

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

November 14, 2006 Board Meeting

---

**9-1**

---

**Subject**

---

Status report for the Inland Feeder Program for activities through September 2006

---

**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% 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 410,000 acre-feet of SWP water has been delivered to DVL to date through this connection.

**Arrowhead Tunnels**

Arrowhead East Tunnel – In September, the contractor continued to make good progress as ground and groundwater conditions remained favorable. Over the last two months, the contractor has successfully increased mining cycles from 50 feet to 65 feet, thereby increasing monthly production. In September, the TBM advanced a total of 875 feet, while another 420 feet were mined in the first two weeks in October. The total length of tunnel mined to date is 15,635 feet (70% of the tunnel's length).

Arrowhead West Tunnel – The TBM exited an extended fault/shear zone and is currently mining in good rock conditions. The contractor made scheduled repairs to the TBM cutterhead in mid-October, spending approximately 5 working days on this activity. In September, the TBM advanced a total of 370 feet, while another 150 feet were mined in the first two weeks in October. The total length of tunnel mined to date is 7,165 feet (36% of the tunnel's length).

**Program Management**

Metropolitan staff is continuing development of the contractor's incentive program, as well as developing a protocol to thoroughly review billing statements from the contractor.

**Budget and Schedule**

Following board authorization of the settlement agreement and contract amendment in August, 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 (see [Attachment 1](#) for the Projected Cost/Expenditure Report), the updated total projected cost for the Inland Feeder is estimated to be \$1.129 billion. Total expenditures through September 2006 are \$881.9 million. The board-approved budget for the entire program remains at \$1.186 billion.

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

10/20/2006  
Date

  
\_\_\_\_\_  
Jeffrey Kightlinger  
General Manager

10/26/2006  
Date

**Attachment 1 – Inland Feeder Program Projected Cost/Expenditure Report**

BLA #4222

<b>Inland Feeder Program Projected Cost/Expenditure Report (\$ in Millions)</b>			
	Projected Cost To Complete (Updated Sept. 2006)	Expenditures To Date (Sept. 2006)	% Complete Based on Expenditures (Sept. 2006)
<u>Active Construction</u>			
Arrowhead Tunnels Const. Contract	\$ 397.0	\$ 179.1	45%
Construction Inspection and Support	\$ 55.0	\$ 30.9	56%
<b><i>Subtotal, Active Construction</i></b>	<b>\$ 452.0</b>	<b>\$ 210.0</b>	<b>46%</b>
<u>Other Components</u>			
Completed Projects	\$ 576.4	\$ 575.0	100%
Others (R/W, Env., Prog. Mgmt.)	\$ 101.1	\$ 96.9	96%
<b><i>Subtotal, Other Components</i></b>	<b>\$ 677.5</b>	<b>\$ 671.9</b>	<b>99%</b>
Expended To Date		\$ 881.9	74%
Subtotal, All Projects	<b>\$ 1,129.5</b>	<b>← Projected Cost to Complete</b>	
Remaining Budget	\$ 56.9		
Board-Authorized Budget	<b>\$ 1,186.4</b>	<b>← Total Project Budget</b>	
Length of Tunnels Mined Through 10/15/06			
Arrowhead East	15,635 ft	of 22,458 ft	(70%)
Arrowhead West	7,165 ft	of 19,884 ft	(36%)
Total	22,800 ft	of 42,342 ft	(54%)

NOTE: Contractor invoices paid through September 2006 = \$179.1M  
 Overall completion = 36.3 of 44.2 miles (82%)