



- Board of Directors
Engineering and Operations Committee

11/10/2020 Board Meeting

7-3

Subject

Authorize preparation of environmental documentation and technical studies, and public outreach activities for the Regional Recycled Water Program; and amend an agreement with National Water Research Institute to facilitate additional technical workshops related to the Program's Demonstration Plant; the General Manager has determined that the proposed actions are exempt or otherwise not subject to CEQA

Executive Summary

In November 2015, Metropolitan's Board authorized an agreement with County Sanitation District No. 2 of Los Angeles County (Sanitation District) that established a framework for potential development of a Regional Recycled Water Program (Program). The proposed Program would consist of a full-scale Advanced Water Treatment (AWT) plant located at the Sanitation District's Joint Water Pollution Control Plant (Joint Plant) in Carson, as well as conveyance facilities to distribute the treated water to recharge basins or other facilities within Metropolitan's service area. 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 or raw water augmentation.

The agreement with the Sanitation District also provided for construction of an AWT Demonstration Plant to assess and optimize the operational parameters for the proposed Program. This Demonstration Plant was completed in October 2019 and has a capacity of 0.5 mgd. The Demonstration Plant is being operated to implement testing plans that will ultimately lead to the regulatory certification of the full-scale treatment process. An independent scientific advisory panel (Science Panel) has been established, and workshops have been conducted with the panel to review the demonstration testing plans to ensure regulatory acceptance of the Program.

Since that agreement was put into place, Metropolitan and the Sanitation District have continued to develop information and coordinate efforts to support implementation of the Program, if approved. In addition, a number of water agencies have executed Letters of Intent/Interest expressing potential interest either indirectly participating in the Program or in coordinating with Metropolitan on continued development of the Program. Moreover, based on the response to the extensive public outreach efforts conducted to date, there is strong public support for this Program. In light of this, staff is recommending moving forward with the next phase of the Program's development and evaluation.

In addition to regular reports that have been given at committee, two extensive studies and two white papers have been prepared and presented to the Board. This information, and the Board discussions that followed, addressed the Program's feasibility, implementation strategies (including the potential for future direct potable reuse applications), and financial and institutional considerations. This action would authorize further planning activities for a comprehensive full-scale Program. Specifically, staff recommends preparing the requisite environmental documentation, conducting engineering and other technical studies, and continuing public outreach efforts in support of the overall Program. Staff also recommends an amendment to Metropolitan's existing agreement with the National Water Research Institute for facilitating additional technical workshops related to the Demonstration Plant. These workshops are needed to advance the Demonstration Plant's testing program to ensure regulatory approval of the program's advanced water treatment process.

Funds for these planning activities for the Program are included in the O&M budget for fiscal years 2020/21 and 2021/22.

Details

Background

To maintain water supply reliability, Metropolitan and its member agencies are pursuing resource strategies that accelerate the development of significant local resources to deal with drought, climate change, and seismic risks. 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 direct potable reuse (DPR) through raw water augmentation.

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. The combined Sanitation Districts 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.

In support of the full-scale Program, the Sanitation District estimates that there is sufficient secondary effluent available to initially support a program capable of producing approximately 150 mgd of purified water for reuse. It is currently envisioned that the Program will be constructed in a phased approach. Under this phased approach, the eventual ultimate capacity of the Program would consider the availability of water at the Joint Plant and the anticipated demands by the member agencies, both for the purposes of groundwater replenishment and raw water augmentation.

The purified water produced by the Program would be delivered to Metropolitan's member agencies to meet their groundwater recharge and storage requirements, as Metropolitan currently does with imported water supplies. Staff has also identified and discussed with some member agencies the use of purified water for industrial uses. Additionally, Metropolitan is working closely with the State to accelerate the development of DPR regulations. 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.

Actions and Progress to Date

In November 2015, Metropolitan's Board authorized an agreement with the Sanitation District that established a framework of proposed terms and conditions for development of a full-scale 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. Under the agreement, key terms and responsibilities for both Metropolitan and the Sanitation District were identified for the joint development of a full-scale Program to purify secondary effluent from the Sanitation District's Joint Plant using AWT technologies. These key terms and conditions are tentative and would go into effect only if and when presented to and approved by both districts' respective boards. The existing agreement facilitates current planning for a full-scale Program up to 150 mgd by equitably dividing potential costs and investments for both parties, establishing responsibilities between Metropolitan and the Sanitation District; and reserving the use of a Sanitation District site for the AWT facility. This type of collaboration and partnership also ensures that development of this Program would avoid potential conflicts and duplication of efforts with other recycled water plans that are currently being advanced by other agencies.

In March 2016, Metropolitan's Board authorized the design of the demonstration-scale AWT plant and feasibility studies for the full-scale Program. The AWT process train identified in the feasibility studies includes a membrane bioreactor (MBR), reverse osmosis, and ultraviolet (UV) disinfection with advanced oxidation using either hydrogen peroxide or sodium hypochlorite. The Demonstration Plant will be used to validate the pathogen removal capability of the MBR process for regulatory acceptance of the intended application. The plant's MBR process was designed with the flexibility to treat either secondary effluent or primary effluent from the Joint

Plant. The construction contract for the Demonstration Plant was awarded by Metropolitan's Board in July 2017, and construction was completed in October 2019. Pre-testing of the system was completed in July 2020. Currently, demonstration testing of the proposed AWT processes using MBR to treat the Joint Plant's secondary effluent is well underway to generate information needed for regulatory acceptance of the potential program. Demonstration testing of MBR treating the Joint Plant's primary effluent is scheduled to start in Fall 2021.

A public outreach plan was created in 2019 to assess the public's current understanding and acceptance of a large program like the one contemplated by Metropolitan and the Sanitation District, inform project planning efforts, and further develop the public's knowledge of the Program. Current outreach efforts use a variety of strategies and tools to connect with diverse audiences, including using the Demonstration Plant and adjacent Learning Center as a platform to conduct outreach and build awareness. To date, staff has conducted approximately 100 facility tours for over 2,000 visitors, including board members, employees, local and national conferences, non-governmental organizations, and other visitors from the public. Due to COVID-19 restrictions, Metropolitan continues the effort with monthly virtual tours.

California's groundwater recharge reuse regulations, Title 22 of California Code of Regulations §60320.130, require that an independent scientific advisory panel review projects that may seek alternative treatment processes to those identified in existing regulations. The AWT process train proposed for the full-scale Program, and currently being tested at the Demonstration Plant, needs to accomplish the water quality objectives established for groundwater recharge. Specifically, the MBR process must achieve the pathogen removal requirement for indirect potable reuse (IPR). For Metropolitan's Demonstration Plant, three Science Panel workshops were conducted since 2018. These workshops have allowed both districts and regulators to review the testing and monitoring plans and initiate discussion on potential DPR applications. The DPR applications may be included as one component of the RRWP if deemed viable and necessary by Metropolitan's Board. The Science Panel members include subject matter experts in toxicology, hydrogeology, microbiology, chemistry, wastewater treatment, and public drinking water supply (**Attachment 2**), to meet Title 22 requirements. The Science Panel will participate throughout the testing period of the demonstration project, and until completion and submission of the final Title 22 reports to the regulators for approval. At this time, three additional workshops have been planned with both districts and the regulators for December 2020 and later in 2021 to continue the discussion of the upcoming MBR test plan, ongoing MBR testing results, and potential DPR considerations.

For the full-scale Program, the Feasibility Study (Report No. 1530) published in November 2016 evaluated the base case configuration with conveyance to four groundwater basins in one single phase, which concluded that there are no fatal flaws or deficiencies to implement the potential Program technically, institutionally, and financially.

The Conceptual Planning Studies Report (Conceptual Report, Report No. 1618) published in February 2019 further evaluated phasing alternatives to allow flexibility in Program implementation and discussed future opportunities such as DPR through raw water augmentation at two of Metropolitan's treatment plants. The Conceptual Report recommended that the Program be implemented in a 100 mgd first phase, followed by a 50 mgd second phase. The first phase includes construction of a backbone conveyance system delivering water approximately 38 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. The second phase of the Program would fully build out the treatment and conveyance components of the system and build additional pipelines and basin replenishment options and/or potential DPR connections.

The Conceptual Report identified key "next steps" that should be undertaken to ensure the continued advancement of the Program. One of these recommendations included conducting the initial environmental planning/review process with a Program Environmental Impact Report (PEIR). Under this approach, the full Program, including both the near-term IPR applications as well as the future DPR applications, would be considered in the initial environmental planning documents. The Conceptual Report envisioned that the PEIR would be supplemented by project-level environmental reviews as necessary when specific construction projects are planned. Due to the complexity and long lead time needed to complete the environmental permitting process, it was recommended that the environmental process proceed while further Program development and evaluations

continue to take place. Additional engineering and technical studies are needed, including the following areas: (1) potential changes in the conveyance system due to pipeline alignments, right-of-way requirements, hydraulics, or tie-in of other reuse projects; and (2) changes to the AWT processes due to different nitrogen management strategies implemented by the Sanitation District or the decision to include raw water augmentation in the Program. These studies also will be used for project-level environmental reviews, as described below in Preparation of Environmental Documentation

In addition to the two study reports discussed above, White Paper No. 1 was published in July 2019 and elaborated on the several potential implementation approaches for the Program, the need for a comprehensive environmental review process, and Metropolitan's potential role in the DPR development through raw water augmentation. White Paper No. 2 was published in October 2020 and addresses the Program's role in supporting Metropolitan's regional water resource planning, describes the anticipated costs and benefits, analyzes potential cost-recovery approaches to obtain policy direction from the Board, details the commitments needed for water deliveries, and introduces opportunities to work with Program partners.

Parallel to Metropolitan's planning effort on the Program, the Sanitation District has provided continuous support on Demonstration Plant construction and testing, prepared source control evaluations of the Joint Plant's influent, developed a remediation action plan for the site where the full-scale AWT facility will be constructed, and actively participated in the evaluation of nitrogen management options. The Sanitation District has recently completed a brine study to explore the options to reduce the dissolved solids loading in the feed water to the AWT facility. A technical analysis project for the Joint Plant is currently in progress to evaluate the potential modifications to its secondary treatment process, which would have a significant impact on the selection of the downstream AWT process and the associated facility planning. A survey of the potential AWT facility site is also in progress to identify all surface structures/features and shallow substructures.

After five years of progress, as presented above, staff recommends proceeding with the initiation of the PEIR for the Program and initial planning tasks, as described below. Requests for Proposals (RFPs) to solicit consultant services under each task will be issued following Board approval of this action. Staff will return to the Board to award the consultant agreements for these tasks at a later date. Staff also recommends that the agreement with the National Water Research Institute be amended so that the Science Panel workshops can continue to support the Demonstration Plant testing plan. Both actions will further advance the current status of the program.

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 three initial major activities related to the planning phase of the Program using Metropolitan's O&M funds budgeted for this purpose.

Preparation of Environmental Documentation

The initial implementation phase of the Program will require environmental evaluation and review in accordance with the California Environmental Quality Act (CEQA). To that end, a PEIR is a type of CEQA document designed to be used for large programs/projects with multiple components that require multiple agency approvals or multiple construction contracts. The PEIR will allow Metropolitan to consider broad policy alternatives and program-wide mitigation measures early in the Program's development and will provide greater flexibility to consider programmatic alternatives to avoid, minimize, and develop mitigation measures for identified impacts and to ensure adequate cumulative impact analysis. As design elements of the Program progress, future assessments will be made to determine whether additional environmental documentation, beyond the original PEIR, must be prepared. Additional environmental documentation would be required if Program elements are modified, or new elements are proposed that were not originally described in the PEIR. Additional environmental analysis may tier off the original PEIR document and would focus solely on the proposed modifications and associated impacts.

As recently as 2017, Metropolitan utilized the PEIR approach to develop the programmatic environmental clearance for the \$2 billion prestressed concrete cylinder pipe (PCCP) program. The PCCP PEIR has since been supplemented on an as-need basis with project-specific environmental analysis and documentation. A similar approach is recommended for the environmental planning process for the Program.

Certain aspects of the Program may have impacts to resources within federal jurisdictions. In these cases, the National Environmental Policy Act (NEPA) would require that federal agencies assess the environmental effects

of proposed agency action and any reasonable alternatives before deciding on whether and/or how to proceed. Presently, it is not anticipated that NEPA reviews will be required to complete PEIR development and certification for the Program. If future investigations and studies identify the need for NEPA reviews for specific federal approvals over portions of the project, those reviews will be addressed in subsequent environmental documents.

Preparation of Engineering and Technical Studies

A number of engineering studies have been completed for the full-scale AWT facility as part of the Conceptual Report, including a topographic survey of the site, conceptual design with Class 4 cost estimate (based on the proposed treatment process train with MBR), nitrogen management, boron source control and management, and potential raw water augmentation. Studies in the areas of power, energy sustainability, and potential DPR facilities are required in order to address the potential environmental, regulatory, operational, and construction impacts. To further understand and characterize the full-scale treatment plant site conditions, staff plans to conduct geotechnical investigations and utility research at the planned site.

As mentioned earlier, the Sanitation District is currently engaged in the evaluation of the biological and advanced treatment of the Joint Plant's secondary effluent in order to optimize nitrogen removal and enhance other operating conditions. This would improve the quality of feed water for Metropolitan's downstream AWT facility. Among the various available technologies, three options are being considered for the study: (1) modifying its existing high-purity oxygen activated sludge system; (2) retrofitting the existing secondary clarifiers to accommodate MBR; and (3) constructing new MBR facilities. Should a different secondary treatment process be adopted by the Sanitation District, the conceptual design for the full-scale AWT facilities will have to be revised to accommodate changes in the process train, design criteria, site layout, and cost estimates.

Engineering studies of the delivery system for the Program were performed as part of the Conceptual Report to identify the needed facilities, routing, capacity, and phasing to recharge various groundwater basins within Metropolitan's service area. A feasibility-level design report for the conveyance system was completed in July 2020, which described several alternative routes for the pipeline alignment and right-of-way requirements with key stakeholders, including the United States Army Corps of Engineers, Southern California Edison, and Los Angeles County Department of Public Works, and the cities and municipalities involved.

Identification of potential Program alternatives and selection of the preferred project alternative is required to support the preparation of environmental documentation, and to allow the next level of design activities to begin. Selection of the preferred Program components and configurations will require additional engineering studies related to the conveyance and recharge facilities, which will include: (1) system-wide hydraulic analyses; (2) evaluation of the geotechnical hazards; (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) investigation of the feasibility of constructing a parallel brine line; and (7) assessment of pipeline appurtenances and coatings. The proposed engineering activities and technical studies will also include development of design criteria for seismic events, fault crossings, river crossings, and major infrastructure crossings.

Based on the results of the overall system hydraulic design requirements, conceptual level engineering activities will also be performed for pump stations and flow control facilities. In addition, staff plans to perform geotechnical investigation and utility research along the selected pipeline alignment to allow better planning and assessment. To plan for the potential DPR applications, which will be addressed in the PEIR, potential locations for conveyance buffer storage infrastructure upstream of the Weymouth and Diemer Water Treatment Plants will also be identified and assessed to support the next level of design and CEQA analysis.

Public Outreach

An extensive public outreach program is a necessity for the success of the Program. The Program has four significant outreach challenges: (1) a large, diverse region with some areas having little experience with recycled water; (2) use of a new treatment train incorporating MBR; (3) potential DPR applications; and (4) construction of a major new conveyance system in an urban environment. Currently, Metropolitan has been building support for the new source of water with stakeholders and the public through tours of the demonstration facility. The effort

has been successful, with over 99 percent of tour participants indicating support for the Program and water supply.

Tours will continue to be a part of the public outreach process. Additional ongoing outreach efforts include presentations, an active social media campaign, collateral materials such as brochures, and a robust website. Meetings with key stakeholders, such as Metropolitan's member agencies and groundwater basin managers, are also part of the continuing effort.

Targeted outreach to communities through non-governmental organizations, including community-based and environmental justice organizations, will increase during the planning phase. Broader efforts to engage civic, business, and environmental organizations; other stakeholders; and the public-at-large will also continue. These efforts will seek to create public awareness of the Program; identify significant issues and opportunities within the Program; encourage public participation and attendance at public meetings during the environmental scoping phase; and build understanding and support for the Program as a new source of water as the project progresses. The outreach will be implemented in collaboration with the Sanitation District and Metropolitan's member agencies. Outreach will be extensive and use a variety of tools and strategies, including meetings and direct contact with community members, to ensure they are informed and regularly updated.

Anticipated Costs for Environmental Planning and Engineering/Technical Studies

A total of \$30 million is needed to support the tasks required for the anticipated 36-month effort to conduct the planning and review phase activities for the Program, as described above. This work will include preparing the PEIR and conducting the engineering and technical studies described above. Staff will conduct engineering and technical studies when that expertise resides with existing staff. However, it is anticipated that multiple RFPs will be prepared and issued to solicit consultants to perform the technical studies when staff does not have sufficient expertise or are not currently available to conduct that work. Staff will return to the Board as necessary to award consultant agreements that result from these RFPs.

Amendment to Agreement - National Water Research Institute

Since April 2018, National Water Research Institute has facilitated three Science Panel workshops for the demonstration project under a four-year agreement approved by the General Manager, with a maximum amount payable of \$245,000. Three additional workshops have been planned and would require an additional cost of \$200,000. For each workshop, National Water Research Institute will coordinate with Metropolitan and the Science Panel members, organize and facilitate the workshop, assemble reviews from each Science Panel member, and prepare a panel report.

This action authorizes an increase of \$200,000 to the existing agreement with National Water Research Institute, for a new not-to-exceed total of \$445,000 to provide specialized service to support the Science Panel activities. This work has been included under the biennial budget for fiscal years 2020/21 and 2021/22 using Metropolitan's O&M funds. National Water Research Institute was selected through a competitive process via Request for Qualification No. 1166 for this work based on its extensive experience in the drinking water/water reuse industry working with water and wastewater agencies and regulators.

National Water Research Institute is a regional business enterprise. Due to the specialized nature of the work, Metropolitan did not establish a Small Business Enterprise participation level for this agreement.

Alternatives Considered

In developing the recommended program implementation approach, staff also considered delaying the start of the Program and planning phase until the completion of demonstration testing with MBR and the Sanitation District's study on the biological and advanced treatment of the Joint Plant's secondary effluent. The results of both studies would have significant impacts on the planning and design of the full-scale AWT facility. However, because of the complexity and long lead time needed to complete the environmental permitting process for the conveyance facilities, and recognizing that tiered documents can be prepared for the proposed PEIR to address changes, staff recommends proceeding with the PEIR while further program development and evaluations continue to take place.

Summary

This action authorizes preparation of environmental documentation, engineering and other technical planning studies, and public outreach activities. The agreement with National Water Research Institute will be amended for an increase of \$200,000 to support additional advisory panel activities. See **Attachment 1** for Subconsultants for Agreement with National Water Research Institute; and **Attachment 2** for the Location Map.

Project Milestones

June 2021 – Board authorization of professional service agreements for preparation of engineering studies and public outreach support

March 2024 – Board certification of environmental documentation

Policy

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 51963, 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.

California Environmental Quality Act (CEQA)

CEQA determination for Option #1:

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378) because the proposed action will not cause either a direct physical change in the environment or a reasonably foreseeable indirect physical change in the environment and involves continuing administrative or maintenance activities (Section 15378(b)(2) of the State CEQA Guidelines). In addition, the proposed action is not defined as a project under CEQA because it involves other government fiscal activities which do not involve any commitment to any specific project which may result in a potentially significant physical impact on the environment (Section 15378(b)(4) of the State CEQA Guidelines). Furthermore, 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). Finally, where it can be seen with certainty that there is no possibility that the activity in question may have a significant effect on the environment, the proposed activity is not subject to CEQA (Section 15061(b)(3) of the State CEQA Guidelines).

CEQA determination for Option #2:

The proposed action is not defined as a project under CEQA (Public Resources Code Section 21065, State CEQA Guidelines Section 15378) because the proposed action will not cause either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment, and involves continuing administrative activities, such as general policy and procedure making (Section 15378(b)(2) of the State CEQA Guidelines). In addition, where it can be seen with certainty that there is no possibility that the proposed action in question may have a significant effect on the environment, the proposed action is not subject to CEQA (Section 15061(b)(3) of the State CEQA Guidelines).

Board Options

Option #1

- a. Authorize preparation of environmental documentation and technical studies, and public outreach activities for the Regional Recycled Water Program.
- b. Authorize an increase of \$200,000 to an existing agreement with National Water Research Institute, for a not-to-exceed amount of \$445,000 for specialized services.

Fiscal Impact: \$30.2 million in Operating and Maintenance funds. Approximately \$20.2 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, and seismic risks.

Option #2

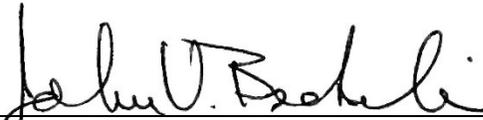
- a. Do not authorize preparation of environmental documentation and technical studies, and public outreach activities for the Regional Recycled Water Program, and
- b. Authorize an increase of \$200,000 to an existing agreement with National Water Research Institute, for a not-to-exceed amount of \$445,000 for specialized services.

Fiscal Impact: \$200,000 in Operating and Maintenance funds

Business Analysis: Under this option, staff would continue the demonstration testing and the Science Panel activities to advance the regulatory approval process for the potential Regional Recycled Water Program. However, this option would delay the development of a significant recycled water resource to meet the increasing need for the region's water supply to deal with drought, climate change, seismic risks, and other emergencies.

Staff Recommendation

Option #1



John V. Bednarski
Manager/Chief Engineer
Engineering Services

10/29/2020
Date



Jeffrey Kightlinger
General Manager

11/2/2020
Date

Attachment 1 – Subconsultants for Agreement with National Water Research Institute

Attachment 2 – Location Map

Ref# es12676842

The Metropolitan Water District of Southern California

**Subconsultants for Agreement with National Water Research Institute
Agreement No. 177343**

**Specialized Technical Support to Assemble/Facilitate Independent Scientific Advisory Panel
for Regional Recycled Water Advance Purification Center – Demonstration Project**

Subconsultant Name
Paul Anderson, Ph.D.
Joe Cotruvo, Ph.D.
Adam W. Olivieri, Dr.PH, P.E.
Chuck Haas, Ph.D.
Thomas Harder
Vernon Snoeyink, Ph.D.
Nancy Love, Ph.D.
Paul Westerhoff, Ph.D.

Location Map

