



● **Board of Directors**
Engineering, Operations, and Technology Committee

6/13/2023 Board Meeting

7-1

Subject

Authorize agreements with AECOM Technical Services Inc. and CDM Smith Inc., each in an amount not to exceed \$800,000, for water desalination studies in Metropolitan's service area; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

Executive Summary

The recurring severe regional droughts, and their impacts on Metropolitan's water supplies from both the Colorado River and Northern California, have prompted an imminent, compelling need for Metropolitan to develop strategies to potentially develop alternative sources of water supplies for Metropolitan's member agencies. Staff has initiated efforts to assess the options for both seawater and brackish water desalination as potential new sources that can be made available to mitigate uncertainties in future supplies, thereby maintaining Metropolitan's ability to ensure water supply reliability in Southern California. Water desalination studies support the Board's policy of providing equitable water supply reliability to member agencies through an interconnected and robust system of supplies, storage, and programs. This is one of several efforts to help inform Metropolitan's Climate Adaptation Master Planning process. This action authorizes two agreements to provide engineering services for water desalination studies in Metropolitan's service area.

Details

Background

Metropolitan delivers water from the Colorado River and the State Water Project (SWP) to its service area, meeting approximately 50 percent of regional water needs. In recent years, the western region of the United States has experienced recurrent droughts that have led to large drawdowns in the major reservoirs on the Colorado River and the SWP. Drastic changes in precipitation and large reservoir drawdowns may impact the reliability of Metropolitan's water deliveries to its member agencies in the future. To address this concern, staff has initiated efforts to assess options that could help mitigate uncertainties in future supplies and maintain Metropolitan's water supply reliability with the potential development of brackish and/or seawater desalination projects.

Request for Proposals (RFP) No. 1327 solicited proposals for engineering services to support water desalination studies in Metropolitan's service area. Staff recommends authorizing two professional service agreements based on the results of this RFP to expand Metropolitan's knowledge base on brackish and seawater desalination opportunities within Southern California and determine potential project delivery methods for the existing technology and project opportunity. The results of these studies will contribute to Metropolitan's current overall assessment of projected water supply needs for the region.

Budget Impact

In accordance with provisions of the Governmental Accounting Standards Board, Metropolitan's work on feasibility studies not associated with a specific asset must be conducted with O&M funds instead of a capital appropriation. Funds for these planning activities for regional reliability are included in the O&M budget for fiscal years 2022/23 and 2023/24.

These studies anticipate the expenditure of \$1.9 million in budgeted O&M funds. All expenditures will be incurred in the current biennium and have been previously authorized.

Water Desalination Opportunities & Technology Assessment

The planned studies for brackish and seawater desalination studies will be conducted by consultants with oversight by Metropolitan staff. AECOM Technical Services Inc. (AECOM) will collect appropriate data, develop computer models, conduct analyses, and provide recommendations for brackish water desalination; CDM Smith Inc. (CDM) will conduct similar work efforts for seawater desalination. The planned scope of work for each consultant is described below. Metropolitan staff will compile record drawings and reports, perform overall project management, and conduct technical reviews.

A total of \$1,900,000 will be allocated in O&M funds in fiscal years 2022/23 and 2023/24 for studies associated with brackish and seawater desalination. This amount includes \$1,600,000 for the consultant's activities described below; \$160,000 for Metropolitan staff activities and technical oversight and review of consultant's work; and \$140,000 for project management, and project controls.

Engineering Services (AECOM Technical Services Inc. and CDM Smith Inc.) – New Agreements

AECOM and CDM are recommended to provide engineering services for water desalination studies in Metropolitan's service area. Both AECOM and CDM were selected through a competitive process via RFP No. 1327. Staff received proposals from seven firms and evaluated each firm based on qualifications and experience, expertise of each firm's staff, technical approach and proposed methodology, and capability to deliver the planned work.

The planned scope of work for AECOM includes: (1) preparing an inventory of potential brackish water resources plant sites in Metropolitan's service area; (2) developing an evaluation methodology for the suitability of this water supply, including consistency with Metropolitan's commitment to carbon neutrality by 2045; (3) identifying applicable water quality and regulatory requirements; (4) developing conceptual cost estimates and schedules for water produced from desalination facilities; (5) developing project implementation options that would best suit these types of facilities; (6) determining the approximate proportion and area of Metropolitan's service area that would potentially receive water from the plant; and (7) assessing the near-term potential for advances in brackish water desalination technologies.

The planned scope of work for CDM includes: (1) preparing an inventory of potential seawater desalination plant sites in Metropolitan's service area; (2) assessment of permitting and regulatory frameworks that would potentially impact the potential siting of a seawater desalination plant, (3) developing an evaluation methodology for the suitability of this water supply, including consistency with Metropolitan's commitment to carbon neutrality by 2045; (4) identifying applicable water quality and regulatory requirements; (5) developing conceptual cost estimates and schedules for water produced from desalination facilities; (6) developing project implementation options that would best suit these types of facilities; (7) determining the approximate proportion and area of Metropolitan's service area that would potentially receive water from the plant; and (8) assessing the near-term potential for advances in seawater desalination technologies.

This action authorizes two professional services agreements with AECOM and CDM, each in an amount not to exceed \$800,000, to provide engineering services for water desalination studies in Metropolitan's service area. For this agreement, Metropolitan established a Small Business Enterprise participation level of 25 percent. Both AECOM and CDM have agreed to meet this level of participation. The planned sub-consultants for these agreements are listed in **Attachment 1**.

Alternatives Considered

Staff considered utilizing in-house Metropolitan staff to perform the assessment of desalination technology opportunities. Metropolitan's staffing strategy for in-house Metropolitan staff has been: (1) to assess current work assignments for said staff and to determine the potential availability of staff to conduct this work; and (2) to use professional services agreements when resource needs exceed available in-house staffing or require specialized technical expertise in order to provide a concentrated engineering effort over an extended duration.

After assessing the current workload for in-house staff, and the required expertise, it has been determined that there is insufficient engineering staff with expertise in desalination technology to ensure the completion of the

work in a timely manner. Staff, therefore, recommends utilizing a consultant for this work. The consultants will perform the studies, and staff will perform project review and oversight. This approach will allow for the completion of the studies in the most efficient manner possible.

Summary

This action authorizes professional services agreements with AECOM and CDM to provide engineering services for water desalination studies in Metropolitan's service area. See **Attachment 1** for the List of Subconsultants.

Project Milestone

March 2024 – Completion of studies

Policy

Metropolitan Water District Administrative Code Section 8121: General Authority of the General Manager to Enter Contracts

Metropolitan Water District Administrative Code Section 11104: Delegation of Responsibilities

By Minute Item 52946, dated August 16, 2022, the Board adopted a resolution affirming a call to action and committing to regional reliability for all member agencies.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is statutorily exempt from CEQA (State CEQA Guidelines Section 15262) because it involves only feasibility or planning studies for possible future actions which the board has not approved, adopted, or funded. The overall activity also involves carrying out studies that consist of basic data collection, which do not result in a serious or major disturbance to an environmental resource. This may be strictly for information gathering purposes, or as part of a study leading to an action which a public agency has not yet approved, adopted, or funded. Accordingly, the proposed action qualifies under Class 6 (Section 15306) of the State CEQA Guidelines.

CEQA determination for Option #2:

None required

Board Options

Option #1

Authorize professional services agreements with AECOM Technical Services Inc. and CDM Smith Inc., each in an amount not to exceed \$800,000, to provide engineering services for water desalination studies in Metropolitan's service area.

Fiscal Impact: Expenditure of \$1.9 million in O&M funds. All expenditures will be incurred in the current biennium and have been previously authorized.

Business Analysis: This option will enhance Metropolitan's knowledge of potential brackish and seawater supply options in its service area.

Option #2

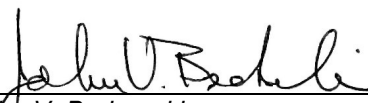
Do not proceed with the project at this time.

Fiscal Impact: None

Business Analysis: This option may forego or delay the opportunity to enhance Metropolitan's knowledge of brackish and seawater supply options in its service area.

Staff Recommendation

Option #1



John V. Bednarski
Manager/Chief Engineer
Engineering Services

5/19/2023

Date



Adel Hagekhalil
General Manager

5/23/2023

Date

Attachment 1 – List of Subconsultants

Ref# es12687872

The Metropolitan Water District of Southern California
Subconsultants for Water Desalination Studies
Agreements

Consultant: AECOM Technical Services Inc.	
Subconsultant and Location	Service Category; Specialty
Awad Engineering Inc. Mission Viejo, CA	Brackish Water Desalination
Geoscience Support Services Inc. San Dimas, CA	Groundwater Modeling
John Robinson Consulting Inc. Pasadena, CA	General Water System Design
Kimley-Horn & Associates Inc. Riverside, CA	Civil Design
Leland Saylor Associates Inc. Los Angeles, CA	Cost Analysis
Water Globe Consultants LLC Winter Springs, FL	Technical Advisor

Consultant: CDM Smith Inc.	
Subconsultant and Location	Service Category; Specialty
EOA Inc. Oakland, CA	Permitting Evaluations, Ocean Plan Requirements, Brine Disposal
Geoscience Support Services Inc. San Dimas, CA	Slant Wells, Hydrogeology, Brackish Groundwater Desalination Opportunities
Means Consulting LLC Newport Beach, CA	Partnerships
Water Quality & Treatment Solutions Inc. Canoga Park, CA	Water Quality and Compatibility