



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

6/8/2021 Board Meeting

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**7-3**

**Subject**

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Authorize an agreement with Black & Veatch Corporation, Inc., in an amount not to exceed \$8 million, for engineering and technical studies to support environmental planning activities of the Regional Recycled Water Program; the General Manager has determined that the proposed action is exempt or otherwise not subject to CEQA

**Executive Summary**

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During the past decade, California has experienced significant reductions in local surface supplies and groundwater production due to unprecedented drought conditions. The need for additional water resources and a more reliable water supply has become increasingly evident with the challenges from recurring drought, climate change, seismic risk, and uncertainties of imported water supplies. Metropolitan's Regional Recycled Water Program (Program) was initiated to potentially develop a new resource that would increase the reliability of future water supply in Southern California.

The goal of the Program is to produce up to 150 million gallons per day (mgd) of purified water for reuse applications, such as groundwater recharge, industrial uses, or future direct potable use (DPR) through raw water augmentation at Metropolitan's treatment plants. Key elements of the Program include advanced water treatment, pumping systems, conveyance pipelines, and recharge facilities. In the Program's initial phase, the conveyance system includes nearly 40 miles of large diameter pipeline that will distribute treated water to recharge groundwater basins or other facilities within Metropolitan's service area.

In November 2020, Metropolitan's Board authorized preparation of environmental documentation and technical studies for the Program. This action authorizes an agreement for engineering and technical studies for conveyance and recharge facilities to support environmental planning and review of the Program. Funds for these planning activities for the Program are included in the O&M budget for fiscal years 2020/21 and 2021/22.

**Details**

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**Background**

Since the adoption of policy principles to promote water recycling, Metropolitan and its member agencies have been pursuing resource strategies to accelerate the development of significant local resources to deal with drought, climate change, seismic risks, and uncertainties of imported water supplies. Local supplies serve an important role in ensuring the availability of Metropolitan's service, and implementation of the proposed Program would be consistent with these strategies. If approved, the Program would add a significant new water supply to Metropolitan's service area for either groundwater replenishment or DPR through raw water augmentation at Metropolitan's treatment plants.

In November 2015, Metropolitan's Board authorized an agreement with Los Angeles County Sanitation District No. 2 (Sanitation District) for implementation of a demonstration project that would serve as the initial step in the development of the Program. The agreement effectively established a partnership between Metropolitan and the Sanitation District that ensures the collaboration of two significant regional agencies in the development of this new resource and avoids potential conflicts and duplication of efforts with other recycled water plans that are currently being advanced by other agencies. The Program is currently envisioned to produce approximately 150 mgd of purified water for reuse under a phased approach. The eventual ultimate capacity of the Program

would consider the availability of water at the Sanitation District's Joint Water Pollution Control Plant (Joint Plant), the anticipated demands by the member agencies for groundwater replenishment, raw water augmentation and industrial uses, and potential DPR if the development of DPR regulation is approved by the state.

In December 2020, the Board authorized an amendment to an existing agreement with the Sanitation District to support further development and evaluation of the Program. This collaboration included support for the preparation of environmental documentation, technical studies, and public outreach activities. Continued collaboration between Metropolitan and the Sanitation District could advance the reuse of water at a scale, with effective timing, and at a strategic location to serve the direct needs of multiple member agencies to augment regional supplies for Metropolitan's service area.

The Sanitation District is a member of a partnership of 24 independent and special districts that provide wastewater and solid waste management for approximately 5.3 million people in Los Angeles County. All combined, the sanitation districts of L.A. County currently treat an average of 440 mgd of wastewater at eleven treatment facilities. Ten of these facilities provide sufficient treatment such that the water can be reclaimed for beneficial uses. The eleventh and largest treatment plant in their system, the Joint Plant located in Carson, California, has a capacity of 400 mgd and currently treats an average daily flow of approximately 300 mgd. The entire secondary effluent flow from the Joint Plant is currently discharged through outfall tunnels to the Pacific Ocean in accordance with the ocean discharge regulations. The Program serves as an opportunity to instead capture that water and treat it for beneficial reuse.

### **Preparation of Engineering and Technical Studies for Conveyance System Facilities**

In November 2020, Metropolitan's Board authorized further planning activities for a comprehensive full-scale Program, including preparation of the requisite environmental documentation, conducting engineering and other technical studies to support the environmental planning process, and continuing public outreach efforts in support of the overall Program. Additional studies and investigations are required in order to identify a recommended pipeline alignment for the environmental process. As part of this effort, engineering studies, geotechnical investigations, and utility research will be conducted along potential pipeline alignments. This work will examine the location of, and need for, pump stations and flow control facilities along the alignment and will allow for enhanced planning and characterization of the key project sites. The additional engineering and technical studies will identify potential Program alternatives, key design criteria, and selection of the preferred project alternatives to support the preparation of environmental documentation.

The basis of commencing conveyance system environmental planning and technical studies will be the feasibility-level design report for the conveyance system that was completed in July 2020. This report described several alternative routes for the pipeline alignment and right-of-way requirements and identified key stakeholders, including the United States Army Corps of Engineers, Southern California Edison, and Los Angeles County Department of Public Works, along with the adjacent cities and municipalities. In coordination with the Program's proposed first phase, the report described construction of a backbone conveyance system delivering water approximately 40 miles from the Joint Plant to the Central and Main San Gabriel Basins. The 84-inch diameter backbone pipeline would be capable of conveying 150 mgd or more to the Santa Fe Spreading Grounds to meet the initial Program demands and provide future operational flexibility for the potential adaption for DPR applications, future treatment capacity increase, and potential interconnections to other reuse programs, such as City of Los Angeles' Operation NEXT.

Additional technical studies and engineering investigations are required at this time to support the planned development of environmental planning activities related to the Program. In addition to conducting additional analysis of potential pipeline alignments and locating ancillary Program facilities, the planned work includes assessing the regulatory, operational, and construction impacts of this portion of the Program. Additionally, the areas of power requirements, long-term energy sustainability, the need for recharge and storage facilities, and the potential for additional DPR-related facilities will be studied.

In accordance with the April 2020 action on the biennial budget for fiscal years 2020/21 and 2021/22, the General Manager will authorize staff to proceed with the major activities related to the planning phase of the Program using Metropolitan's O&M funds budgeted for this purpose. The total estimated cost to complete engineering and technical studies, environmental review, and Program Environmental Impact Report is \$30 million.

**Engineering Services (Black & Veatch Corporation, Inc.) – New Agreement**

Black & Veatch Corporation, Inc. (Black & Veatch) is recommended to conduct the engineering and technical studies described in this board letter for the conveyance and recharge facilities of the Program. Black & Veatch was selected through a competitive process via Request for Proposals No. 1263 based on the firm's experience with design and construction of large diameter pipelines and pump stations, trenchless construction in urban environments, and permitting with multiple local, state, and federal agencies.

The planned activities for the conveyance system engineering and technical studies of the Program include: (1) development of a system-wide hydraulic analyses; (2) preparation of a geotechnical report that identifies geotechnical hazards, excavation stability, shoring design, and construction risk and mitigation measures; (3) identification of the necessary construction corridor along public right-of-way and private properties; (4) identification of interference and impact to other utilities along the selected pipeline alignment; (5) investigation of the potential to repurpose Metropolitan's existing infrastructure; (6) assessment of pipeline appurtenances and coatings; (7) coordination of long-lead permits with jurisdictional agencies; (8) preparation of conceptual engineering drawings, as well as identification and quantification of potential construction impacts to support environmental review and planning; and (9) development of concept-level design criteria and construction cost estimates.

This action authorizes a new agreement with Black & Veatch Corporation, Inc., for a not-to-exceed amount of \$8 million, for engineering and technical studies related to the conveyance and recharge facilities in support of the environmental planning effort for the Program. For this agreement, Metropolitan has established a Small Business Enterprise participation level of 25 percent. Black & Veatch has agreed to meet this level of participation. The planned subconsultants for this work are listed in **Attachment 1**.

At the current time, staff anticipates returning to the Board to authorize two additional consulting agreements related to the environmental planning phase for the Program. Actions planned for Fall 2021 include the authorization of agreements with specialized consultants to prepare the Program Environmental Impact Report (PEIR) and to conduct conceptual design studies related to the Program's advanced water treatment facilities in support of the PEIR development.

**Alternatives Considered**

In developing the Program's recommended approach to implementation, several alternatives were considered for completing the necessary engineering and technical studies. The alternatives included utilizing Metropolitan's in-house staff to perform all work components or conducting the work with a combination of Metropolitan and consultant staff. The Program's upcoming activities will include the need for specialty engineering expertise, such as trenchless pipeline design, and sophisticated permitting strategy across multiple jurisdictions. Additionally, in-house staff continues to work on ongoing and planned Capital Investment Plan (CIP) projects. With staffing constraints and the need for specialized technical expertise, staff recommends the use of consultants to perform specific work identified in this board letter. Metropolitan staff will perform project management oversight of the consultant's work, as well as technical activities that support in-house staff's ongoing core competencies. This hybrid staffing approach will allow for timely completion of environmental documentation for the Program without impacting the planned schedules of key CIP rehabilitation projects. This approach also ensures that the work is conducted in the most cost- and time-efficient manner possible.

**Summary**

This action authorizes a new agreement with Black & Veatch Corporation, Inc., for a not-to-exceed amount of \$8 million, for engineering and technical studies to support environmental planning activities of the Regional Recycled Water Program. See **Attachment 1** for the listing of Subconsultants for Agreement and **Attachment 2** for the Location Map.

***Project Milestone***

March 2024 – Board certification of environmental documentation

## Policy

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Metropolitan Water District Administrative Code Section 5108: Appropriations

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

Metropolitan Board Report No. 01122016 IRP 8-3 B-L, “2015 Integrated Water Resources Plan Update,” adopted January 2016

By Minute Item 42287, dated February 11, 1997, the Board adopted a set of policy principles on water recycling.

By Minute Item 50299, dated November 10, 2015, the Board authorized an agreement with County Sanitation District No. 2 of Los Angeles County for development of a potential regional recycled water supply program and a demonstration project.

By Minute Item 50410, dated March 8, 2016, the Board authorized agreements for design of the demonstration scale recycled water treatment plant and feasibility studies of recycled water delivery system.

By Minute Item 50884, dated July 11, 2017, the Board authorized construction of the advanced water treatment demonstration plant.

By Minute Item 51962, dated April 14, 2020, the Board appropriated a total of \$2,810.9 million for miscellaneous Metropolitan O&M costs, including costs associated with supply programs, for Fiscal Years 2020/21 and 2021/22.

By Minute Item 52174, dated November 10, 2020, the Board authorized preparation of environmental documentation and technical studies, and public outreach activities for the Regional Recycled Water Program.

## California Environmental Quality Act (CEQA)

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### CEQA determination for Option #1:

The proposed action is exempt from the provisions of CEQA and the State CEQA Guidelines because it consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees (Section 15304 of the State CEQA Guidelines). Additionally, the proposed action is exempt from the provisions of CEQA and the State CEQA Guidelines because it consists of basic data collection, research, experimental management, and resource evaluation activities which do not result in a serious or major disturbance to an environmental resource. These 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 (Section 15306 of the State CEQA Guidelines).

### CEQA determination for Option #2:

None required

## Board Options

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### Option #1

Authorize an agreement with Black & Veatch Corporation, Inc., in an amount not to exceed \$8 million for engineering and technical studies to support environmental planning activities of the Regional Recycled Water Program.

**Fiscal Impact:** \$8 million in O&M funds. Approximately \$5 million will be incurred in the current biennium and have been previously authorized.

**Business Analysis:** This option would advance the development of significant water reuse in Southern California and would augment regional supplies for Metropolitan’s entire service area to deal with droughts, climate change, seismic risks, and uncertainties of imported water supplies.

**Option #2**

Do not proceed with the new agreement at this time.

**Fiscal Impact:** None

**Business Analysis:** This option would delay development of recycled water resources to meet the increasing need for the region's water supply to deal with drought, climate change, seismic risks, and other emergencies.

**Staff Recommendation**

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Option #1

  
\_\_\_\_\_  
John V. Bednarski  
Manager/Chief Engineer  
Engineering Services

5/13/2021

*Date*

  
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Jeffrey Kightlinger  
General Manager

5/20/2021

*Date*

**Attachment 1 – Subconsultants for Agreement with Black & Veatch**

**Attachment 2 – Location Map**

Ref# es12677133

**The Metropolitan Water District of Southern California**

**Subconsultants for Agreement with Black & Veatch Corporation, Inc.**

**Environmental Phase Engineering Services for Conveyance & Recharge Facilities  
for the Regional Recycled Water Program**

<b>Subconsultant and Location</b>
Aldea Services, Inc., Frederick, MD
CDM Smith Inc., Los Angeles, CA
Chang Consultants, Rancho Santa Fe, CA
DRP Engineering, Inc., Alhambra, CA
Enviro Compliance Solutions, Inc., Yorba Linda, CA
Fluvial Tech, Inc., San Clemente, CA
GeoPentech Inc., Irvine, CA
Harris Water Engineering, Inc., Durango, CO
McMillen Jacobs Associates, Inc., Pasadena, CA
MWA Architects, Inc., San Francisco, CA
Ruth Villalobos & Associates, Inc., Ontario, CA
SC Solutions, Inc., Sunnyvale, CA
Scott Foster Engineering, Inc., La Cañada Flintridge, CA
The Alliance Group Enterprise, Inc., Los Angeles, CA
The Terrazas Group, LLC, Pasadena, CA
Ultra Systems Environmental, Inc., Irvine, CA
Water Quality & Treatment Solutions, Inc., Canoga Park, CA
Woolpert, Inc., Orlando, FL

# Location Map

