

- **Board of Directors**  
**Engineering, Operations and Real Property Committee**

December 11, 2001 Board Meeting

---

9-1

---

**Subject**

---

Authorize entering into agreement for engineering support services for the Arrowhead Tunnels of the Inland Feeder Program

**Description**

---

The construction of the Arrowhead Tunnel consists of two single portal-driven tunnels through the San Bernardino Mountains north of the city of San Bernardino: the Arrowhead West Tunnel (3.8 miles) starting at the Waterman Canyon Portal and exiting at Devil Canyon, and the Arrowhead East Tunnel (4.3 miles) starting at Strawberry Creek Portal and connecting to the previously constructed 8,000 feet of tunnel at City Creek. Both tunnels pass through a variety of challenging ground and geologic conditions. Tunnel depths reach up to 2,000 feet below the ridgeline. The plan calls for constructing both tunnels simultaneously, with work expected to commence in the spring of 2002 and finish in early 2007.

This technically challenging tunnel program would require a team of highly experienced and specialized individuals to provide engineering expertise, groundwater monitoring and mitigation support. Metropolitan does not have sufficient staff to provide these services for a program of this complexity. Therefore, the work plan for the Inland Feeder Program calls for the utilization of consultants to provide engineering support services for the program's tunnels.

In August 2001, Request for Proposal (RFP) No. 505 for engineering support services was issued to obtain a staff of qualified individuals experienced in tunnel construction in conditions similar to those expected on the Arrowhead Tunnels. RFP No. 505 calls for the consultant to furnish qualified and experienced staff with expertise in tunnel engineering, tunnel grouting, and geologic and hydrogeologic analyses (including groundwater monitoring and mitigation). Groundwater monitoring services will continue for another two years after the completion of construction to comply with the program's Final Environmental Impact Report.

Accordingly, 40 RFPs were sent to prospective bidders of RFP No. 505. Proposals were received from two firms. Having already evaluated the responses according to predetermined criteria, staff is now finalizing the selection and will negotiate contract terms with the successful respondent.

In order to expedite the contract award for the required consultant services, this letter requests delegation of authority to enable the Chief Executive Officer to award a contract to the successful respondent, in an amount not to exceed \$10 million for RFP No. 505, immediately after negotiations are completed. A detailed report is provided in [Attachment 1](#), and the location of the program site is shown in [Attachment 2](#).

Funding for these services is included in the program budget. The Inland Feeder Program budget remains unchanged at \$1.186 billion.

**Policy**

---

Metropolitan Water District Administrative Code § 8115: Negotiated Contracts

## California Environmental Quality Act (CEQA)

---

The environmental effects from the construction of the Arrowhead Tunnels were evaluated in the Inland Feeder Program Final Environmental Impact Report and Environmental Assessment (Final EIR/EA), which was certified by Metropolitan's Board of Directors in February 1993. The Board also approved the Findings of Fact, the Mitigation Monitoring and Reporting Program, the Statement of Overriding Considerations, and the Inland Feeder Program. The present proposed board action is limited to an agreement for engineering support services and does not involve any changes to the Inland Feeder Program. Hence, the previous environmental documentation certified and approved by the Board in conjunction with the proposed action fully complies with the CEQA and the State CEQA Guidelines. As such, no further CEQA documentation is necessary for the Board to act on the proposed action.

The CEQA determination for both Options #1 and #2 is: Determine that the proposed action has been previously addressed in the 1993 certified Final EIR/EA and that no further environmental analysis or documentation is required.

## Board Options/Fiscal Impacts

---

### Option #1

Adopt the CEQA determination and delegate authority to the CEO to enter into an agreement with the successful respondent to RFP No. 505 in an amount not to exceed \$10 million to provide engineering support services for the Arrowhead Tunnels.

**Fiscal Impact:** Up to \$10 million of budgeted funds under existing Appropriation No. 15122

### Option #2

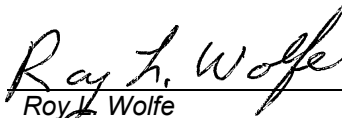

Adopt the CEQA determination and obtain Board approval to award a contract after the consultant selection is finalized. This option limits negotiating leverage and reduces the consultants' time to prepare and mobilize for construction.

**Fiscal Impact:** Up to \$10 million of budgeted funds under existing Appropriation No. 15122

## Staff Recommendation

---

Option #1

	11/13/2001
Roy L. Wolfe Manager, Corporate Resources	Date
	11/27/2001
Ronald R. Gastelum Chief Executive Officer	Date

[Attachment 1 – Detailed Report](#)

[Attachment 2 – Location Map](#)

## **Detailed Report**

---

### ***Background***

The Arrowhead Tunnels portion of the Inland Feeder stretches from Devil Canyon north of the city of San Bernardino to City Creek north of the city of Highland. It consists of two separate tunnels: the Arrowhead West Tunnel (AWT) and Arrowhead East Tunnel (AET). The AWT consists of 6,500 feet of buried pipeline and 19,900 feet of tunnel. The AET, which connects to the AWT in Waterman Canyon, consists of 3,100 feet of pipeline and 30,500 feet of tunnel. Mining of the Arrowhead Tunnels will be challenging because of the variety of geologic conditions and high groundwater.

Under a previous contract, the pipeline work for both tunnels was completed and 8,000 feet of the AET was mined from the City Creek Portal. The mining for the AWT and the remaining mining for the AET were deleted from the previous contracts in order to incorporate more effective construction methods to reduce groundwater inflows. A new construction contract is scheduled to be awarded in the spring of 2002. Construction is expected to be completed in early 2007.

### ***Consultant Services***

Given the complexity of the Arrowhead Tunnels, the staffing of an experienced engineering support team is critical. Metropolitan does not have staff experienced to effectively manage a large-scale tunnel program such as the Arrowhead Tunnels. Instead of recruiting and hiring regular staff only for the duration of the program, it is more appropriate to utilize outside consultants to provide engineering support. By using this approach, Metropolitan gains an experienced and proven engineering support team. Additionally, Metropolitan gains the depth of staff resources available from the successful consultant. The engineering support services team (RFP 505) will provide the following functions:

- Tunnel engineering;
- Tunnel grouting review, analysis, and direction;
- Geologic mapping and analysis;
- Groundwater monitoring, data compilation and reporting;
- Groundwater modeling;
- Hydrogeologic analysis, interpretation, and support;
- Implementation of groundwater mitigation;
- Installation of additional groundwater wells, if required.

Most services will be required for the duration of construction which is expected to be completed in early 2007. Groundwater monitoring services will continue for another two years after the completion of construction to comply with the program's Final Environmental Impact Report.

### ***RFP Process***

In August 2001, Request for Proposal (RFP) No. 505 for engineering support services was issued. The RFP was sent to 40 prospective bidders. Responses to the RFP were evaluated against predetermined criteria. Based on this review, short-listed candidates were selected to proceed on to the next phase of the process which included an oral interview. Staff is now finalizing the selection and will negotiate contract terms with the successful respondents.

It is recommended that the Chief Executive Officer be given the authority to enter into an agreement with the successful respondent for RFP 505 in an amount not to exceed \$10.0 million. The period of service will be for the duration of construction which is scheduled to be completed in early 2007. Additionally,

groundwater monitoring services will continue for another two years after the completion of construction to comply with the program's Final Environmental Impact Report. Funding for these services is included in the program budget. The Inland Feeder Program budget remains unchanged at \$1.186 billion.

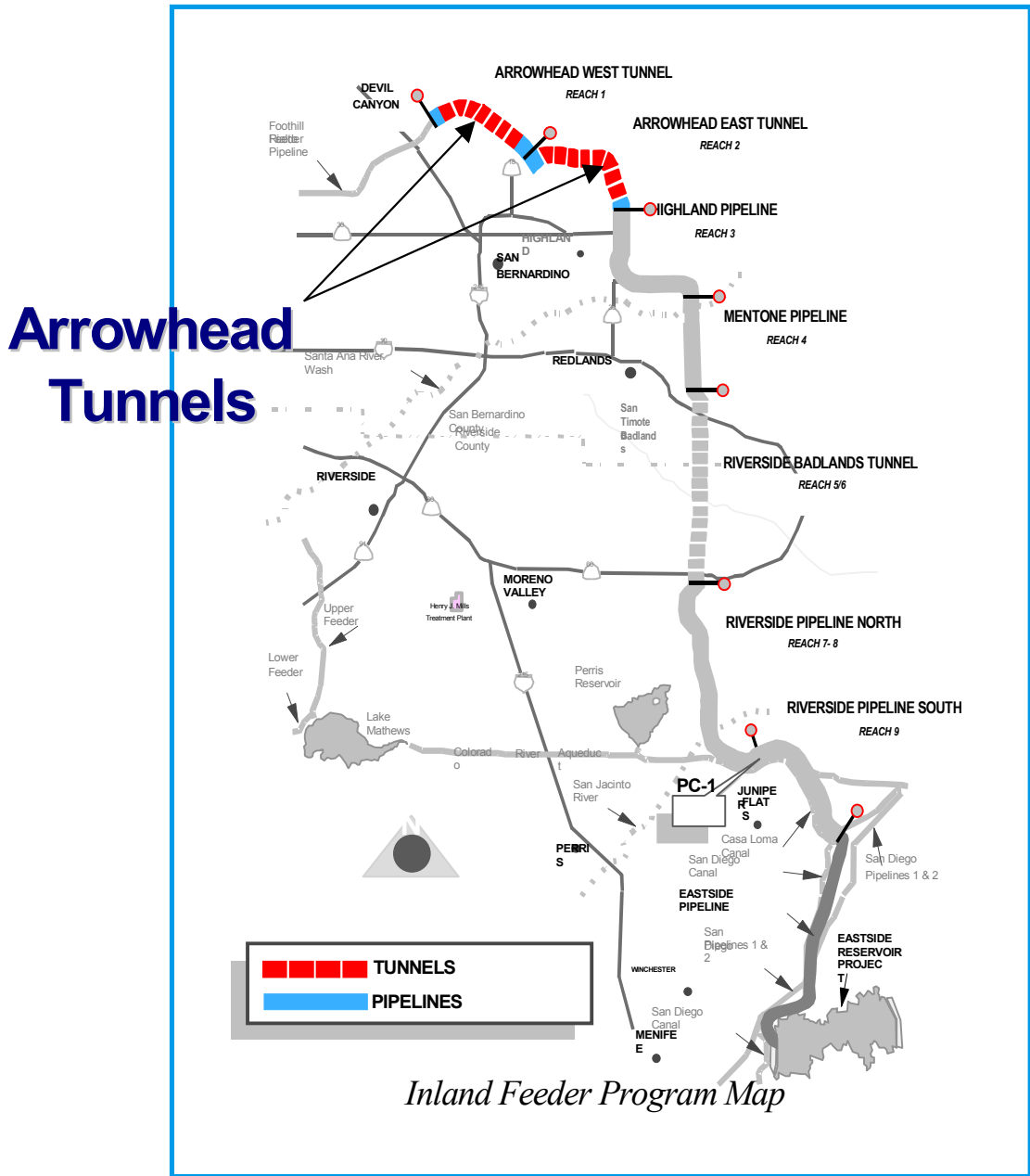


Figure 1. General Location