

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

November 8, 2005 Board Meeting

9-1

Subject

Status report for the Inland Feeder Program for activities through September 2005 [**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

Arrowhead Tunnels (progress through October 12)

Arrowhead East Tunnel – On September 9, the contractor completed tunnel boring machine (TBM) modifications which included: installation of new thrust rams and modified hydraulics to increase thrust; installation of a new screw auger; and replacement of the cutter head bearing seal. The modifications were performed over a three-week period and were completed one week earlier than originally planned. A total of 255 feet were mined through September 16 before the TBM became stuck as a result of the contractor over-correcting the direction of the machine for line and grade. Initially, the contractor brought in hydraulic jacks to assist in moving the TBM forward. Repeated attempts to free the machine with these jacks were unsuccessful. As of October 12, the contractor was clearing ground around the TBM's tail-shield using high-pressure water to reduce the pressure and allow the jacks to be effective. Total mined to date is 9,485 feet (42%).

Arrowhead West Tunnel – On August 3, the TBM encountered flowing/raveling ground conditions that required void filling and ground-consolidation grouting. This grouting continued through September 5. Mining resumed on September 6 and a total of 145 feet were mined in September. Another 80 feet were mined as of October 12, bringing the total mined to date to 3,740 feet (19%).

Budget and Schedule

As of September 30, 2005, the projected cost at completion for the Inland Feeder Program is \$980 million. Total expenditures through September 2005 are \$825.5 million (see [Attachment 1](#) for a budget comparison and schedule summary and [Attachment 2](#) for the Arrowhead Tunnels financial status). The board-approved budget remains at \$1.186 billion.

The on-line date for the Inland Feeder is dependent upon the completion of the Arrowhead Tunnels. The Arrowhead Tunnels' completion date has been previously estimated to be late 2007. However, due to project delays, including the major flood on Christmas Day 2003, the completion date is currently estimated to be late 2008. Any changes to the project completion date, and costs associated with the schedule impacts, will be brought to the Board as new information becomes available.

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

Board request

Fiscal Impact


Refer to [Attachment 1](#) and [Attachment 2](#).



Roy J. Wolfe
Manager, Corporate Resources

10/19/2005

Date



Dennis B. Underwood
CEO/General Manager

10/24/2005

Date

[Attachment 1 – Budget Comparison and Schedule Summary](#)

[Attachment 2 – Arrowhead Tunnels Financial Status](#)

BLA #3251

**Inland Feeder Program
Budget Comparison and Schedule Summary**

	BUDGET (Sept-05)	PROJECTED COST (Sept-05)	ACTUALS THRU (Sept-05)	PROGRESS		COMPLETION DATE		COMMENTS	
				PLANNED % COMPLETE	ACTUAL % COMPLETE (Sept-05) (1)	CONTRACT (2) (3)	FORECAST (Sept 05) (3)		
<u>Active Construction</u>									
Arrowhead Tunnels	\$ 334,727,000	\$ 310,046,000	\$ 164,406,000	75%	42%	Mar-07	Nov-08	Under construction	
Highland Pipeline	\$ 55,337,000	\$ 55,096,000	\$ 54,926,000	100%	100%	Sep-04	-----	Performing Contract Close-out	
<u>Construction Support</u>									
Right-of-Way and Land	\$ 50,172,000	\$ 50,172,000	\$ 49,847,000	-----	99%	-----	-----	-----	
Environmental Planning/Mitigation	\$ 18,598,000	\$ 18,598,000	\$ 14,139,000	-----	76%	-----	-----	-----	
Program Management	\$ 32,401,000	\$ 32,401,000	\$ 29,181,000	-----	90%	-----	-----	-----	
<u>Completed Projects</u>									
Arrowhead West Tunnel Constr.	\$ 44,563,000	\$ 44,496,000	\$ 44,492,000	-----	100%	-----	-----	-----	
Arrowhead East Tunnel Constr.	\$ 121,753,000	\$ 121,753,000	\$ 121,422,000	-----	100%	-----	-----	-----	
Arrowhead Tunnels Design	\$ 29,380,000	\$ 29,381,000	\$ 29,381,000	-----	100%	-----	-----	-----	
Mentone Pipeline	\$ 32,112,000	\$ 32,112,000	\$ 32,033,000	-----	100%	-----	-----	-----	
Highland/Mentone Pipeline Design	\$ 16,122,000	\$ 16,121,000	\$ 16,121,000	-----	100%	-----	-----	-----	
Riverside Badlands Tunnel	\$ 144,931,000	\$ 144,931,000	\$ 144,909,000	-----	100%	-----	-----	-----	
Riverside North Pipeline	\$ 55,713,000	\$ 55,713,000	\$ 55,713,000	-----	100%	-----	-----	-----	
Riverside South Pipeline	\$ 42,418,000	\$ 42,418,000	\$ 42,418,000	-----	100%	-----	-----	-----	
Inland Feeder Study / Initial Planning	\$ 8,024,000	\$ 8,024,000	\$ 8,024,000	-----	100%	-----	-----	-----	
Owner Controlled Insurance Program	\$ 18,700,000	\$ 18,700,000	\$ 18,467,000	-----	99%	-----	-----	-----	
Expended To Date			\$ 825,477,000						
Total Cost To Complete	\$ 1,004,951,000	\$ 979,962,000							
Remaining Budget	\$ 181,509,000	\$ 206,498,000							
Total Approved Budget	\$ 1,186,460,000	\$ 1,186,460,000							

(1) Based on work completed for construction reaches and \$ expended for construction support.

(2) Based on original contract duration and approved extensions.

(3) Completion date for Arrowhead Tunnels does not include time for grouting.

NOTE: Overall completion = 38.5 of 44 miles (88%)

**Inland Feeder Program
Arrowhead Tunnels Financial Status**
(\$ in Millions)

Construction Contract No. 1542	Budget Sept - 2005	Committed Sept - 2005	% of Budget Committed
Mobilization	\$ 7.4	\$ 7.0	94.6%
Plant equipment / materials	\$ 82.1	\$ 61.6	75.0%
<u>Arrowhead East</u>			
Portal / pipeline work	\$ 11.1	\$ 6.7	60.4%
Excavation / final lining	\$ 72.4	\$ 36.9	51.0%
Grouting	\$ 11.6	\$ 1.4	12.1%
<u>Arrowhead West</u>			
Portal / pipeline work	\$ 6.8	\$ 1.6	23.5%
Excavation / final lining	\$ 56.5	\$ 21.5	38.1%
Grouting	\$ 11.6	\$ 6.8	58.6%
Construction Contract Total	<u>\$ 259.5</u>	<u>\$ 143.5</u>	<u>55.3%</u>

NOTE: Invoices paid through September 2005 = \$137.8 million