

- **Board of Directors**
Engineering and Capital Programs Committee

April 8, 2008 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through February 2008

Description

Work Completed to Date

The Inland Feeder Program consists of 44 miles of pipelines and tunnels that will enable Metropolitan to convey up to 1,000 cubic feet per second of State Water Project (SWP) supplies from Devil Canyon Afterbay to Diamond Valley Lake (DVL). To date, eight of nine construction contracts totaling \$542 million have been completed. These completed contracts represent 36.3 miles or 82 percent 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.

The completed portion of the Inland Feeder has been in service since 2003 via an interconnection that was constructed between the Inland Feeder and San Bernardino Valley Municipal Water District's Foothill Pipeline. This connection allows Metropolitan to convey SWP supplies from the East Branch of the California Aqueduct to the Inland Feeder for delivery to DVL. Over 606,000 acre-feet of SWP water have been delivered to DVL to date through this connection.

Arrowhead Tunnels

Arrowhead East Tunnel (AET) – During February and early March, mining progressed slowly due to difficult rock conditions that were characterized by high water inflows. A significant seam of water-bearing weak rock was encountered. As a result of the water inflows, the contractor performed extensive grouting. The tunnel boring machine (TBM) advanced 45 feet in early February before an extended grouting cycle began. Mining had not resumed as of March 11. The total length of tunnel mined to date is 21,893 feet (97 percent of the tunnel's length), with 565 feet remaining. Staff now anticipates that the TBM hole-through into the completed section of the AET will occur in April/May. The contractor has successfully removed the bulkhead which is located more than 8,000 feet inside the City Creek portal, and has completed demolishing the embedded steel bulkhead thimble.

Arrowhead West Tunnel (AWT) – Stable geologic conditions continued through February and into early March, which resulted in good mining progress. The TBM advanced 680 feet in February and another 80 feet through March 11. The total length of tunnel mined to date is 17,049 feet (86 percent of the tunnel's length), with 2,835 feet remaining. Grading work for the Devil Canyon portal drainage system was completed in early March.

Program Management

Staff and the U.S. Forest Service continued to coordinate activities related to monitoring and minimizing tunnel water inflows into the Arrowhead East Tunnel in January. Staff continued negotiations with representatives from the San Manuel Band of Mission Indians regarding potential compensation for their activities related to the AET.

Budget and Schedule

Following board authorization of a settlement agreement and contract amendment with the Arrowhead Tunnels contractor in August 2006, staff conducted a complete review of the program budget to estimate the total projected cost to complete the Inland Feeder Program. Based on the revised September 2010 completion date of the Arrowhead Tunnels as presented to the Board in August 2006, the updated total projected cost for the Inland Feeder is estimated to be \$1.139 billion. Total expenditures through February 2008 are \$989.4 million (see

Attachment 1 for the Projected Cost/Expenditures). Staff will continue to report on the status of ongoing discussions with the San Manuel Band of Mission Indians and of litigation with Campus Crusade for Christ. The board-approved budget for the entire program remains at \$1.186 billion. **Attachment 2** shows the actual mining progress and cash flow on both tunnels compared to the planned progress and expenditures set forth in the August 2006 contract amendment.

The payments on the contractor's incentive/risk program are discussed with the Board on a regular basis at the Engineering and Capital Programs Committee meetings. This incentive plan is part of the contract amendment approved by the Board in August 2006. The incentive payment to the contractor for the month of February 2008 is shown in **Attachment 1**.

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

Policy

Submitted per request of the Board

Fiscal Impact

Refer to **Attachment 1**.



Roy L. Wolfe
Manager, Corporate Resources

3/18/2008
Date



Jeffrey Knightlinger
General Manager

3/19/2008
Date

Attachment 1 – Inland Feeder Program Projected Cost/Expenditures

Attachment 2 – Arrowhead Tunnels Actual vs. Planned Mining Progress and Actual vs. Planned Cash Flow

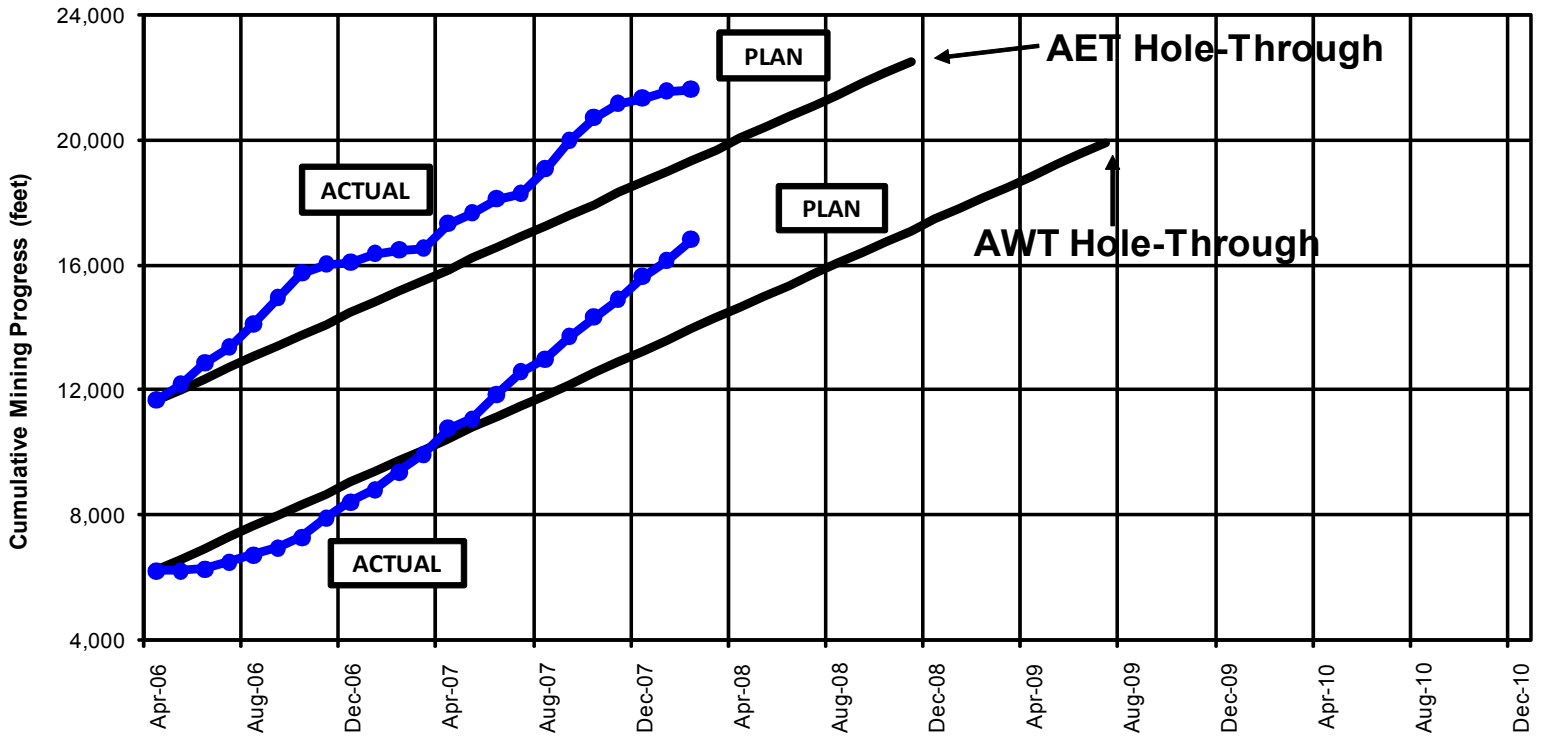
Inland Feeder Program Projected Cost/Expenditures (\$ in Millions)				
	Projected Cost To Complete (Updated Feb 2008)	Expenditures This Month (Feb 2008)	Expenditures To Date (Feb 2008)	% Complete Based on Expenditures (Feb 2008)
<u>Active Construction</u>				
Arrowhead Tunnels Const. Contract	\$ 397.0	\$ 5.3	\$ 274.9	69%
Construction Inspection and Support	\$ 58.0	\$ 0.6	\$ 37.7	65%
Subtotal, Active Construction	\$ 455.0	\$ 5.9	\$ 312.6	69%
<u>Other Components</u>				
Completed Projects	\$ 578.2	\$ 0.0	\$ 576.4	100%
Others (R/W, Env., Prog. Mgmt.)	\$ 105.4	\$ 0.1	\$ 100.3	95%
Subtotal, Other Components	\$ 683.5	\$ 0.1	\$ 676.7	99%
Expended To Date		\$ 6.0	\$ 989.4	83%
Subtotal, All Projects	\$ 1,139.3	← Projected Cost to Complete		
Remaining Budget	\$ 47.1			
Board-Authorized Budget	\$ 1,186.4	← Total Project Budget		
Length of Tunnels Mined Through 3/11/08				
Arrowhead East	21,893 ft	of 22,458 ft	(97%)	
Arrowhead West	17,049 ft	of 19,884 ft	(86%)	
Total	38,942 ft	of 42,342 ft	(92%)	

NOTE: Contractor invoices paid through February 2008 = \$274.90M
 Overall completion = 36.3 of 44.2 miles (82%)

Inland Feeder Program – Arrowhead Tunnels Incentive Plan Payments				
	East/West Tunnels Cumulative Feet Mined	East Tunnel	West Tunnel	Total
June 2006 – Jan 2008 (Previously Reported)	20,015	\$ 2,081,100	\$ 2,460,593	\$ 4,541,693
February 2008 (3)	740	\$ 59,300	\$ 132,300	\$ 191,600
TOTALS	20,755	\$ 2,140,400	\$ 2,592,893	\$ 4,733,293 (2)

(1): For Arrowhead West Tunnel, incentive program evaluation commenced in June 2006.
 (2): Percent of maximum possible combined incentive: 73% (65% Arrowhead East Tunnel, 82% Arrowhead West Tunnel)
 (3): Incentive Plan based on work performed during contractor monthly pay period from 1/26/08 to 2/25/08 (differs from progress in calendar month).

Arrowhead Tunnels Actual vs. Planned Mining Progress



Arrowhead Tunnels Actual vs. Planned Cash Flow

