

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

October 9, 2007 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through August 2007

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) water 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 585,000 acre-feet of SWP water have been delivered to DVL to date through this connection.

Arrowhead Tunnels

Arrowhead East Tunnel – In August, the geology along the alignment improved significantly and the tunnel boring machine (TBM) advanced 825 feet. The TBM completed the final curve in the AET alignment. As the TBM continues to mine the remaining 3,000 feet of the tunnel, it is expected that the rock quality will continue to improve, but higher groundwater inflows are likely to occur. It is anticipated that existing grouting regimes will be sufficient to address these conditions. At present mining rates, staff anticipates that the AET hole-through into the completed section of the East tunnel will occur in six to nine months. The total length of tunnel mined through the first two weeks of September is 19,705 feet (88 percent of the tunnel's length).

Arrowhead West Tunnel – Stable geologic conditions continued through August and into early September, which resulted in good mining progress. The TBM advanced 420 feet in August. While the current rock conditions remain favorable, the contractor has encountered relatively high groundwater inflows. These conditions have increased the amount of time for grouting to control the water inflows and to stay within the U.S. Forest Service permit requirements. The total length of tunnel mined through the first two weeks of September is 13,345 feet (67 percent of the tunnel's length).

Program Management

Staff and the U.S. Forest Service continue to coordinate activities related to monitoring and minimizing tunnel water inflows in the Arrowhead East Tunnel.

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 \$1.133 billion. Total expenditures through August 2007 are \$953.9 million (see

Attachment 1 for the Projected Cost/Expenditures). The potential budget impacts of the San Manuel Band of Mission Indians (Band) and Campus Crusade for Christ (CCC) issues were discussed in closed session at the August meeting. Staff will continue to report on the status of ongoing discussions with the Band and litigation with CCC. 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 August 2007 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

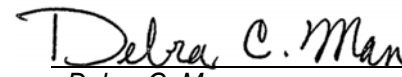
Fiscal Impact

Refer to **Attachment 1**.



Roy L. Wolfe
Manager, Corporate Resources

9/17/2007
Date



Debra C. Man
for Jeffrey Kightlinger
General Manager

9/18/2007
Date

Attachment 1 – Inland Feeder Program Projected Cost/Expenditures

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

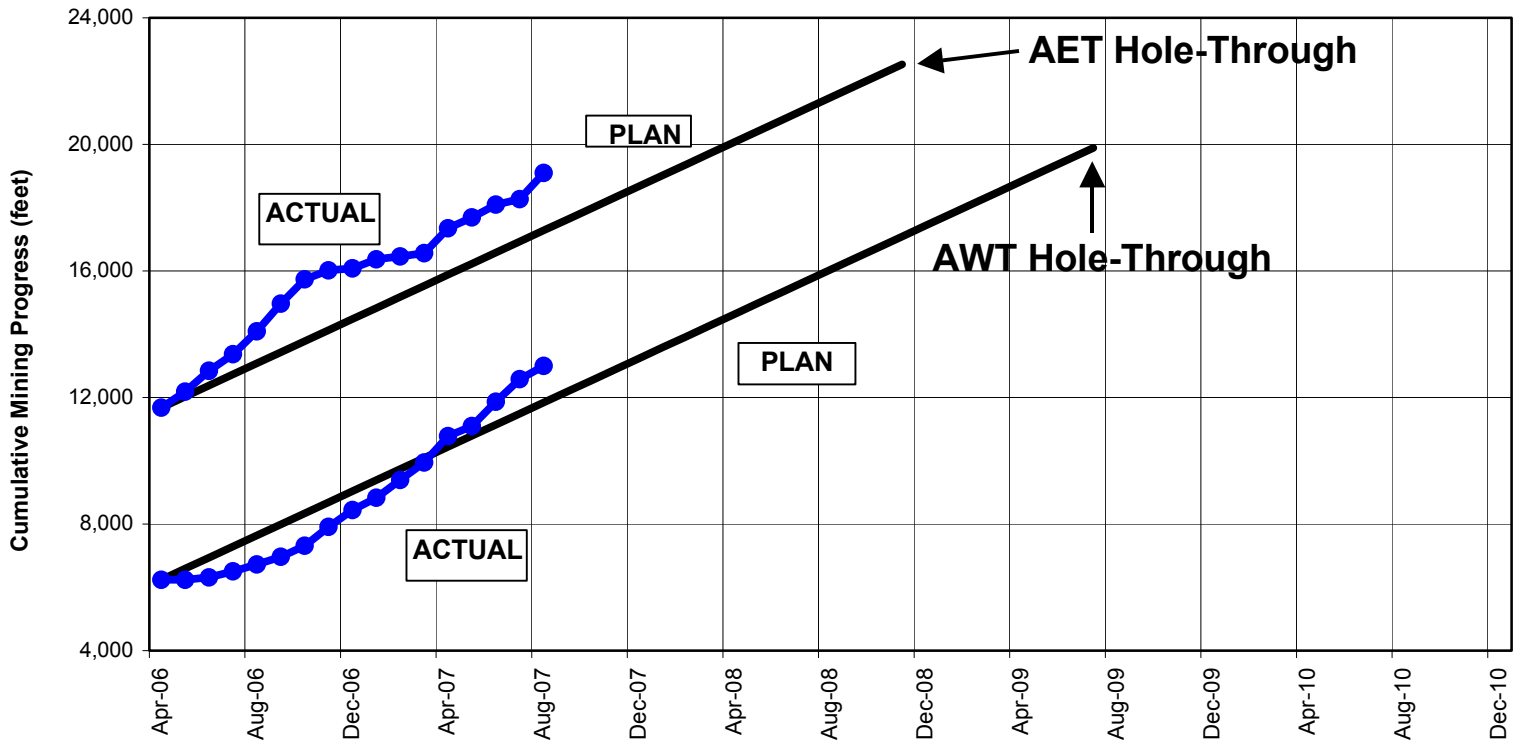
Inland Feeder Program Projected Cost/Expenditures (\$ in Millions)				
	Projected Cost To Complete (Updated Aug 2007)	Expenditures This Month (August 2007)	Expenditures To Date (August 2007)	% Complete Based on Expenditures (August 2007)
<u>Active Construction</u>				
Arrowhead Tunnels Const. Contract	\$ 397.0	\$ 4.5	\$ 238.7	60%
Construction Inspection and Support	\$ 55.0	\$ 0.6	\$ 39.4	72%
Subtotal, Active Construction	\$ 452.0	\$ 5.1	\$ 278.0	62%
<u>Other Components</u>				
Completed Projects	\$ 578.1	\$ 0.0	\$ 576.3	100%
Others (R/W, Env., Prog. Mgmt.)	\$ 103.0	\$ 0.2	\$ 99.5	97%
Subtotal, Other Components	\$ 681.1	\$ 0.2	\$ 675.8	99%
Expended To Date		\$ 5.3	\$ 953.9	80%
Subtotal, All Projects	\$ 1,133.1	← Projected Cost to Complete		
Remaining Budget	\$ 53.4			
Board-Authorized Budget	\$ 1,186.5	← Total Project Budget		
Length of Tunnels Mined Through 9/13/07				
Arrowhead East	19,705 ft	of 22,458 ft	(88%)	
Arrowhead West	13,345 ft	of 19,884 ft	(67%)	
Total	33,050 ft	of 42,342 ft	(78%)	

NOTE: Contractor invoices paid through August 2007 = \$235.6M
 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
May 2006 - July 2007 (Previously Reported)	13,145	\$ 1,289,100	\$ 1,632,593	\$ 2,685,193
August 2007 (3)	1,195	\$ 133,500	\$ 136,800	\$ 270,300
TOTALS	14,340	\$ 1,422,600	\$ 1,769,393	\$ 3,191,993 (2)

(1): For Arrowhead West Tunnel, incentive program evaluation commenced in June 2006.
 (2): Percent of maximum possible combined incentive: 67% (59% Arrowhead East Tunnel, 79% Arrowhead West Tunnel)
 (3): Incentive Plan based on work performed during contractor monthly pay period from 7/26/06 to 8/25/07 (differs from progress in calendar month).

Arrowhead Tunnels Actual vs. Planned Mining Progress



Arrowhead Tunnels Actual vs. Planned Cash Flow

