

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

January 8, 2002 Board Meeting

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9-3

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**Subject**

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Authorize entering into an agreement for construction management services for the construction of the Arrowhead Tunnels of the Inland Feeder Program

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**Description**

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The construction of the Arrowhead Tunnels 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 including high groundwater pressures. 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 to complete in early 2007.

This technically challenging tunnel project requires a team of highly experienced and specialized individuals to provide construction management expertise during construction. Metropolitan does not have sufficient staff to provide these services for a tunnel project of this complexity. In addition, this team of specialized individuals is required only for the duration of the project. Therefore, the most effective approach is to utilize consultants to provide construction management services for the tunnel construction.

In August 2001, Request for Proposal (RFP) No. 468 for Construction Management Services was issued to obtain a team of qualified individuals experienced in tunnel construction. Specifically, the team was to have experience in tunneling under conditions similar to that expected on the Arrowhead Tunnels. RFP 468 required the consultant to provide construction management, inspection, and surveying personnel. Most services will be required for the duration of the construction effort. Metropolitan staff will provide overall program management and oversight of the consultant team.

Accordingly, 39 RFPs were sent to prospective respondents for RFP 468. Proposals were received from four firms and were evaluated according to predetermined criteria. Staff is now finalizing the selection and will negotiate contract terms with the successful respondent. The level of participation by Small Business Enterprises in this work is 25 percent.

In order to expedite obtaining the required consultant services, this letter requests delegation of authority to enable the CEO to enter into an agreement with the successful respondent, in an amount not to exceed \$12 million for RFP 468 immediately after negotiations are completed. A detailed report is provided in [Attachment 1](#), and the location of the project 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.

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**Policy**

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Metropolitan Water District Administrative Code § 8115: Negotiated Contracts

**California Environmental Quality Act (CEQA)**

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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 solely based on entering into an agreement for construction management services and not on any changes to the Inland Feeder Program itself. Hence, the previous environmental documentation taken by the Board in conjunction with the proposed action fully complies with the California Environmental Quality Act (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**

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**Option #1**

Adopt the CEQA determination and delegate authority to the CEO to enter into an agreement with the successful respondent for RFP 468 to provide construction management services for the Arrowhead Tunnels.

**Fiscal Impact:** Up to \$12 million of budgeted funds under existing Appropriation No. 15122

**Option #2**

Adopt the CEQA determination and obtain Board approval to enter into an agreement 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 \$12 million of budgeted funds under existing Appropriation No. 15122


**Staff Recommendation**

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Option #1

  
\_\_\_\_\_  
Roy L. Wolfe  
Manager, Corporate Resources

12/13/2001  
Date

  
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Ronald R. Gastelum  
Chief Executive Officer

12/17/2001  
Date

[Attachment 1 – Detailed Report](#)

[Attachment 2 – Location Map](#)

## Detailed Report

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### ***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, an experienced construction management team is critical. Metropolitan does not have staff experienced to effectively manage a large-scale tunnel project such as the Arrowhead Tunnels. Instead of recruiting and hiring regular staff only for the duration of the project, it is more appropriate to utilize outside consultants to manage the tunnel construction. By using this approach, Metropolitan gains an experienced and proven construction management team. Additionally, Metropolitan gains the depth of staff resources available from the successful consultants. The construction management team (RFP 468) will consist of the following personnel:

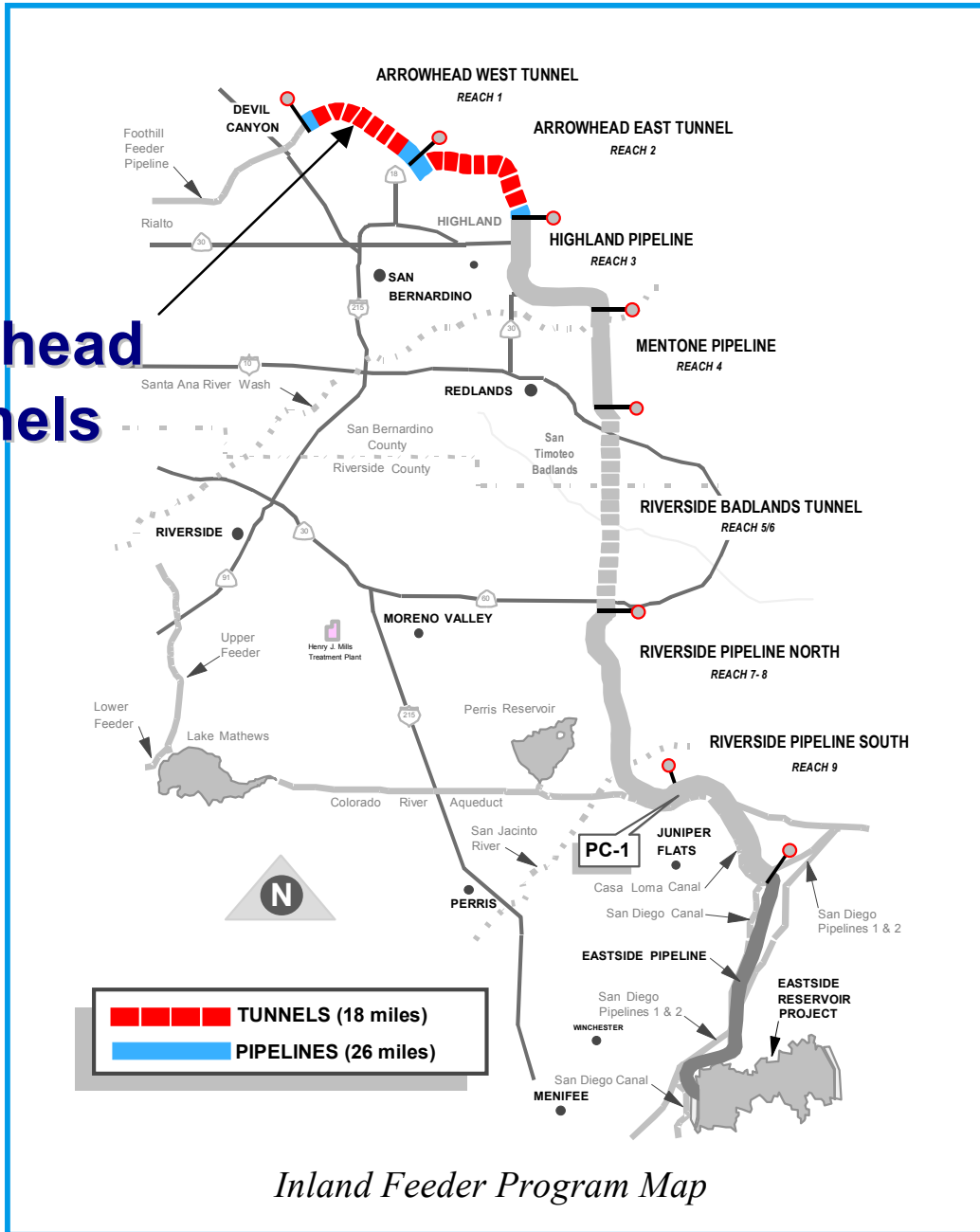
- Construction Manager/Resident Engineer
- Assistant Resident Engineer
- Tunnel Construction and Grouting Engineer
- Chief Inspector
- Field Engineers
- Inspectors
- Surveyors
- Office administrators

Most services will be required for the duration of the construction effort which is expected to be completed in early 2007.

### ***RFP Process***

In August 2001, Request for Proposal (RFP) No. 468 for Construction Management Services was issued. Thirty-nine RFPs were sent to prospective respondents. Four proposals were received and 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 terms of the agreement with the successful respondent. The level of participation by Small Business Enterprises in this work is 25 percent. It is recommended that the Chief Executive Officer be given the authority to enter into an agreement with the successful respondent for RFP 468 in an amount not to exceed \$12 million. The period of service will be for the duration of construction which is scheduled to be completed in early 2007. Funding for these services is included in the program budget. The Inland Feeder Program budget remains unchanged at \$1.186 billion.

# Arrowhead Tunnels



*Inland Feeder Program Map*

General Location Map