

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

June 13, 2006 Board Meeting

8-5

Subject

Appropriate \$4.95 million; and authorize geotechnical investigations for the Central Pool Augmentation Program (Approp. 15119)

Description

The Central Pool Augmentation (CPA) Program is a major water conveyance and treatment system which is planned to augment deliveries of potable water to Metropolitan's Central Pool and to western Riverside County. The primary driver for the CPA Program is to provide capacity to meet long-term treated water demands in the Central Pool. Additional benefits include increased regional system flexibility and strengthened system reliability.

The CPA Environmental Impact Report (EIR) identifies the following program components: a water treatment plant at Metropolitan's Eagle Valley property near Lake Mathews; a tunnel from Lake Mathews to Eagle Valley; a pipeline within the city of Corona; a tunnel through the Cleveland National Forest; and pipelines within the city of Irvine. Since the EIR was certified in 1995, construction of the CPA Program was postponed due to successful implementation of conservation programs and development of local resources within the Central Pool. The program need and schedule are currently being reevaluated through joint Metropolitan/member agency Integrated Area Studies for both Riverside and Orange Counties. In addition, a review of the constructability of the CPA tunnel has been undertaken due to concerns over high groundwater levels along the tunnel alignment, the anticipation of more restrictive groundwater inflow constraints during construction of the tunnel, and increased development along or adjacent to the project alignment.

In July 2004, the Board authorized staff to evaluate the feasibility of an alternative pipeline alignment, reassess the technical feasibility of the EIR-identified tunnel alignment, and initiate negotiations on key properties to preserve the EIR-identified project alignment. The completed evaluation identified feasible pipeline alignments and indicated that detailed feasibility investigations are needed to better determine the constructability and cost of the tunnel alignment. As a result, staff recommends that groundwater and rock conditions be assessed along the EIR-identified tunnel alignment at this time.

A "fatal flaw" assessment of tunnel constructability for the proposed alignment will be conducted via a Phase I geotechnical and geological investigation. Once completed, staff will return to the Board to present the results of the Phase I investigation. These results, as well as recommendations generated through the Integrated Area Studies, will be factored into the analysis of the CPA Program. Assuming no fatal flaws are found, staff would need to return to the Board to initiate more detailed Phase II geotechnical and geological investigations to support preliminary design of the tunnel.

Tunnel Feasibility Investigations

The EIR-identified tunnel alignment passes beneath the Cleveland National Forest and would have a maximum ground cover of 2,500 feet. Based upon the initial EIR investigations, it has been estimated that groundwater depths may range from at least 1,200 feet to as much as 2,000 feet over the tunnel invert. Technical investigations are recommended to more accurately assess the groundwater and rock conditions along this alignment to determine the tunnel's economic viability. Additional investigations are recommended to refine the location and sizing of the entrance and exit portals. The tunnel feasibility investigations detailed below are critical for developing a final recommendation for the project alignment and for refining program cost estimates.

A portion of the tunnel feasibility investigations for the CPA Program may be applicable to concurrent transportation studies along this same corridor. Some costs may be reimbursable from federal highway funds through a cooperative arrangement with Riverside County Transportation Commission and Orange County Transportation Agency. However, in order to be clearly eligible for reimbursement, the contracts should not be executed until certain regulatory requirements have been met. These requirements include, but are not limited to, application for the federal funds and coordination with the California Department of Transportation to ensure Metropolitan's competitive bidding process is consistent with federal audit criteria. A portion of Metropolitan's funds authorized for the feasibility investigations would be designated as local matching funds for purposes of the federal grant. Metropolitan staff will explore reimbursement of study costs with the appropriate transportation agencies whether or not Metropolitan formally enters into a cooperative agreement with the transportation agencies.

Geotechnical and Geological Investigations (\$3 million)

A limited geotechnical and geological exploration program was conducted in the early 1990s to develop environmental documentation for the CPA Program. In July 2004, the Board appropriated \$1,019,000 to perform additional geotechnical work. Subsequently, a tunnel workshop conducted in August 2004 developed recommendations for geotechnical investigations for the proposed tunnel alignment. Phase I geotechnical investigations are designed to conduct a "fatal flaw" assessment of tunnel constructability for the proposed alignment. These investigations will include installation of deeper borings to reach the approximate tunnel depth, field and laboratory testing, installation of observation wells, portal geotechnical explorations, and groundwater and surface water monitoring. Specialized consultants will perform this work. Based on the Phase I scope, an estimated \$3 million is needed to complete the investigation. In December 2004, Request for Proposals (RFP) No. 717 was issued for geotechnical field explorations and testing services in support of tunnel evaluation studies for the CPA Program. Five proposals were received in response to RFP No. 717. Based upon a competitive evaluation process, staff recommends that the services be provided by Kleinfelder, Inc. and GeoPentech, Inc.

Kleinfelder, Inc. demonstrated a high level of competence in field explorations and analysis, and is recommended to perform hard-rock core drilling, core logging, in-situ testing, installation of transducer and observation wells, and field and laboratory testing. GeoPentech, Inc. demonstrated a high level of competence in groundwater monitoring, modeling, and tunnel design, and is recommended to perform field reconnaissance, geologic mapping, hydrogeological groundwater modeling, analysis of geologic conditions, and technical evaluations of tunnel construction. The combined results of the two efforts will provide Metropolitan with the ability to determine whether there is any serious impediment to tunnel constructability and economical viability of such an alignment. A Phase II, more detailed investigation would be required before project design could be conducted.

This action authorizes professional services agreements with Kleinfelder, Inc. and GeoPentech, Inc., in amounts not to exceed \$2.9 million and \$0.9 million, respectively, to perform geotechnical and geological investigations. Including the previously appropriated amount of \$1,019,000 and the \$3,000,000 recommended in this action, the total estimated cost for the exploration program is \$4,019,000.

Portal Siting Studies (\$0.5 million)

Engineering studies are recommended to refine the locations and site-specific issues for up to three tunnel portal sites, including the EIR-identified portals at Bedford Canyon and Agua Chinon Wash. Approach pipeline alignments leading up to the portal sites will also be defined. Completion of these siting studies will support an update of the CPA Program's cost estimate.

The scope of the studies will include development of portal layouts, evaluation of right-of-way, permitting, and construction staging issues leading up to the portals, and an update of program cost estimates. Staff recommends that the portal siting studies be conducted by RBF Consulting, Inc. under an existing professional services agreement. RBF Consulting, Inc. was selected through a competitive process (Request for Qualifications No. 546) and authority to enter into the agreement was delegated to the General Manager by the Board in September 2003. No amendment to the agreement is required for this work.

This action authorizes portal siting studies for both the EIR-approved and alternative portal sites.

Environmental Studies (\$100,000)

Biological and cultural studies will be required at several locations along the EIR-identified alignment to support the planned geotechnical and geologic investigations. An environmental planning firm will perform field-level biological and cultural reconnaissance studies and provide reports documenting these studies. Staff recommends that Jones & Stokes Associates, Inc. provide these services under an existing professional services agreement. Jones & Stokes Associates, Inc. was selected through a competitive process (RFP No. 575) and authority to enter into the agreement was delegated to the General Manager by the Board in September 2003. No amendment to the agreement is required for this work.

This action authorizes field environmental studies to support the planned geological and geotechnical investigations.

United States Forest Service Collection Agreement (\$0.75 million)

Metropolitan must work closely with the United States Forest Service (USFS) while conducting geotechnical and geological investigations within the Cleveland National Forest. A Special Use Permit is required to perform the investigations outlined above. Data collected during these investigations will assist the USFS in its evaluation of the CPA tunnel's environmental issues - a process that will ultimately determine the conditions of a tunnel construction permit. These evaluations and services are critical elements to success of the CPA Program. The USFS has requested compensation for its costs associated with preparing and administering permits for the CPA tunnel. This request is consistent with Metropolitan's coordination efforts with the USFS on the Inland Feeder Program.

This action authorizes entering into a collection agreement with the USFS to reimburse the USFS for its staff time spent in coordinating approval of environmental, geologic, and geotechnical work within the Cleveland National Forest. Based on Metropolitan's experience with the Inland Feeder, staff estimates that \$0.75 million be budgeted for USFS activities up to the initiation of preliminary design of the CPA Program.

CPA Program Management (\$0.6 million)

Metropolitan staff must coordinate closely with the consultants and agencies to ensure that the technical studies and asset management activities are completed on time and within budget. Program management activities consist of overall program coordination, interaction with external and member agencies, coordination with the Riverside-Orange Corridor Authority JPA, key presentations, technical reviews, project controls, and management of consultant efforts. A budget of \$0.6 million is recommended for these activities for a period of up to four years.

The CPA Program has been evaluated and recommended by Metropolitan's Capital Investment Plan Evaluation Team and funds have been included in the fiscal year 2006/07 capital budget. See [Attachment 1](#) for the financial statement. [Attachment 2](#) depicts the geotechnical and geological investigations program and [Attachment 3](#) is the location map.

Policy

Metropolitan Water District Administrative Code Section 5108: Appropriation

Metropolitan Water District Administrative Code Section 8220: Acquisition of Real Property

California Environmental Quality Act (CEQA)

CEQA determination for Options #1 and #2:

The environmental effects from the funding, designing, constructing, and operating of the proposed project were originally evaluated in the Final Environmental Impact Report (Final EIR) for the CPA project. The Board certified the Final EIR on August 22, 1995. The Board also approved the Findings of Fact (findings), the Statement of Overriding Considerations (SOC), the Mitigation Monitoring and Reporting Program (MMRP), and the project itself. The current board action is solely based on authorization for technical investigations and not on any changes to the approved project itself. Hence, the previous environmental documentation acted on by the Board in conjunction with the proposed action fully complies with CEQA and the State CEQA Guidelines. Accordingly, no further CEQA documentation is necessary for the Board to act on the proposed action.

The CEQA determination is: Determine that the proposed action has been previously addressed in the certified 1995 Final EIR, findings, SOC, and MMRP and that no further environmental analysis or documentation is required.

CEQA determination for Option #3:

None required

Board Options/Fiscal Impacts

Option #1

Adopt the CEQA determination and

- a. Appropriate \$4.95 million in budgeted funds;
- b. Authorize geotechnical, environmental, and siting studies for the CPA Program;
- c. Authorize an agreement with Kleinfelder, Inc. for geotechnical investigations in an amount not to exceed \$2.9 million;
- d. Authorize an agreement with GeoPentech, Inc. for geotechnical investigations in an amount not to exceed \$0.9 million, and
- e. Authorize a Collection Agreement with the USFS in an amount not to exceed \$0.75 million for preparing and administering permits for the CPA tunnel.

Fiscal Impact: \$4.95 million of budgeted funds under Approp. 15119 with potential partial reimbursement
Business Analysis: This option is the most efficient method of initiating timely investigations to determine the economic and technical feasibility of the EIR-approved CPA tunnel alignment. These results are desired by early 2007 to be factored into the conclusions of the ongoing Central Pool and Riverside/San Diego Integrated Area Studies and to allow a more timely completion of Metropolitan's System Overview Study.

Option #2

Adopt the CEQA determination and

- a. Appropriate \$4.95 million in budgeted funds;
- b. Authorize geotechnical, environmental, and siting studies for the CPA Program;
- c. Authorize an agreement with Kleinfelder, Inc. for geotechnical investigations in an amount not to exceed \$2.9 million;
- d. Authorize an agreement with GeoPentech, Inc. for geotechnical investigations in an amount not to exceed \$0.9 million;
- e. Authorize a Collection Agreement with the USFS in an amount not to exceed \$0.75 million for preparing and administering permits for the CPA tunnel;
- f. Authorize participation in a cooperative agreement among the Riverside County Transportation Commission, Orange County Transportation Agency and Metropolitan, and utilize a portion of the authorized funding as local matching funds, to be eligible to receive allotted federal funds to conduct geotechnical and groundwater monitoring activities; and
- g. If Metropolitan is eligible to receive federal funding reimbursement, authorize staff to issue a Notice to Proceed to perform the geotechnical investigations.

Fiscal Impact: A portion of the \$4.95 million requested by this action would be covered by federal funds available under the cooperative agreement.

Business Analysis: This option would delay initiation of the geotechnical investigations until completion of cost sharing arrangements, likely, the fall of 2007, which would delay completion of the Central Pool Integrated Area Study. Draft conclusions of the Integrated Area Studies are anticipated in late 2006. The delay in determining the economic and technical validity of the EIR-approved CPA tunnel alignment could prevent Metropolitan and its member agencies from validating some of the draft conclusions until late 2007.

Option #3

Do not authorize the studies.

Fiscal Impact: None

Business Analysis: This option would prevent Metropolitan from determining the economic and technical feasibility of the EIR-approved CPA tunnel alignment and would reduce the effectiveness of the Integrated Area Studies. It would also impact efforts with external agencies and developers to preserve the proposed project alignment.

Staff Recommendation

Option #1



Roy L. Wolfe
Manager, Corporate Resources

5/30/2006
Date



Jeffrey Kightlinger
General Manager

5/30/2006
Date

Attachment 1 – Financial Statement

Attachment 2 – Geotechnical and Geologic Investigations Map

Attachment 3 – Location Map

Financial Statement for the Central Pool Augmentation Program

A breakdown of Board Action No. 8 for Appropriation No. 15119 for the Central Pool Augmentation Program is as follows:

	Previous Total Appropriated Amount (July 2004)	Current Board Action No. 8 (June 2006)	New Total Appropriated Amount
Labor			
Owner Costs (Program management, permitting, environmental documentation, right-of-way negotiations)	\$ 3,573,072	\$ 600,000	\$ 4,173,072
Materials & Supplies	45,100	-	45,100
Land Purchase	16,488,100	-	16,488,100
Incidental Expenses	126,228	-	126,228
Professional/Technical Services	5,543,071 *		5,543,071
Kleinfelder, Inc	1,000,000 *	1,900,000	2,900,000
GeoPentech, Inc.	-	900,000	900,000
USFS	-	750,000	750,000
RBF Consulting, Inc.	-	500,000	500,000
Jones & Stokes, Inc	-	100,000	100,000
Equipment Use	3,400	-	3,400
Contracts	550,000	-	550,000
Remaining Budget	622,029	200,000	822,029
Total	\$ 27,951,000	\$ 4,950,000	\$ 32,901,000

* \$1 million allocated to Kleinfelder from funds previously appropriated for professional services. Total amount recommended for Kleinfelder agreement is \$2.9 million.

Funding Request

Program Name:	Central Pool Augmentation Program		
Source of Funds:	Revenue Bonds, Replacement and Refurbishment or General Funds		
Appropriation No.:	15119	Board Action No.:	8
Requested Amount:	\$ 4,950,000	Capital Program No.:	15119-S
Total Appropriated Amount:	\$ 32,901,000	Capital Program Page No.:	E-8
Total Program Estimate:	\$ 61,500,000	Program Goal:	S-Supply and Delivery Reliability

Geotechnical and Geologic Investigations Map



