006 cost loaded schedule not available at the time of submittal for this letter. Current Contract Amount and Amount of Contract Committed are through February 2006. March data will be presented at the May 2006 Board.