



- Board of Directors  
*Engineering and Operations Committee*

10/13/2020 Board Meeting

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9-4

## Subject

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Regional Recycled Water Program: Institutional and Financial Considerations

## Executive Summary

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The Engineering and Operations (E&O) Committee will hold a workshop at the October 12, 2020 meeting to focus on White Paper #2 - Planning, Financial Considerations and Agreements for the Regional Recycled Water Program. This workshop will provide the opportunity for discussion of the program in general, policy considerations, and issues that may need further exploration while the environmental review and associated technical studies on the program are completed.

## Details

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### Background

The potential role of the Regional Recycled Water Program (RRWP) or (Program) in Metropolitan's resource planning was addressed in the Feasibility Study, Report No. 1530, in November 2016. The Feasibility Study showed the local resource targets set in Metropolitan's 2015 Integrated Water Resources Plan Update have not been met, and the RRWP could serve to help meet those targets. The Feasibility Study also presented other potential benefits of the Program, such as a reduction of shortage possibilities and increased system flexibility that could be derived from the Program. The Feasibility Study was followed by the Conceptual Planning Studies Report, which was presented to the Board in March 2019. This report presented alternative approaches to phasing the implementation of the Program, updated the program costs, and discussed the potential for the program to facilitate Direct Potable Reuse (DPR) through raw water augmentation at Metropolitan's treatment plants.

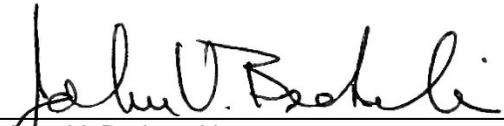
White Paper #1 was presented in July 2019 at the Metropolitan Board Workshop No. 1 for the RRWP or Program. The first White Paper addressed three alternative approaches to RRWP implementation, as well as Metropolitan's potential role in the development of DPR. White Paper #2, which accompanies this letter (**Attachment 1**), provides an update regarding the RRWP's role in Metropolitan's regional resource planning, and also provides information regarding certain financial, institutional, and other considerations related to the Program. In the development of this paper, staff conducted a preliminary review of the potential cost-recovery approaches for the Program. The Potential for future purchase commitments required for water deliveries and the agreements and arrangements needed to ensure successful water deliveries to the groundwater basins located on the path of the conveyance system from the RRWP are also discussed. Letters of Intent from agencies interested in future participation in the RRWP are included in appendices to the paper. Lastly, this paper highlights the potential for Metropolitan to collaborate with other agencies, and how potential partnerships, grant funding, and low-interest loan programs can offset Metropolitan's investments in the Program. It is intended that the additional information provided in this paper and workshop will assist the Board in decision making related to the RRWP, specifically whether to move forward with environmental review and associated work on the Program.

Staff will present White Paper #2 at the E&O Committee meeting on October 12, 2020.

**Fiscal Impact**

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This is an informational item only. An action item will be brought to the November 10, 2020 Board Meeting seeking approval to begin the Environmental Phase of the Program.

  
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John V. Bednarski  
Chief Engineer  
Engineering Services

10/5/2020  
Date

  
\_\_\_\_\_  
Jeffrey Kightlinger  
General Manager

10/6/2020  
Date

**Attachment 1 – White Paper #2: Planning, Financial Considerations and Agreements**

Ref# es12676842



*THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA*

## **Regional Recycled Water Program**

### **White Paper No. 2**

## **Planning, Financial Considerations, and Agreements**

**October 12, 2020**

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## SUMMARY

White Paper #1 was presented in July 2019 at the Metropolitan Board Workshop No. 1 for the Regional Recycled Water Program (RRWP or Program). The first White Paper addressed three alternative approaches to RRWP implementation, as well as Metropolitan's potential role in the development of direct potable reuse (DPR). This White Paper #2 (paper) provides an update regarding the RRWP's role in Metropolitan's regional resource planning, and also provides information regarding certain financial and other considerations related to the Program. It is intended that the additional information provided in this paper will assist the Board in decision making related to the RRWP—whether to move forward with environmental review and associated work on the Program.

The role of the RRWP in Metropolitan's resource planning was addressed in the Feasibility Study, Report No. 1530, in November 2016. The Feasibility Study showed the local resource targets set in Metropolitan's 2015 Integrated Water Resources Plan (IRP) Update have not been met and the RRWP could serve to help meet those targets. The Feasibility Study also presented other potential benefits of the Program, such as a reduction of shortage possibilities and increased system flexibility that could be derived from the Program. While the IRP will be updated many times before construction of the RRWP could be completed, these updates are not likely to change most of the core benefits this program could provide. This paper highlights the nature of those regional benefits.

In the preparation of this paper, staff conducted a preliminary review of the potential cost-recovery approaches for the Program based on the benefits identified to date. The results of this assessment are provided in this paper and may be used by staff to conduct a cost-of-service study at the appropriate time. At this time, the preliminary review and information is being provided to the Board to obtain policy direction as to preferred cost-recovery methods. If the Board is not interested, as a matter of policy, in pursuing a program under a particular type of general approach, then it may consider and discuss that now.

This paper also includes a section describing the purchase commitments required for water deliveries and the agreements and arrangements needed to ensure successful water deliveries to the groundwater basins located on the path of the conveyance system from the RRWP. Lastly, this paper provides a high-level review of how Metropolitan can collaborate with other agencies and how the total project costs can be reduced through potential partnerships, grant funding, and low-interest loan programs. These issues would be further developed as Metropolitan pursues the environmental and engineering planning for the program.

## 1.0 INTRODUCTION

The conclusion of the Conceptual Planning Studies Report (Report 1618, February 21, 2019) included recommendations that Metropolitan should:

- Continue evaluation of the Program's regional water supply benefits in the context of Metropolitan's Integrated Water Resources Plan (IRP);

- Present information to the Metropolitan Board to obtain policy direction as to preferred cost-recovery methods, and
- Undertake discussions to confirm the willingness of potential recipients of the purified water to commit to delivery quantities/schedule, operational requirements, and overall financial needs of the Program.

In response to these recommendations, this paper addresses the RRWP's role in supporting Metropolitan's water supply planning and reviews potential approaches to cost recovery. This paper also provides information addressing the following key questions:

- How does the RRWP fit into Metropolitan's regional resource planning given changes since the 2015 IRP Update?
- How could the Program's costs be recovered by Metropolitan?
- What kind of institutional arrangements and agreements would be required from Program participants?

This paper will be discussed at an E&O Committee workshop on October 12, 2020.

## 1.1 Program Overview

The RRWP will produce and is currently planned to deliver up to 150 million gallons per day (mgd), or approximately 168,000 acre feet (AF) per year (AFY), of purified water from a new advanced water treatment (AWT) facility located at the Los Angeles County Sanitation Districts (Sanitation Districts) Joint Water Pollution Control Plant (JWPCP). The Program also includes a new conveyance system that would deliver water to groundwater basins within Metropolitan's service area for indirect potable reuse (IPR) and potentially to two Metropolitan treatment plants for direct potable reuse (DPR). It is anticipated that the Program will be constructed in a phased approach to ensure that production of purified water closely matches the anticipated demands by member agencies.

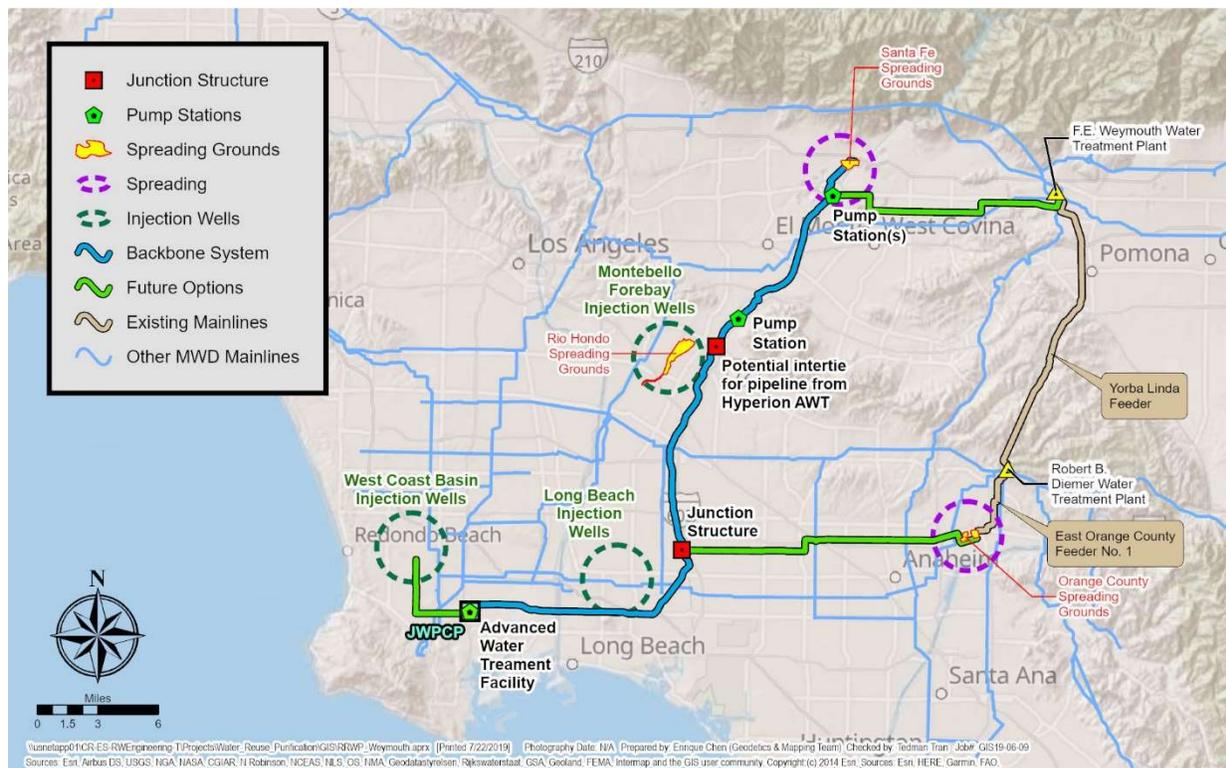
Four groundwater basins in Southern California are being considered as potential recipients of this purified water: Central Basin, Main San Gabriel Basin, Orange County Basin, and the West Coast Basin. The RRWP will also have the flexibility to accommodate industrial users in the Harbor areas whose needs are consistent with the quality of water produced by the AWT facility. Finally, the Program will have the flexibility to be expanded in the future to implement potential DPR through raw water augmentation (RWA) at the Weymouth or Diemer water treatment plants (WTPs). While numerous potential approaches to implementation can be developed, for the purposes of this paper, the assumption is that the RRWP would be implemented in two phases. The first phase would be a 100 mgd AWT and conveyance pipeline to the Santa Fe Spreading Grounds (Backbone System) while in Phase 2, the Backbone System would be expanded to the "Full System" to include facilities to meet the remaining IPR demands and the extension to the WTPs for RWA. Additional sub-phases of this program may be considered as the environmental and planning work are conducted. Figure 1 shows the full Program as described in the Conceptual Planning Studies Report.

The RRWP is being developed to achieve the following objectives:

- Provide a new local source of reliable, high quality, and climate-change resilient water to meet demands on Metropolitan

- Diversify Metropolitan’s water sources for the region
- Add to the regional recycled water supply in the region
- Provide an additional local resource within the region with a reduced risk of disruption from significant seismic events on the San Andreas or other major faults
- Increase Metropolitan’s regional water reserves
- Enhance Metropolitan’s operational reliability and flexibility
- Contribute to the water quality of groundwater basins, an important source for Metropolitan’s member agencies during emergencies and shortages of imported water
- Create a cost-effective, stand-alone project
- Achieve regulatory approvals to ensure protection of public health
- Offer flexibility to accommodate future DPR

**Figure 1: Full Regional Recycled Water Program Elements**



## 1.2 Program Implementation and Delivery White Paper (White Paper #1)

Following completion of the Conceptual Planning Studies Report and White Paper #1, a Board workshop was held in July 2019 to provide an opportunity for discussion of the Program implementation, policy considerations, and issues requiring further exploration before starting the environmental review and

possibly preliminary engineering. Three potential approaches to implementing the Program were outlined in the first white paper and discussed at the workshop. An overview of the Program and recommended approach to the environmental review process was provided. Additional activities that could be undertaken during the environmental review were also described. White Paper #1 highlighted possible alternative approaches to RRWP implementation and explained how Metropolitan could potentially play a role in the development of DPR through raw water augmentation. The topic of program implementation was outlined with three potential approaches for initiating the RRWP:

- *Approach 1 – Traditional.* The traditional option completes the Program Environmental Impact Report (PEIR) before starting the design of any facilities.
- *Approach 2 – Accelerated Construction.* This approach leads to the accelerated start of construction for a portion of the backbone pipeline. In this option, the design of a portion of the conveyance piping (3.5 miles), near the JWPCP in Carson, would begin in parallel with work on the PEIR. Final design and construction would start following Board certification of the PEIR.
- *Approach 3 – Accelerated Water Delivery.* This approach leads to the accelerated start of water deliveries to selected uses near the JWPCP. In this option, design of a portion of the AWT (approximately 20 mgd) and conveyance facilities needed to support early deliveries of purified water to industrial users in the Harbor Areas and for replenishment water in the West Coast Basin would begin in parallel with the work on the PEIR. Preliminary design for the facilities would be completed during PEIR preparation, and the final design and construction would commence after the Board certified the PEIR.

The first white paper also outlined an approach to provide the flexibility to meet demands for direct potable use through future RWA, in addition to meeting demands for regional groundwater replenishment. Finally, the paper outlined how Metropolitan could take steps to work with the California Division of Drinking Water (DDW) to provide input on future development of regulations that would permit DPR to move forward. Staff now recommends proceeding with Approach 1- Traditional Delivery, beginning with Board approval to begin the PEIR work in November 2020.

### **1.3 Planning, Financial Considerations and Agreements (White Paper #2)**

This paper addresses the RRWP's role in supporting Metropolitan's regional water resource planning, describes the Program's anticipated costs and benefits identified to date, preliminarily review 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.

## **2.0 RRWP ROLE IN METROPOLITAN'S REGIONAL PLANNING**

Metropolitan's long-term resource strategy is developed through its IRP. The IRP has, among other information, a series of targets on supply development and assumptions about demands and population growth. In practice, it serves to define Metropolitan's agenda for ensuring water reliability in the region. Through its IRP process, Metropolitan plans for regional water supply reliability for all its 26 voluntary member agencies. Demands on Metropolitan are projected, in part, based on the availability of local supplies in Metropolitan's service area. Metropolitan establishes reliability targets based on identified trends in imported and local water supply, and water conservation that, if successful, would reduce water

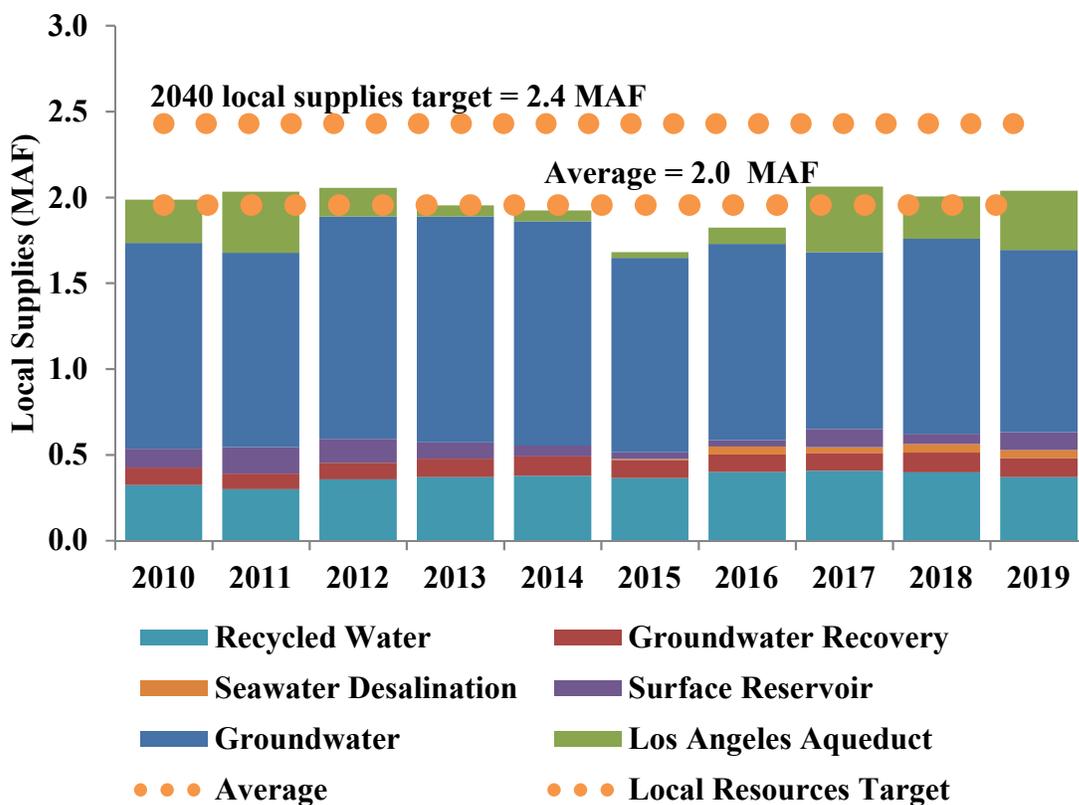
shortages and mandatory restrictions under planned conditions. Metropolitan has begun its next planning cycle with the 2020 IRP.

### 2.1 Progress Toward Meeting Local Resources Targets

The IRP strategy relies on maintaining local supply production into the future, the development of additional local supplies for future demands, and protection against reduction of imported water. The 2015 IRP targets for local supplies of 2.4 million AFY by 2040 from a combination of existing and new local sources. Figure 2 shows the contributions made toward meeting the local supply goal from various sources within Metropolitan’s service area from 2010 to 2019. Unless new sources of water are acquired, the region will continue to fall short of the IRP local resource target and, without additional supplies, the deficit is projected to be about 400,000 AFY by 2040. When the local supplies target is not met, it is anticipated that the deficit will result in increased demands on Metropolitan. Implementation of the RRWP would afford Metropolitan the opportunity to fill that shortfall with a new, local source of water which would produce water for Metropolitan’s own wholesale service.

Figure 2 shows the challenge of increasing local supply production. Member and local agencies have put significant effort into developing local supply sources. Despite these efforts, while local production has bounced back from the lows within the historic drought, production has not grown beyond historic levels. Regional efforts to build on local supplies seem only to help maintain ground, but the actual growth in total local supply production does not appear to be happening as agencies have planned.

**Figure 2: Progress toward Meeting the Local Resources Target (2010-2019)**



The RRWP supports the goal of developing additional local supplies, by adding up to an additional 168,000 AFY to the total local supplies available within Metropolitan's service area. Unlike typical locally produced supplies, the RRWP would be a Metropolitan owned and operated program. As such, the Program would produce purified water for Metropolitan, which in turn would be available to deliver to its member agencies. This approach differs from Metropolitan's historical local supply approaches, which have focused on the production of local supplies by member agencies or other local agencies, rather than Metropolitan. Such member agency-produced water is not available as a supply source within Metropolitan's control to provide its wholesale water services, even though it reduces the need for Metropolitan to import water into the service area.

## **2.2 Recent Changed Conditions and the Upcoming 2020 IRP**

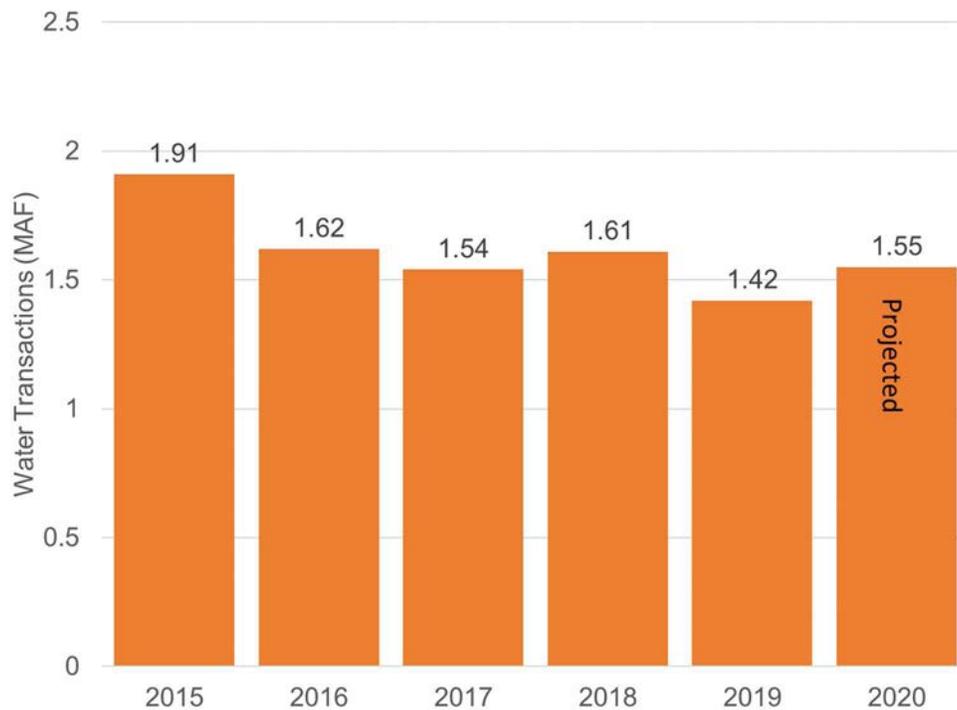
In the five years since completion of the 2015 IRP Update, the region's water reliability situation has continued to evolve. In 2015, the region was in the grip of an historic statewide drought. By 2017, conditions had changed, resulting in an extremely wet year. Following 2017's largest-ever additions to regional storage, calendar year 2019 was another year that combined relatively high imported supplies with low per capita water demands. Figure 3 shows the changes in Metropolitan demands since 2015. Metropolitan's end-of-year storage balance in 2019 was the highest ever. Even so, the region continues to face near- and long-term challenges, some familiar but others only becoming apparent in the last year. Notable among the new challenges are: (1) the reevaluation of the long-term Delta conveyance solution, (2) a growing consensus that climate change impacts are affecting yield of both imported and local supply sources, (3) recently-recognized threats to groundwater basins posed by emerging contaminants such as per- and polyfluoroalkyl substances (PFAS), and (4) pandemic threats to the region such as COVID-19.

The 2020 IRP starts afresh with a new IRP with a different format that will incorporate various scenarios for the future. Given all the uncertainties the region faces, the 2020 IRP is not going to develop just a single forecast. Rather, it will include a look at multiple possible futures that could plausibly unfold. From this exercise, the 2020 IRP will evaluate resources, policies, and investments needed to maintain reliable water supplies through 2045. In addition, it will also identify a series of performance measures and reality checks to determine if a change in direction is required.

Metropolitan is currently in the early stages of developing the 2020 IRP, so planning details or scenarios to be evaluated are not yet available. While the 2020 IRP will result in updated targets for local supplies and conservation, it is likely that the underlying philosophy of working to maintain Metropolitan's imported supplies while meeting additional needs of the region through conservation and local supply development will continue. Even if the Board chose to reduce future regional local supply targets, the RRWP would still be beneficial to meet demands on Metropolitan for replenishment and consumptive use (through raw water augmentation) and to enhance Metropolitan's existing integrated water system.

## **2.3 The Role of the RRWP in Local Resources Development**

Metropolitan has a choice with respect to local resources development. Since 1982, Metropolitan has been providing financial incentives to member agencies for developing local projects under the Local Resources Program (LRP). The LRP currently provides incentives for the development of water recycling, groundwater recovery, and seawater desalination supplies. The objective of the LRP is for local supplies to replace an existing or new demand on Metropolitan's imported water, thereby reducing the need to import water and increasing overall water supply reliability in the region as a result of the increased flexibility in Metropolitan's system. Metropolitan is also legislatively directed to increase

**Figure 3: Metropolitan Water Transactions since 2015**

Note: Water transactions include water sales, exchanges, and wheeling

its efforts in conservation, recycling, and groundwater replenishment pursuant to SB60. Today, nearly half of the total recycled water and groundwater recovery production in the region has been developed with LRP support. The LRP also plays an important role in meeting Metropolitan's IRP goals. In that light, in 2018, Metropolitan's Board authorized staff to solicit an additional 170,000 AFY of local supply projects under the LRP.

Since the RRWP would add to the total local supplies within Metropolitan's service area, it will help meet local supplies targets. The RRWP would have the additional benefit of providing a new supply source within Metropolitan's control to deliver to its member agencies. Although local supplies targets may be adjusted based on many different factors, the RRWP could enhance local supplies and Metropolitan's integrated water system. The RRWP would help member agencies sustain or increase local production from groundwater basins by providing a sustainable source for groundwater recharge and a future raw water augmentation source to meet needs throughout the region. Additionally, the RRWP would add to the reliability of Metropolitan's entire service.

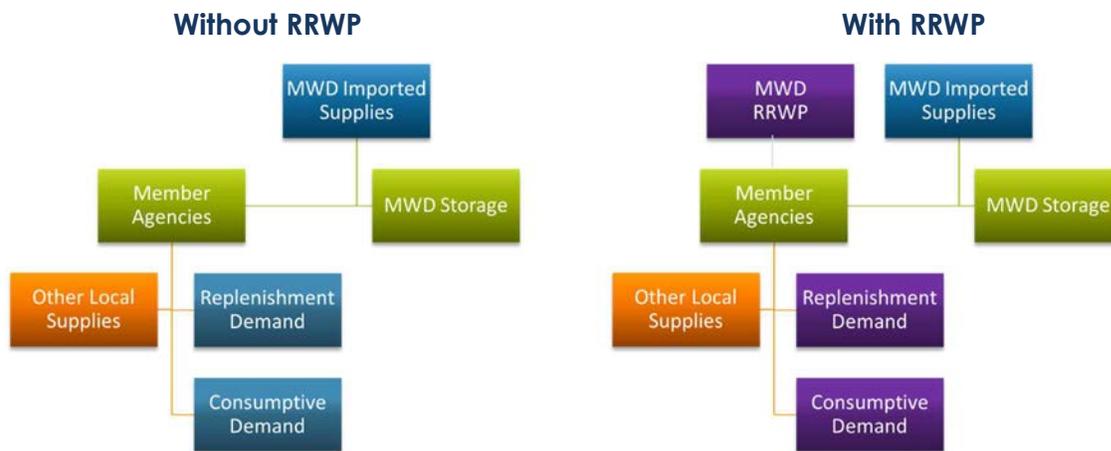
### 3.0 BENEFITS TO THE REGION FROM IMPLEMENTING THE RRWP

Metropolitan's purpose and focus has always been to provide regional benefits for all the District's member agencies. The District charges the same rates, for the same water services, regardless of the location of the member agency in the six-county service area, reflecting the uniform services and reliability provided to all member agencies. The District has embarked on projects, such as Diamond Valley Lake, the Inland Feeder and the Delta Conveyance, that benefit all agencies, not just some. In-District initiatives, such as the LRP described above, have reflected this regionalism, given how a local supply improvement bolsters water reliability and reduces system costs for all agencies.

The RRWP will also provide regional benefits to all member agencies, not just the agencies that would directly receive the purified water. While the RRWP would provide water directly to certain member agencies for groundwater replenishment through IPR, and potentially to some industrial users, these deliveries would replace current and future imported deliveries as well as increase Metropolitan’s storage, increasing reliability for everyone. In the future, the RRWP could also deliver water through DPR via raw water augmentation to Metropolitan’s Weymouth and/or Diemer plants. This DPR approach would directly serve many member agencies as treated water from Weymouth and Diemer is delivered to most of Metropolitan’s service area. This would include member agencies throughout Los Angeles and Orange Counties. As an increased source within the Common Pool of Metropolitan’s distribution system, other imported sources are made available for use in the rest of the service area and for storage.

Figure 4 diagrammatically illustrates the regional benefits of the RRWP. Metropolitan would primarily make groundwater replenishment deliveries through the RRWP which would free up imported water supplies for other uses by Metropolitan. Then, in the future, as DPR regulations are established, RRWP supplies can directly supplement imported supplies through a blending process at Metropolitan’s Weymouth and/or Diemer treatment plants.

**Figure 4: Meeting Regional Demands Without and With Program**



Metropolitan faces many challenges to meet the anticipated demands of its member agencies, including long-term drought in both the Northern California and Colorado River watersheds, climate change, regulatory and environmental restrictions, changing hydrological and biological conditions in the Bay Delta, and unresolved issues with the development of a Delta Conveyance initiative. These challenges can result in variable and severe water delivery restrictions. The RRWP would help ensure a reliable supply of water in the face of these ongoing and increasing uncertainties. The following section describes benefits to Metropolitan’s wholesale services anticipated from implementing the RRWP. More benefits may be identified as the Program is developed further.

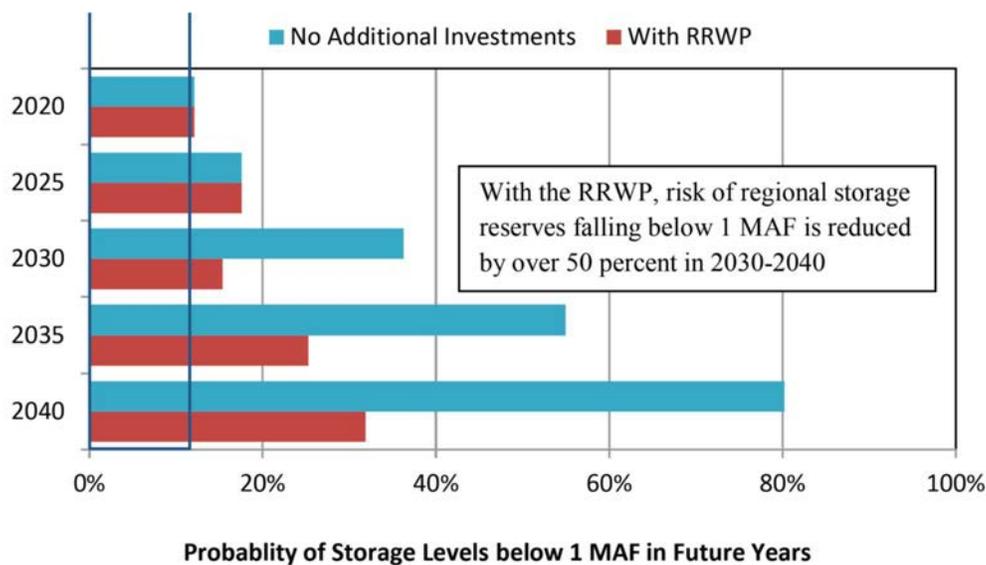
### 3.1 The RRWP Increases Regional Storage and Reduces Probability of Water Supply Allocations

Report No. 1530 (Feasibility Study) explored the potential for the RRWP to reduce the need for mandatory supply allocations in the future. This section summarizes the results of that analysis.

Metropolitan storage levels of less than 1 million acre-feet (MAF) are assumed to be a threshold level for the consideration of mandatory water supply allocations. Figure 5 summarizes the probabilities of low storage levels in 5-year increments, without (no new investments in imported water resources, imported water conveyance such as Delta conveyance improvements, or storage capacity) and with the RRWP. Assuming no new investment in water supply and storage capacity, estimates of the probability of storage reserves being low enough to necessitate a mandatory allocation are 36 percent of the time in 2030, 55 percent of the time in 2035, and 80 percent of the time in 2040. Adding the anticipated water supply from the RRWP would reduce the projected probabilities of low Metropolitan storage reserves and mandatory water supply allocations.

Assuming that the project is online and available by 2030, the improvements in Metropolitan storage reserves can also be seen in Figure 5. Estimates of the low Metropolitan storage reserves and the mandatory water supply allocation projections with the project decrease to 15 percent of the time in 2030, 25 percent of the time in 2035, and 32 percent of the time in 2040. These significant reductions in the probability of low Metropolitan storage reserves and mandatory water supply allocations benefit all of Metropolitan’s member agencies.

**Figure 5: Probability of Storage Levels Below 1 MAF**



Reference: Potential Regional Recycled Water Program Feasibility Study, Report No. 1530, November 30, 2016

### **3.2 The RRWP Provides Operation Flexibility to Metropolitan's Integrated System**

With a service area spanning 5,200 square miles in six counties, Metropolitan has built an integrated conveyance and distribution system to ensure consistent supplies, reliability, and flexibility throughout the region. The interconnected nature of the system means that Metropolitan can address constraints in one area of the system for the benefit of the system as a whole. For example, at any particular time, one area could be served exclusively from one supply source, while another area could be served a blend of water sources. The need to change the water sources may arise either from the unavailability of a water resource, a water quality issue related to a resource, or other reasons. The integration of its water resources and system flexibility are fundamental to Metropolitan's wholesale water service.

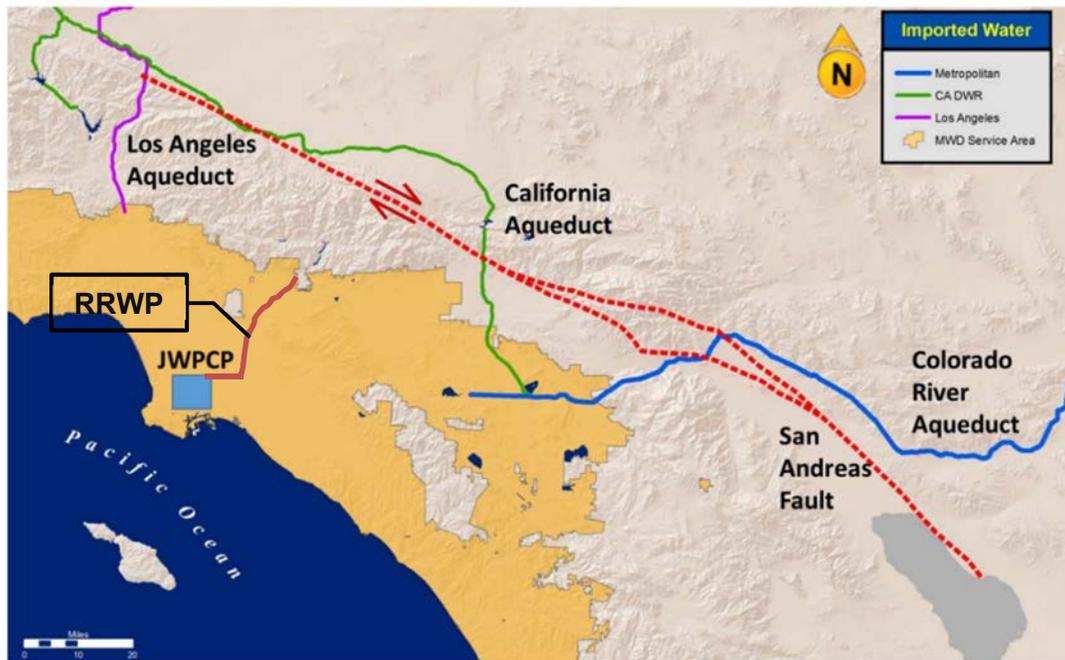
Adding the RRWP as an additional water source benefits Metropolitan's overall system flexibility by increasing the options available to meet demands throughout its service area. The additional imported water resulting from demands replaced by the RRWP purified water deliveries would increase Metropolitan's overall water resource portfolio. In the future, operations staff could potentially route some of the purified water to potable water treatment plants for DPR to convey to other areas not adjacent to the RRWP conveyance pipelines.

In addition to freeing up capacity in the existing facilities to meet demands by member agencies or DPR, the freed-up capacity could also be used to import water for additional storage within and outside of Metropolitan's service area. Full implementation of the RRWP would free up 168,000 AFY of capacity in the existing conveyance and distribution system. This would allow Metropolitan the flexibility to capture additional opportunities for imported water, either through transfers, exchanges, or other agreements. In addition, Metropolitan would have added flexibility for capturing more available water during wet years.

### **3.3 The RRWP Provides Supplies during a Major Earthquake Emergency**

The RRWP would also benefit the service area in the event of a catastrophic earthquake by increasing the opportunities to ensure that supplies are maintained within the region. As result of a strong earthquake (e.g. M 7.8 ShakeOut Scenario) on the southern San Andreas Fault system, the Colorado River Aqueduct (CRA), the State Water Project (SWP), and the Los Angeles Aqueduct (LAA) could be severely damaged. The extent of damage from this type of event could potentially cause protracted outages, ranging from several months to extended periods of time on one or more aqueducts. In the aftermath of such an event, the region would need to rely entirely on local supplies such as the RRWP, surface storage, and groundwater production while repairs are being made to the aqueducts. As shown in Figure 6, the RRWP is located on the coastal side of the San Andreas Fault, which could make the water produced from the RRWP available during an earthquake emergency, and significantly improve the seismic resilience of the region.

The RRWP could also improve the seismic resilience of the region by enhancing and maintaining the storage level in groundwater basins prior to a major seismic event, and by providing a reliable, local supply of high-quality water for groundwater replenishment and for raw water augmentation throughout the emergency. During an emergency, the region would rely heavily on groundwater production, which is supported by the RRWP. In addition, purified water from the RRWP would be available to keep water flowing in Weymouth and Diemer treatment plants even if imported supplies were cut off by the earthquake event. This would allow Metropolitan to continue to meet member agency demands throughout the emergency.

**Figure 6: Location of the RRWP Relative to the San Andreas Fault**

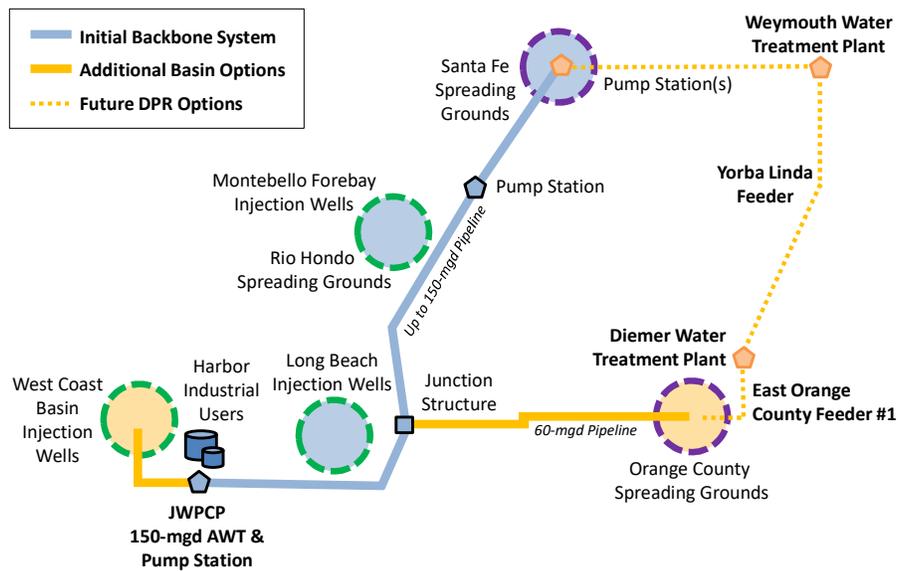
### 3.4 Benefits to the Region from Implementing DPR

The location of two of Metropolitan’s water treatment plants in relation to the proposed RRWP facilities provides an opportunity for purified water to supplement raw water supplies to a drinking water treatment plant. The median daily average flow at the Diemer and Weymouth treatment plants over a 10-year period (2009 through 2018) ranged from 120 to 293 mgd. As the Weymouth and Diemer plants are two of the three treatment plants that supply treated water to a large part of the service area, introduction of the purified water to these two treatment plants would augment a significant portion of Metropolitan’s treated water distribution system, further enhancing water supply reliability and system flexibility for Metropolitan’s service area. Raw water augmentation, blending RRWP purified water with imported supplies, would replace deliveries of imported supplies and allow for additional storage of those supplies in groundwater basins or Metropolitan reservoirs.

If for any reason, the full amount of purified water cannot be delivered to the groundwater basins for IPR, it may also be possible to deliver this extra recycled water for raw water augmentation instead, allowing the AWT to operate most efficiently in continuous production. The amount of RWA flow that can be utilized for DPR will be dependent on the amount of blend water required by future regulations. In light of rapid developments related to the promulgation of DPR regulations, DPR may become a primary objective of the RRWP. Figure 7 shows a schematic of the proposed RRWP facilities for the DPR option.

As appropriate regulations are codified, and DPR through RWA is permitted, purified water could be added to Metropolitan’s treated water supplies as is imported surface water, available to deliver to all member agencies. The potential benefits for Metropolitan when RWA becomes available include (1) increasing the number of available raw water sources, (2) increased drought resilience as purified water is largely independent of rainfall, (3) the ability to serve purified water to additional member agencies, and (4) improved water quality from lower TDS concentrations as compared to Colorado River water. Table 1 summarizes the additional DPR benefits realized from the RRWP.

**Figure 7: Proposed Regional Recycled Water Program DPR Options**



**Table 1: DPR Benefits from the RRWP**

Benefit	DPR Benefits
<b>RRWP Capacity &amp; Operations</b>	<ul style="list-style-type: none"> <li>• Helps to maintain continuous production and delivery from the RRWP that are not subject to replenishment demand variability and availability of spreading facilities</li> <li>• Increased flexibility for Metropolitan’s integrated conveyance system to move imported water</li> <li>• Potential to introduce additional AWT supplies in the RRWP conveyance systems (i.e. water from LADWP’s recycled water Program NEXT, see Section 6)</li> </ul>
<b>Drought Resistant</b>	<ul style="list-style-type: none"> <li>• Maintains raw water augmentation during droughts</li> <li>• Reduces potential for allocation reductions</li> </ul>
<b>Additional Supply Resource</b>	<ul style="list-style-type: none"> <li>• Raw water augmentation can be continued during wet weather when some IPR recharge facilities may be dedicated to stormwater capture/recharge.</li> <li>• Extends service along backbone pipeline to all areas served by Weymouth and Diemer WTPs</li> </ul>
<b>Improved Water Quality</b>	<ul style="list-style-type: none"> <li>• Lower TDS at Metropolitan’s treatment plants</li> </ul>

### 3.5 Compilation of Additional Benefits to the Region from Implementing the RRWP

A compilation of the RRWP’s additional benefits outlined in the Feasibility and Conceptual Design Reports are shown in Table 2.

**Table 2: Compilation of Additional Regional Benefits**

<b>Compilation of Regional Benefits</b>	
<b>Reduced reliance on imported water</b>	<ul style="list-style-type: none"> <li>• Further diversifies Metropolitan’s resource portfolio by adding a new alternative source of supply with different resource attributes.</li> <li>• Increases the water available for a myriad of circumstances, such as short-term dry conditions, multi-year droughts, emergency curtailments on imported water, and distribution system outages.</li> <li>• Increases ability to rely on groundwater basins and reduces reliance on Metropolitan’s imported water supplies.</li> </ul>
<b>Free-up conveyance capacity</b>	<ul style="list-style-type: none"> <li>• Locally produced water frees up capacity in Metropolitan’s system to convey both Metropolitan water and water from non-Metropolitan sources.</li> </ul>
<b>Reduced vulnerability to climate change</b>	<ul style="list-style-type: none"> <li>• The effective detachment of new purified water supplies from the hydrologic cycle benefits: (1) the availability of deliveries under all weather conditions; and (2) the production of water supplies outside of critical habitat that could be adversely affected by climate change.</li> <li>• Protections against drought and climate change introduce a water security benefit not available with other Metropolitan sources.</li> </ul>
<b>Economy of scale</b>	<ul style="list-style-type: none"> <li>• Can achieve economies of scale by increasing production and lowering unit costs.</li> <li>• Avoids duplicative overhead costs through efficient management by a single agency.</li> </ul>
<b>Consistent with legislative mandate to expand water recycling, replenishment, and storage</b>	<ul style="list-style-type: none"> <li>• Production of recycled water from the RRWP would help meet future demand consistent with SB 60’s directive to Metropolitan to “expand water conservation, water recycling, and groundwater recovery efforts” and “place increased emphasis on sustainable, environmentally sound, and cost-effective water conservation, recycling, and groundwater storage and replenishment measures.”</li> </ul>

#### 4.0 POTENTIAL COST-RECOVERY APPROACHES FOR THE RRWP

This section provides a description of potential cost-recovery approaches for the RRWP. Metropolitan currently provides wholesale water services to all its member agencies, relying on a combination of water resources from the Colorado River and State Water Project, reduction in demand through local resources and conservation, and an integrated conveyance and distribution system. Accordingly, Metropolitan sets uniform rates and charges based on classes of service it provides and not by the specific water source received or portions of the system used for individual transactions. The following explores how the RRWP fits into Metropolitan’s service and provides a preliminary review by staff of which cost-recovery approaches may be appropriate for RRWP deliveries.

The discussion in this section is a preliminary review of general factors and considerations for cost-recovery approaches and is not intended to be a cost-of-service study. Instead, it is provided to the Board to assist in a policy discussion about the kind of cost-recovery approach the Board would like to pursue. If, for example, the Board determines that its policy with respect to the RRWP is that all costs must only be recovered from direct recipients, then the information provided here will inform the Board about factors it should consider in adopting that policy. The Board may direct staff to conduct a cost-of-service study, internally or with consultants, at a time it deems most appropriate.

## 4.1 Cost Projections for the RRWP

There are many financial considerations the Board must undertake in relation to implementing a program of this magnitude. As indicated in Table 3, the RRWP is currently estimated to have a construction cost ranging from \$2.6 to \$3.4 billion (2018 dollars), depending on the project phasing approach approved by the Board. The estimates do not include any additional facilities needed for implementation of DPR through raw water augmentation, should that option be implemented in the future.

**Table 3: Backbone System and Full Program Costs (Without DPR)<sup>1</sup>**

Cost Description	Backbone System (2018 Dollars)	Full Program <sup>2,3</sup> (2018 Dollars)
Production Capacity (mgd)	100	150
Capital Program Cost <sup>4</sup>	\$2.6 billion	\$3.4 billion
Annual O&M Cost (\$/year)	\$69 million	\$129 million
Program Unit Cost of Yield		
Capital Unit Cost	\$1,181/AF	\$1,054/AF
O&M Unit Cost	\$631/AF	\$772/AF
Total Program Unit Cost	\$1,813/AF	\$1,826/AF

**Notes:**

1. Costs are from the Conceptual Planning Studies Report (2018 dollars). Costs will be updated during the PEIR phase, if approved by the Board.
2. Adds Orange County and West Coast Basin deliveries to the initial Backbone System
3. Does not include cost for DPR to Weymouth or Diemer WTPs
4. Costs include a 25 percent contingency for engineering services and a 35 percent overall program contingency.

In addition to the construction costs, annual operations and maintenance costs are estimated to be \$69 million for the Phase 1 Backbone System and up to \$129 million for the full Program, not including DPR. Along with the Backbone System and full Program costs, Table 1 also provides the accompanying projected unit costs for the recycled water for each phase of the Program.

Estimates of the RRWP costs will be updated as part of the environmental planning process for the project. It should be noted that unit costs referenced above and later in this paper reflect the raw costs of this project divided by the acre-feet produced. Sharing of these costs with partner agencies and accounting for potential grant opportunities could substantially reduce the unit cost.

## 4.2 Potential Cost-Recovery Approaches Reviewed for the RRWP

The potential cost-recovery methods for a Metropolitan project must be evaluated in the context of Metropolitan's organizational structure, wholesale water services, conveyance and distribution system, and the purpose the project meets for Metropolitan. The *Technical Memo: Case Study Compilations – Methods of Recovering Revenue Requirements from Significant Capital Projects*, Appendix G to the Feasibility Study, provides examples of cost-recovery approaches for large-scale projects. The examples vary by water agency, based on the circumstances of those projects and the types of services provided by those agencies.

This section provides an overview of potential cost-recovery approaches and a discussion of whether those approaches would or would not be appropriate for the circumstances of the Program or

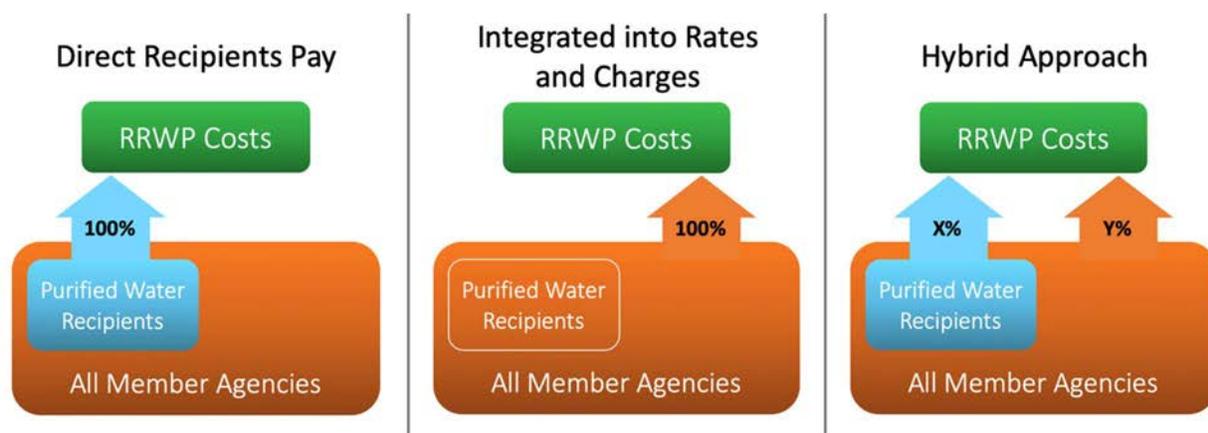
Metropolitan’s services. The cost-recovery approaches discussed do not contain a full cost-of-service analysis. The discussion includes a review by staff of the following approaches:

1. *Direct Recipient Pays 100% of Metropolitan's RRWP Costs* - Recover 100% of Metropolitan’s RRWP costs only from those member agencies that directly receive purified water from the Program (direct recipients);
2. *RRWP Costs are Integrated into Metropolitan's Water Service Rates and Charges* – Recover 100% of Metropolitan’s RRWP costs by integrating those costs into Metropolitan’s regional wholesale water service costs and recover the integrated costs through an integrated rate structure based on the cost-of-service process; and
3. *Hybrid Cost Recovery*– Implement a hybrid cost-recovery approach in which a portion of the costs are recovered from member agencies directly receiving purified water and the rest is recovered through Metropolitan’s costs integrated rate structure.

Figure 8 provides a schematic overview of the cost-recovery approaches discussed below. Sections 4.3 through 4.5 provides a preliminary evaluation of suitability of each approach.

Funding of major projects for Metropolitan were historically funded through the collection of a special tax or charge on all real property within Metropolitan’s service area. Similar to those early major projects, the RRWP is planned for the benefit of Metropolitan’s entire service area, as it enhances availability of service for all member agencies and all property within Metropolitan’s service area. Thus, its purpose and benefits are similar to the Colorado River Aqueduct (CRA) and the State Water Project (SWP). Those projects were paid with property taxes by all owners of real property throughout Metropolitan’s service area. This approach, however, is impractical today in that Metropolitan’s service area covers 5,200 square miles and procedural requirements for approval by the voters have changed significantly since the elections on the CRA and SWP. For that reason, staff has not included further evaluation of such a funding option.

**Figure 8: Overview of Cost-Recovery Approaches**



### 4.3 Approach: Direct Recipients Pay 100% of RRWP Costs

Under this approach, Metropolitan would recover 100% of the RRWP costs only from those member agencies that directly receive the purified water from the RRWP. The following factors are considered relevant for evaluating this potential cost-recovery approach.

**Direct recipients would pay significantly more than they would pay for replenishment supplies they already purchase at Tier 1 rate, or any other full-service rate in place at the time of the RRWP completion.** With the direct pay approach, the member agencies that purchase the purified water from the RRWP would pay approximately \$1,800 per AF for replenishment supplies. If the direct recipients of the water are required to pay for the full cost of the RRWP, the direct recipients would pay significantly more for water that they can already purchase from Metropolitan at the full-service untreated rate (currently \$731 per AF) for an increase of about \$1,100 per AF). They would pay more to meet the same demands currently being met by Metropolitan with imported water. They would also pay for the costs of providing the RRWP benefits to all 26 member agencies. This would mean that under this approach, the direct recipients would be paying significantly more than their fair share of the project cost and would be unlikely to participate in the Program, making the benefits of the Program also unavailable to the rest of the region.

**Other agencies would receive the benefits of direct recipients' firm commitments, but not be required to pay.** Under any approach, the RRWP would require a firm commitment from the direct recipients. This commitment exceeds any obligation currently required for Tier 1 purchases. Today, member agencies purchase water at their own need-based schedule, or based on a voluntary purchase order, and everyone shares in the integrated costs. However, under this approach, direct recipients would provide all 26 member agencies the reliability of a firm purchase commitment from the direct recipients but would receive no benefit for the commitment. Additionally, based on the integrated nature of the RRWP into Metropolitan's existing system and services, a cost-recovery approach that charges direct recipients the entire costs of the RRWP would not reflect costs of providing the benefits to all member agencies that are attributable to the entire regional service. Because other member agencies throughout the service area would receive benefits of the reliability and availability of Metropolitan water, they should share in the cost of the Program. As discussed in Section 3, those benefits are not incidental to Metropolitan's integrated water service.

**The improved water quality from RRWP water provided to direct recipients is balanced by the use restrictions and commitments associated with receiving that water.** Although direct recipients would receive higher quality water from the RRWP than may be the case for imported water, deliveries of RRWP water will not be flexible. Therefore, although improved quality would be welcomed by direct recipients, the use of RRWP is not flexible and requires additional commitments. Because Metropolitan may dedicate the use of the RRWP for replenishment and other uses by direct recipients, it frees up water and reliability of the rest of Metropolitan's system. The balance is consistent with Metropolitan's integrated service.

**The direct pay approach is incompatible with DPR.** The RRWP may be able to supply recycled water for both IPR for replenishment and for DPR through raw water augmentation. Therefore, it would not be equitable for direct recipients to incur 100% of the costs of a program that could also deliver water directly to Metropolitan's treated water system. Additionally, the extent of the role of DPR in the Program is undefined at this time. Therefore, it is impractical to separate costs of the program dedicated to DPR from the benefits to direct recipients.

**Summary.** In summary, the following factors are relevant for evaluating this approach:

- Direct recipients would pay significantly more for replenishment water than they currently pay to meet the same demands.
- Other agencies not directly receiving the water would be receiving the benefits of direct recipients' firm commitments and not paying for them.
- Firm commitment from the direct recipients would be mandatory, but not credited to them.
- The improved water quality from RRWP water provided to direct recipients is balanced by the use restrictions and commitments associated with receiving that water.
- The Program benefits Metropolitan's integrated resources and system for all 26 member agencies.
- This approach is not compatible with the DPR component of the Program.

Therefore, the direct pay approach is not currently considered a reasonable cost-recovery approach in light of the current objective and planned operation for the RRWP.

#### **4.4 Approach: Integrated Costs into Metropolitan's Rates and Charges**

Under this approach, 100% of Metropolitan's RRWP costs would be integrated into Metropolitan's regional wholesale water service costs and rates and charges for services. This means that all Metropolitan member agencies would pay for the RRWP within the integrated rate structure, in accordance with a cost-of-service study to determine the proper rates and charges. Per the Conceptual Planning Studies Report for the RRWP, it is estimated that the Metropolitan untreated rate would increase for all member agencies by about \$170 per AF (full Program, 2018 dollars), if the costs are integrated in this manner. The following factors are relevant to evaluate this potential cost-recovery approach.

##### **The effects of meeting replenishment demands with purified water support an integrated approach.**

Purified water would replace member agencies' current demands on Metropolitan's imported water supplies for groundwater replenishment, making that imported water available to meet other regional demands on Metropolitan. Alternatively, that water could be placed in storage for future emergency and dry-year needs for the entire service area. Currently, Metropolitan delivers approximately 213 TAF per year on average to all member agencies for groundwater replenishment. Metropolitan anticipates an increase in demand for groundwater replenishment (resulting from both increased production and increased recharge needs due to climate change), which could be met with purified water from the RRWP rather than water from the SWP or the CRA. Imported supplies replaced by the Program become available for all agencies, may be stored, and create delivery flexibility.

**Mandatory firm commitments for purified water benefits all member agencies.** Under any approach, the RRWP would require firm commitments from direct recipients. This commitment exceeds any obligation required for Tier 1 purchases. Currently, member agencies can purchase water for replenishment whenever they would like, which requires more planning and standby than would the constant delivery of water from the RRWP. Therefore, the stabilization of deliveries to groundwater basins is a benefit for both the direct recipients and for all of Metropolitan's member agencies and is associated with the costs of providing Metropolitan's ongoing service to all agencies.

**The improved water quality from RRWP water provided to direct recipients is balanced by the use restrictions and commitments associated with receiving that water.** Although direct recipients would receive higher quality water from the RRWP than may be the case with imported water, deliveries of RRWP water is not flexible. Therefore, although improved quality would be welcomed by direct recipients, the use of RRWP is not flexible and requires additional commitments. Because Metropolitan may dedicate the use of the RRWP for replenishment and other uses by direct recipients, it frees up water and reliability of the rest of Metropolitan's system. The balance is consistent with Metropolitan's integrated service, as do Metropolitan's other water resources.

**DPR through raw water augmentation supports an integrated approach.** If DPR is approved for direct integration of the RRWP into Metropolitan's treated water system in the future, it would further support the integrated cost-recovery approach. The RRWP would supply both direct recipients for groundwater replenishment and the Common Pool for all member agencies. Groundwater replenishment provides a use for the purified water developed by the Program until DPR methods are fully available to Metropolitan. Thus, the integration of the Program into Metropolitan's system is even more evident given the objective the RRWP to accommodate the flexibility for DPR in the future.

**Use within Metropolitan's integrated system supports an integrated approach.** The RRWP would be developed to integrate the Program into Metropolitan's existing water service and would meet existing and future demands by its member agencies with its new source of purified water. Accordingly, integration of the RRWP costs into its revenue requirements and recovery of those costs through generally applicable rates and charges for its water services would reflect the objective of the Program. It would reflect the costs of Metropolitan providing its water services to all its member agencies. Cost-recovery approaches that assign all costs to only those Metropolitan member agencies that directly receive purified water would not reflect the purpose of the Program and its integration into Metropolitan's wholesale water services.

**The RRWP serves a purpose within Metropolitan's existing wholesale water services with benefits as detailed in Section 3 above.** The approximate 168,000 AF of annual deliveries of purified water to groundwater basins for IPR and to Metropolitan's treatment plants for DPR would make an approximate equivalent amount of Metropolitan's imported water supplies available for Metropolitan's regional wholesale water service to all its 26 member agencies. The imported water freed up as a result of the RRWP would also be available for dry-year and emergency storage for use by Metropolitan for all its member agencies. Additionally, the production of purified water within Metropolitan's service area would reduce the use of, and increase capacity in, the integrated conveyance system that delivers water into Metropolitan's service area.

By increasing the options to meet demands in any particular area throughout the District service area, the RRWP adds flexibility to Metropolitan's system by ensuring full utilization of Metropolitan's water resource portfolio. Since Metropolitan's system is interconnected, Metropolitan can address constraints in one area of the system for the benefit of the entire system as a whole. Deliveries of RRWP purified water can be coordinated with imported water to optimize system operation. In the future, the fully expanded RRWP system or water previously used for IPR could be routed to potable water treatment plants for DPR, which would allow this water to be served to multiple agencies just like imported water, providing a regional benefit.

The RRWP would therefore, enhance Metropolitan's resources, system flexibility, system and reliability to benefit all Metropolitan member agencies. If direct recipients paid 100% of the RRWP, they would also pay for the system reliability and flexibility provided by the RRWP to the entire Metropolitan system. If the objective and planned operations of the program change significantly, then a different cost-recovery approach may be more reasonable. However, under the current objectives, planned operations, and purpose of the Program, an integrated cost-recovery approach is considered a reasonable cost-recovery approach for the RRWP.

The RRWP would also benefit the service area in the event of a catastrophic earthquake by increasing the seismic resilience in the service area for all member agencies. By providing a reliable, local supply of high-quality water for groundwater replenishment and for raw water augmentation throughout a seismic emergency, the RRWP would provide insurance for all member agencies. Purified water from the RRWP would be available to keep water flowing in Weymouth and Diemer treatment plants even if imported supplies were cut off by the earthquake event. This would allow Metropolitan to continue to meet member agency demands throughout the emergency.

The RRWP would also benefit all member agencies by increasing the resilience to climate change. Recycled water is largely independent of long-term weather and climate change impacts. Therefore, protections against drought and climate change introduce a water security benefit not available with other Metropolitan sources.

**Summary.** In summary, the following factors are relevant for evaluating this approach:

- Direct recipients would pay the integrated full-service rate for replenishment water as they currently pay, as deliveries would replace current imported supplies for deliveries.
- Other agencies not directly receiving the purified water would receive benefits and all member agencies would pay for all benefits.
- Firm commitment would still be required from direct recipients for water not used for DPR, but the integrated rate structure could account for the mutual benefits of the arrangement.
- The improved water quality from RRWP water provided to direct recipients is balanced by the use restrictions and commitments associated with receiving that water.
- Captures the role of the RRWP, which adds to the flexibility and reliability of Metropolitan's services, sources, and system.
- This approach would apply to both the IPR portion and the DPR portion and would be fully integrated into the current rate structure.

Therefore, based on the purpose and anticipated benefits of the Program, the Integrated Approach is considered a reasonable approach at this stage of development.

#### **4.5 Approach: Hybrid of Different Cost-Recovery Approaches**

The hybrid cost-recovery approach refers to one in which a portion of the costs are recovered from member agencies directly receiving purified water and the rest of the costs are integrated into

Metropolitan's costs, recovered through the integrated rate structure applicable to all member agencies. This section does not discuss a specific hybrid proposal with identified percentages for splitting the RRWP costs between direct recipients and Metropolitan's integrated rate structure. Instead, it provides general information for the Board to evaluate whether to pursue a hybrid approach. The following factors are relevant for evaluating this approach and may be used by staff in conducting a cost-of-service study.

**The benefits of the RRWP for direct recipients and other member agencies are not mutually exclusive.** Metropolitan operates its system to ensure reliability at each service connection. It achieves that reliability using the flexibility built into its system. For example, even though one member agency may regularly receive water only from one of Metropolitan's water sources, Metropolitan designs and operates its system so that it may be ready to serve water from a different source when necessary. This system integration and flexibility is essential to Metropolitan's operations. Therefore, it makes it unrealistic and potentially unfair to attempt to separate the costs of providing benefits to any particular agency or service connection if the RRWP is integrated into Metropolitan's operations and planning, directly or indirectly.

**Costs related to benefits that are specific to the delivery of purified water to direct recipients and severable from other costs may potentially be addressed through an integrated rate structure instead.** If there are quantifiable and severable costs that may be attributable solely to the delivery of water to direct recipients, those may potentially be captured through a rate or charge component in Metropolitan's integrated rate structure. A cost-of-service study is necessary to evaluate this potential option.

Rather than split RRWP costs by percentage attributable only to direct recipients and to the integrated service, the costs of particular functions associated with delivery of purified water may serve to develop rate or charge component within the integrated structure. For example, Metropolitan's capacity charge and Readiness-to-Serve charges reflect particular functions within Metropolitan's integrated rate structure; they are not a separate hybrid cost-recovery approach that separates Metropolitan's service by user, water source, or location. For the RRWP, Metropolitan may consider direct recipients' firm commitments, water quality, restricted use, the effect of the RRWP on the reliability of all of Metropolitan's service, and other factors to be determined through a cost-of-service analysis.

Therefore, the development of a rate or charge component to capture the unique functions associated with the RRWP is favored over attempting to split the purpose and costs of the RRWP between direct recipients and Metropolitan's integrated service. The costs attributable to providing regional benefits would be difficult to quantify. The benefits to all member agencies of added system flexibility, resource flexibility, increased reliability, water quality, shortage reductions, and others are not separately quantifiable for an integrated system. Thus, because not all costs attributable to providing benefits can be segregated between direct recipients and all other member agencies, a separate charge to member agencies could likely not capture all the shared benefits. A hybrid approach in which costs are split between direct recipients and Metropolitan's integrated service might be more feasible if those recipients were not member agencies already sharing in the benefits of the existing integrated system.

**The hybrid approach is incompatible with DPR.** DPR is developing into a significant objective of the Program, which would physically integrate the Program to the rest of Metropolitan's system. DPR would allow flexibility between deliveries to groundwater basins and to Metropolitan's treatment plants. It would also add direct resource flexibility for all the member agencies. Additionally, the extent of the role of DPR in the Program is unknown at this time. It is impractical to separate costs of the Program

dedicated to DPR from the costs of providing benefits to direct recipients. Therefore, quantifying direct benefits to direct recipients is challenging under Metropolitan's integrated wholesale water system and service. It would likely be impractical to implement a hybrid cost-recovery approach that may properly reflect the RRWP's role in Metropolitan's service.

**Summary:** In summary, the following factors are considered in evaluating this approach:

- The benefits of the RRWP accrue to all member agencies.
- Costs related to benefits that are specific to the delivery of purified water to direct recipients and severable from other costs may potentially be addressed in an integrated rate structure through an integrated rate structure instead.
- The hybrid approach is incompatible with the intended DPR objective of the Program.

Therefore, a hybrid approach in which the costs are attempted to be split between direct recipients and Metropolitan's integrated service may be unreasonable given the purpose and role the RRWP would have in Metropolitan's integrated system. Instead, it may be possible to capture appropriate additional costs of benefits attributable solely to the delivery of water to direct recipients through a rate or charge component added to the integrated rate structure. However, a cost-of-service study should be conducted to determine if any such component is appropriate.

#### 4.6 Summary of Potential Cost-Recovery Approaches

Table 4 provides a summary of the cost-recovery approaches introduced in this Paper.

**Table 4: Summary of Significant Factors for Cost-Recovery Approaches**

Factor	Direct Recipients Pay 100%	Integrated Approach	Hybrid Approach
<b>Cost Impact to meet same replenishment demands</b>	Significant increase in cost to direct recipients	No significant increase in cost because cost recovery is through current rate structure	The cost impact is unclear and depends on the hybrid selected
<b>Cost recovery accounts for regional benefits</b>	No	Yes	Depends upon how hybrid approach is implemented
<b>Firm commitments from direct recipients would be mandatory</b>	Yes	Yes	Yes
<b>Reasonable</b>	No	Yes	Unlikely

The current evaluations and financial program planning assume that the RRWP is integrated into Metropolitan's operations and service, based on currently available information. The overview of cost-recovery approaches is provided to seek guidance from the Board regarding the cost-recovery approaches

under which it is interested in pursuing the Program. To the extent the Board envisioned a cost-recovery approach that is inconsistent with the objective and benefits of the Program, as reviewed here, the information in this White Paper may be helpful for Board discussion.

## **5.0 AGREEMENTS AND ARRANGEMENTS**

### **5.1 Purchase Commitments for Water Deliveries**

Metropolitan must have assurances that member agencies taking purified water are able and willing to do so and are committed to meet their purchase obligations. The flow of purified water is expected to be up to 150 MGD about 85% of the time. Disruptions in deliveries have the potential of impacting the Sanitation Districts' wastewater treatment plant processes, increasing AWT Facility O&M, and creating operational issues at the AWT Facility and along the conveyance/recharge systems. While Metropolitan is considering the future regulations for DPR in the RRWP planning, initial implementation of the RRWP may be dependent on groundwater replenishment deliveries. And even if RRWP purified water could be delivered for DPR, deliveries to groundwater basins would still be necessary to accommodate capacity or operational constraints that may arise at Metropolitan's water treatment plants.

Thus, the successful operation of the RRWP will require agreements between Metropolitan and future direct recipients of purified water, committing them to receive contracted deliveries and to pay for such deliveries. The specific terms of any purchase agreement between Metropolitan and direct recipients will depend, in part, on the finalization of details of the Program through environmental and engineering planning, the capacity of the recharge facilities and groundwater basins, a cost-of service study, and the cost-recovery approach directed by the Metropolitan Board of Directors.

Potential direct recipients of the Program are member agencies overlying four groundwater basins within Metropolitan's service area. As summarized in Chapter 6 of the Feasibility Study and also Chapter 6 of the Conceptual Planning Studies Report, Metropolitan staff has worked with staff from each of those member agencies which could take RRWP water to determine their capacity to take purified water from the Program in-lieu of Metropolitan's untreated water. However, purchase agreements, or even terms for a purchase agreement, are not likely to be developed until a cost-recovery approach is determined, and from that, the price term is known or estimated. These items would be informed by the upcoming environmental and engineering planning process.

Metropolitan has already entered into letters of intent (LOIs) with several of the parties. Prior to developing a formal purchase agreement with member agencies, Metropolitan's Board may also consider whether to enter into an interim memorandum of understanding (MOU) or some other documentation of the parties' intent to develop future purchase agreements. Discussions with the potential member agencies concerning the preparation of LOIs and MOUs are continuing discussed in Section 6. Copies of the LOIs are included in Appendix A.

### **5.2 Arrangements for Introduction of Purified Water into Groundwater Basins**

Metropolitan does not currently operate groundwater facilities and there is no plan for Metropolitan to do so in connection with the RRWP. Metropolitan aims to deliver purified water to member agencies along the planned conveyance system to either existing service connections or to new service connections. Metropolitan may cooperate with member agencies in the construction of any new service connections, recharge ponds, or injection wells necessary to introduce water into groundwater basins. However, the

intent is for ownership of purified water to transfer to the member agency at the service connection in accordance with the Metropolitan Administrative Code, in the same manner as Metropolitan currently delivers water for replenishment.

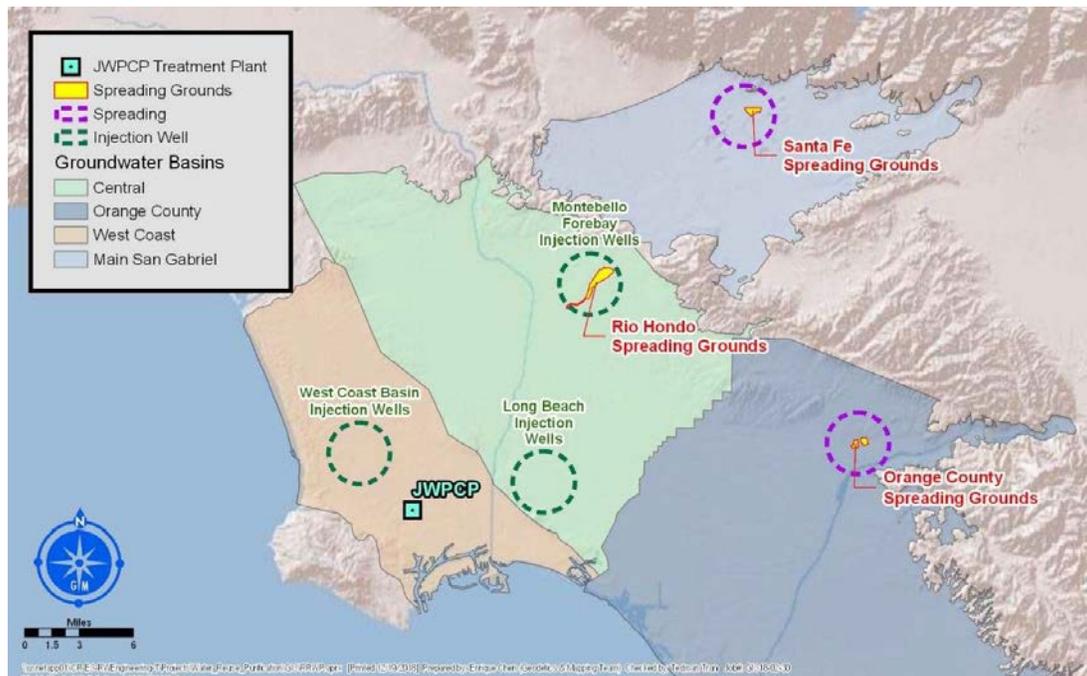
Even though Metropolitan does not intend to operate groundwater recharge facilities in connection with the RRWP, it is necessary to generally understand the institutional arrangements that may be required in each groundwater basin for the successful use of RRWP water. Success of the RRWP depends on the receipt and storage of purified water into the intended groundwater basins.

Metropolitan currently delivers water to the following agencies for replenishment within the groundwater basins in their service areas: Central Basin Municipal Water District (MWD), West Basin MWD, City of Torrance, City of Long Beach, Upper San Gabriel Valley MWD, Three Valleys MWD, and the Municipal Water District of Orange County (MWDOC). Purified water for replenishment in those basins would require many of the same institutional arrangements already in place between the member agencies and the basin managers for existing deliveries. To the extent that those groundwater basin managers require additional approval processes specifically for the introduction of purified water into the basins, Metropolitan will cooperate with the member agencies to seek such approval. In addition to replenishment, purified water may be stored by the member agencies or others in the basins for extraction at a later date. Storage in each basin is governed by a different process. Metropolitan will cooperate with member agencies to assist with those processes.

Figure 9 shows the intended groundwater basins with specific management information for each of the groundwater basins provided below.

**Central and West Coast Basins.** The Central Basin and West Coast Basins are governed by two separate court judgments. Implementation of those judgments is administered and governed by a Watermaster, which includes storage panels made up of representatives of water rights holders and the Board of Directors of the Water Replenishment District. Approval from the storage panels is necessary to store water in the Central and West Coast Basins. Unless Metropolitan intends to store its water directly into the basins, which is not currently proposed as noted above, it is not anticipated that the storage framework will apply differently. Deliveries of purified water for groundwater replenishment are anticipated to be treated in the same manner as current Metropolitan deliveries. New regulatory requirements may, however, be applicable for introduction specifically of the new type of water, which will be coordinated with the State Division of Drinking Water, the Los Angeles Regional Water Quality Board, the Watermaster, and other applicable regulatory agencies.

**Main San Gabriel Basin.** The Main San Gabriel Basin is also governed by a court judgment, administered by a Watermaster. Introduction of any water into the Main San Gabriel Basin, including current Metropolitan deliveries, is governed by the judgment. The Watermaster Rules require a cyclic storage agreement for any introduction of water. It is anticipated that deliveries of purified water to this basin will be subject to the same requirements currently in place for existing replenishment deliveries. However, new regulatory requirements specific to purified water may also apply that will involve coordination with the Watermaster and the applicable regulatory agencies.

**Figure 9: Intended Groundwater Basin Participants**

**Orange County Basin.** In the Orange County Basin, the Orange County Water District (OCWD) governs groundwater management through its statutory authority. To the extent member agencies overlying the Orange County Basin wish to store water in the basin for later extraction, it must obtain approval from OCWD. Metropolitan will work with its member agencies to the extent the introduction of purified water into the Orange County Basin is subject to different rules under the applicable rules and regulations. Metropolitan will also work with those parties to obtain all required permits from the applicable regulatory agencies. As of the date of this report, Metropolitan is not actively pursuing a Letter of Intent with the Orange County Basin parties. Deliveries to the Orange County Basin remain an option for the RRWP, which can be further considered as the environmental and engineering planning work is completed.

Table 5 highlights some of the potential arrangements required for introduction of the purified water into the groundwater basins.

## 6.0 POTENTIAL COLLABORATION AND FUNDING OPPORTUNITIES

### 6.1 Opportunities for Collaboration and Current Partnerships with Other Agencies

Metropolitan welcomes the possibility of partnering with other agencies to ensure the success of the RRWP. It is envisioned that Metropolitan will continue to be the owner and operator of the RRWP and conveyance system for the benefit of its member agencies and as an integrated part of Metropolitan's services to its agencies. This approach is consistent with Metropolitan's long-term planning, its needs, and its mission. However, Metropolitan is exploring partnership opportunities that provide funding sources for construction and operations costs, thereby reducing the estimated \$1,800 per AF costs. A summary of current and potential partnerships with other agencies is provided in Table 6.

**Table 5 – Arrangements for Introduction of Purified Water into Groundwater Basins**

Topic	Description
<b>Multiple Agencies Potentially Involved in the Process</b>	Watermaster organizations, groundwater basin managers, Los Angeles County Department of Public Works, State Water Resources Control Board, Regional Water Quality Control Board (RWQCB), cities in which new facilities are built for introduction of water into basins.
<b>MWD Service Connection Points</b>	New connections are intended to be treated in the same manner as existing connections. Service connection agreements would be required for new connections.
<b>Facility Requirements</b>	Facility requirements would vary by installation, but could include pipelines, meter structures, well relocations, pump stations, discharge structures, injection wells. Maximum design discharge flows of the delivery facilities would be defined.
<b>Delivery Schedule</b>	The schedule for deliveries of RRWP purified water would be mutually agreed by member agencies and basin managers, and must be consistent with Purchase Agreements between member agencies and Metropolitan.
<b>Water Quality Specifications</b>	Purified water will meet the Water Quality Control Plan (Basin Plans) objectives for specific constituents as established by the applicable RWQCB. Detailed water quality specifications will be finalized between basin managers, any applicable regulatory agency, and the member agencies. Metropolitan will be involved as required to ensure its water quality specifications meet those required in the basins.
<b>Groundwater Modeling</b>	Metropolitan may provide monitoring wells to meet the regulatory travel time requirements as required by the regulations.
<b>Ownership of the Water</b>	Member agencies will own all delivered purified water received and accepted at the service connection, in the same manner as current Metropolitan deliveries.

**Table 6 – Current Partnerships with Other Agencies**

Agency	Role in Partnership	Notes
<b>Los Angeles County Sanitation District</b>	<ul style="list-style-type: none"> <li>Source water from JWPCP</li> <li>In-kind services</li> <li>New facilities and operation requirements, if Secondary MBR selected</li> <li>Land, power and technical support for the demo plant</li> </ul>	<ul style="list-style-type: none"> <li>In partnership since 2010</li> <li>Demonstration plant and Term sheet for full-scale AWT Agreement in 2015</li> <li>Ongoing coordination meetings</li> <li>Investigating secondary MBR impacts to the JWPCP</li> <li>Amendment to 2015 Agreement proposed for November 2020 Board approval</li> <li>Future full-scale AWT agreement needed</li> </ul>
<b>Southern Nevada Water Authority</b>	<ul style="list-style-type: none"> <li>Potential transfers or exchanges of Colorado River or State Water Project supplies in return for investment in the RRWP</li> </ul>	<ul style="list-style-type: none"> <li>Letter of Intent from SNWA signed and included in Appendix A</li> <li>Agreement for Environmental Phase Services collaboration proposed for November 2020 Board approval</li> </ul>

Metropolitan and the Sanitation Districts have been in partnership to develop the RRWP since 2010. As the provider of the water for the RRWP, the Sanitation Districts are integral to the success of the RRWP. They recognize that operation of the RRWP would assist in meeting the Sanitation Districts' recycled water goals. The Sanitation Districts have already provided in-kind services toward the project, and to date, have provided land, lab services, and an evaluation of source control. Importantly, Metropolitan and the Sanitation Districts will also explore the possibility of constructing new basins or converting one of the existing basins to provide secondary MBR treatment before delivery of the effluent to the AWT, which could reduce Metropolitan's overall cost for the RRWP

Metropolitan may also consider partnerships including transfers or exchanges of Metropolitan's Colorado River or SWP supplies in return for a financial investment in the RRWP. For example, there may be opportunities to transfer storage in Lake Mead in exchange for participation in the RRWP. Metropolitan and Southern Nevada Water Authority (SNWA) has recently signed a letter of intent to work cooperatively together to develop the RRWP and potential future Colorado River exchanges. SNWA is a Nevada joint powers authority and a political subdivision of the State of Nevada. Metropolitan has also received a similar joint letter of intent from the Central Arizona Project and the Arizona Department of Water Resources.

## **6.2 Opportunities for Collaboration and Status of Letters of Intent with Other Potential Partners**

Agreements between Metropolitan and other agencies would be a two-step process, beginning with a non-binding LOI followed by a formal Memorandum of Understanding (MOU). The provisions of the LOI represent a statement of the Parties' general intent to continue collaboration discussions with the goal of developing a future agreement or MOU. The future agreement, if approved by both parties, would be binding and could include requirements for such parameters as capacities, cost, delivery schedule, and water quality. Metropolitan has already entered into LOIs with several of the parties. Table 7 summarizes the collaboration opportunities and current status of LOIs with the partners as of July 2020. Copies of completed LOIs are included in an Appendix A to this White Paper. Potential opportunities with other agencies may or may not include financial participation. Metropolitan has already been in discussions with a number of local agencies to collaborate and maximize recycled water use within the region.

LADWP is pursuing a 150 mgd recycled water program to recycle all of the water from the Hyperion Wastewater Treatment Plant. The proposed program is called Operation NEXT. The program would convert the Hyperion Plant to a MBR facility, add advanced treatment, and deliver the water to various points in the City for potable reuse, including a connection to the RRWP's backbone pipeline for treatment at the Weymouth WTP. MWD and LADWP staff are meeting regularly and coordinating the synergy between the two programs.

## **6.3 Grant and Low Interest Loan Programs**

Potential grant and loan funding opportunities are available from multiple sources including the federal government and state government, as well as from local agency partnering such as the Sanitation Districts and other agencies. There are also some limited opportunities for funding through non-profit research funds and public-private partnerships. Grant and loan funding is an attractive source of supplemental funding for the RRWP, but has various eligibility, timeline, and reporting requirements. Summary of grants and loans available to Metropolitan is provided in Table 8.

**Table 7 – Opportunities for Collaboration and Status of LOIs with Other Potential Partners**

Agency	Collaboration Opportunities	Notes
<b>City of Los Angeles</b> <ul style="list-style-type: none"> <li>• <b>LADWP</b></li> <li>• <b>LA Bureau of Sanitation</b></li> </ul>	<ul style="list-style-type: none"> <li>• Meet demands at two South Bay refineries (up to 10 mgd included in Approach 3)</li> <li>• Connection to the RRWP Backbone Pipeline to supply recycled water into the RRWP (up to 50 mgd for RWA at Weymouth WTP) as part of Operation NEXT</li> <li>• Connection to the Jensen WTP to supply recycled water (50 mgd RWA source) as part of Operation NEXT</li> <li>• Source control and purified water quality</li> </ul>	<ul style="list-style-type: none"> <li>• LOI signed and included in Appendix A</li> <li>• Regular coordination meetings to discuss water quality, technical issues, enhanced source control, demo plant testing</li> <li>• Continuing demand for IPR even if RWA is implemented</li> <li>• Agreement to take purified water from Operation NEXT would be needed</li> </ul>
<ul style="list-style-type: none"> <li>• <b>USGVMWD</b></li> <li>• <b>Three Valleys MWD</b></li> <li>• <b>MSGB Watermaster</b></li> </ul>	<ul style="list-style-type: none"> <li>• Main San Gabriel GW Basin</li> <li>• Raymond Basin/Six Basins demand transfer</li> <li>• RRWP Backbone Pipeline to supply replenishment water to the Santa Fe Dam area (potential 38 mgd up to 72 mgd)</li> </ul>	<ul style="list-style-type: none"> <li>• LOI signed and included in Appendix A</li> <li>• Ongoing collaboration meetings</li> <li>• Continuing demand for IPR even if RWA is implemented</li> <li>• Agreement to take purified water needed</li> </ul>
<ul style="list-style-type: none"> <li>• <b>LBWD</b></li> <li>• <b>TORRANCE</b></li> <li>• <b>WRD</b></li> </ul>	<ul style="list-style-type: none"> <li>• West Coast and Central GW Basins</li> <li>• Regional Brackish Water Reclamation Program</li> <li>• Groundwater augmentation (potential up to 4 mgd) in West Coast Basin</li> <li>• Replenishment water (potential 9 mgd up to 20 mgd) in Central Basin</li> </ul>	<ul style="list-style-type: none"> <li>• LOI signed and included in Appendix A</li> <li>• Ongoing collaboration meetings</li> <li>• Continuing demand for IPR even if RWA is implemented</li> <li>• Agreement to take purified water needed</li> </ul>
<ul style="list-style-type: none"> <li>• <b>LACFCD</b></li> </ul>	<ul style="list-style-type: none"> <li>• Shared recharge basins at Santa Fe Dam</li> </ul>	<ul style="list-style-type: none"> <li>• LOI signed and included in Appendix A</li> <li>• Ongoing collaboration meetings</li> </ul>
<ul style="list-style-type: none"> <li>• <b>CAP</b></li> <li>• <b>ADWR</b></li> </ul>	<ul style="list-style-type: none"> <li>• Reliability and resiliency of the Colorado River water supply</li> <li>• Collaboration on regulatory issues</li> <li>• Potential exchanges of Colorado River water supplies</li> </ul>	<ul style="list-style-type: none"> <li>• Joint LOI from the Central Arizona Project and Arizona Department of Water Resources signed and included in Appendix A.</li> </ul>
<ul style="list-style-type: none"> <li>• <b>CBMWD</b></li> <li>• <b>WRD</b></li> </ul>	<ul style="list-style-type: none"> <li>• Central GW Basin Groundwater augmentation (potential up to 9 mgd)</li> </ul>	<ul style="list-style-type: none"> <li>• LOI under consideration</li> <li>• Coordination with LADWP's Operation NEXT</li> <li>• Agreement to take purified water needed</li> </ul>
<ul style="list-style-type: none"> <li>• <b>WBMWD</b></li> </ul>	<ul style="list-style-type: none"> <li>• West Coast GW Basin</li> </ul>	<ul style="list-style-type: none"> <li>• LOI in development</li> <li>• Ongoing collaborative meetings</li> </ul>
<ul style="list-style-type: none"> <li>• <b>MWDOC</b></li> <li>• <b>OCWD</b></li> </ul>	<ul style="list-style-type: none"> <li>• Orange County GW Basin</li> <li>• Groundwater augmentation (potential up to 46 mgd, if included in a future phase)</li> </ul>	<ul style="list-style-type: none"> <li>• Coordination with existing GW augmentation &amp; future seawater desalination</li> <li>• Agreement to use spreading grounds would be needed</li> <li>• Demands may be impacted by proposed seawater desalination project</li> <li>• LOI not being pursued at this time</li> </ul>

**Table 8 - Summary of Grants and Loans Available to Metropolitan**

Program	Amount	Notes
<b>Grants</b>		
USBR Title XVI Reuse Research Grant	\$750,000	<ul style="list-style-type: none"> <li>• Awarded \$750,000 grant to study pathogen removal with alternative treatment technology</li> <li>• Requires 75% match</li> <li>• No feasibility study required</li> </ul>
California Water Recycling Funding Program (WRFP) & State Prop 1 /68 WRFP	Up to \$5 million	<ul style="list-style-type: none"> <li>• Awarded \$1,000,000 Pilot Project grant for Demonstration Plant research.</li> <li>• Received approximately \$300,000 from four groundwater planning grants.</li> <li>• High demand for funding. Majority of remaining funding already allocated. Full scale RRWP should be submitted as soon as approved to be eligible for remaining funding</li> </ul>
USBR Title XVI	Up to \$20 million	<ul style="list-style-type: none"> <li>• Received approval of feasibility study on 4/6/20 and our now eligible to apply for future funding under the Title XVI WIIN Program.</li> <li>• High demand for funding. Project funding typically occurs over multiple funding cycles.</li> </ul>
<b>Low Interest Loans</b>		
USEPA Water Infrastructure Finance and Innovation Act (WIFIA) program	Up to 49% of eligible project costs	<ul style="list-style-type: none"> <li>• WIFIA loans provided at the current US Treasury rate (~2-3%) with repayment terms up to 35 years. Minimum project: \$20M for large communities. NEPA, Davis-Bacon, American Iron and Steel, and all other federal provisions apply.</li> </ul>
California Clean Water State Revolving Fund (CWSRF)	Up to 50% of eligible costs	<ul style="list-style-type: none"> <li>• High demand for funding. Current significant backlog &amp; reduced future funding estimate.</li> <li>• Support from other agencies and political leaders may facilitate receiving funding.</li> </ul>

**Notes:**

1. The Maximum amount of State Proposition 1 and Proposition 68 funding is proposed to be reduced from \$15 million to \$5 million in the proposed WRFP guidelines.

Staff recommends prioritizing grant opportunities, followed by funding requests through the Clean Water State Revolving Fund (CWSRF) low-interest loan program because the project eligibility is more in alignment with the proposed RRWP, the size of the loan is up to 50 percent of the project cost, the interest rate is half the general obligation bond rate (~2 percent), and repayment is up to 30 years. There are some significant concerns with the CWSRF loans requirements regarding lien parity, limitations on future bond issuances, and mandatory bond reserve funds that will need to be negotiated before an agreement should be accepted. A more detailed discussion of the grant and loan opportunities are provided in Chapter 10 of the Feasibility Study.

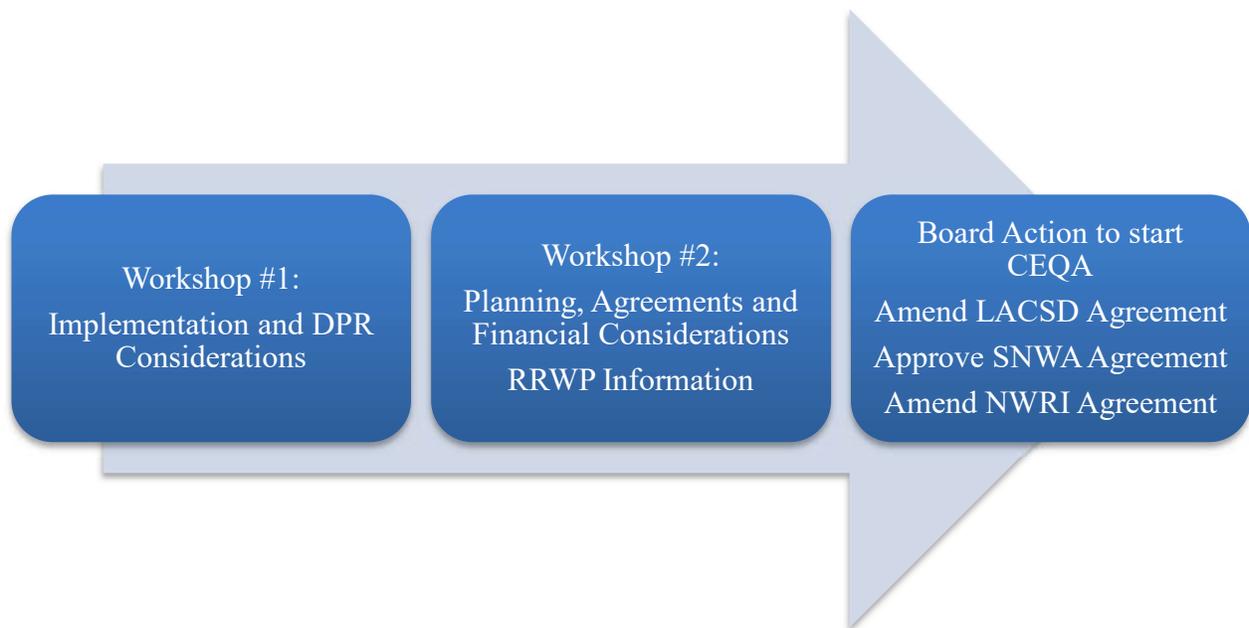
## 7.0 NEXT STEPS

The purpose of White Papers No. 1 and No. 2 is to provide the Board with background on the RRWP facilities that are required, how much the facilities will cost, options for how to pay for the facilities, and a

summary of the agreements that must be obtained to support the Program. Estimated costs are based on the Conceptual Study and will be updated as part of the PEIR. Figure 10 below shows the proposed next steps for the RRWP. Workshop No. 1 was held on July 17, 2019 to discuss White Paper No. 1. As with White Paper No. 1, a Board Workshop will be held at the E&O Committee meeting on October 12, 2020 to discuss White Paper No. 2. These workshops are to provide information and a forum to discuss the details of the Program, not to approve the Program.

As described above in the summary of White Paper No. 1, three approaches were proposed to implement the environmental and engineering planning for the RRWP. As part of the fiscal years 2020/21 and 2021/22 biennial budgeting process, Metropolitan's Board approved a budget for Approach 1, development of a Program Environmental Report (PEIR) and associated engineering support. In November, staff will bring an action item to the Board for consideration of beginning Approach 1. It is anticipated that if additional effort to implement Approaches 2 or 3 is desired by the Board, that additional direction would be given to staff. The biennial budget included \$30 million for these efforts.

**Figure 10 – Proposed Next Steps for the RRWP**



As shown in this white paper, the RRWP will provide multiple benefits to Metropolitan's entire service area. Therefore, staff recommends continuing to move forward with the RRWP. After Workshop No. 2, the Board will consider whether to move forward with the next step in the implementation of the RRWP, beginning the PEIR. The November action item will include detailed information regarding the cost and scope of the PEIR and associated engineering support and an amended agreement with LACSD in support of this next phase of work. During the approximately 2 ½ years it would take to complete this phase of work, staff would also work with the Board to develop a cost-recovery approach for the project, should the Board choose to proceed once environmental and engineering planning is complete.

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# Appendix A

## Letters of Intent (LOI)

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## 1. Los Angeles Department of Water and Power



**LETTER OF INTENT TO COLLABORATE ON THE DEVELOPMENT OF A FUTURE  
MEMORANDUM OF UNDERSTANDING RELATED TO ADVANCED TREATED WATER DELIVERY SYSTEMS  
BETWEEN THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA AND  
CITY OF LOS ANGELES, THROUGH THE LOS ANGELES DEPARTMENT OF WATER AND POWER**

This LETTER OF INTENT (LOI) is made by and between THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA (Metropolitan) and CITY OF LOS ANGELES (City), by and through THE LOS ANGELES DEPARTMENT OF WATER AND POWER (LADWP), who may be referred to individually as "Party" or collectively as "Parties."

**BACKGROUND**

- A. Metropolitan and County Sanitation No. 2 of Los Angeles County (Sanitation District) are working together to develop a Regional Recycled Water Program (Program). The objective of the Program is to produce up to 150 million gallons per day (MGD) of advanced treated water from a new advanced water treatment (AWT) facility located at the Sanitation District's Joint Water Pollution Control Plant in Carson, California (Metropolitan AWT Facility). The Program's development may be phased, starting at lower levels of production with the potential to build up to 150 MGD of production as demands and conditions warrant.
- B. If the Program is finalized and approved by Metropolitan's Board of Directors, it will also include plans for the development of a conveyance system consisting of approximately 60 miles of pipeline and a series of pump stations (AWT Conveyance System). The AWT Conveyance System could potentially deliver up to 150 MGD of treated water to the Central, West Coast, Orange County and Main San Gabriel Groundwater Basins. Delivery locations along the alignment will consist of either existing groundwater spreading basins, new or existing injection wells, or industrial customers of Member Agencies in the Los Angeles and Long Beach Harbor areas. Metropolitan has divided the pipeline alignment into five segments for consideration of a phased construction approach.
- C. LADWP and the City's Bureau of Sanitation (LASAN) are currently developing a comprehensive program (City Program) to purify and reuse 100% of available secondary effluent from the Hyperion Water Reclamation Plant (HWRP) by 2035. Under the City Program, LASAN will be pilot-testing treatment processes that will ultimately lead to the retrofit of the HWRP to produce advanced treated water. LADWP is also currently developing a masterplan with the Water Replenishment District of Southern California (WRD) that will evaluate the most optimal locations to convey this water into the underlying aquifers within the West Coast and Central Groundwater Basins. At a future date, there may be opportunities for LADWP to convey some of its advanced treated water into Metropolitan's planned AWT Conveyance System as a potential supplemental supply source to the water source produced by the Metropolitan AWT Facility. There may also be opportunities for Metropolitan's advanced treated water to flow into the LADWP system. Both options could create flexibility for both plants.

- D. Due to the size, complexity and anticipated capital investment required of both Metropolitan's and the City's programs, it will be beneficial for both organizations to coordinate and collaborate, as appropriate, during the developmental stages of both programs. Such coordination and collaboration will ensure that both systems are planned, designed, constructed and operated in a manner consistent with the best interests of the customers of each organization and its constituents.

#### TERMS

1. INTENT AND COMPONENTS:

- a. It is the intent of the Parties to collaborate in the development and utilization of AWT supplies produced from their respective facilities, while minimizing areas of potential conflict or duplication of activities.
- b. Metropolitan and LADWP intend to develop a plan to coordinate the potential integration of Metropolitan's Program and the City's Program. This collaboration will examine the operational and institutional integration of the water and facilities of the respective program. To that end, the Parties intend for the plan through a future MOU to:
- i. Ensure continuity, compatibility, and flexibility of both Metropolitan and LADWP's recycled water infrastructure to meet future supply conditions;
  - ii. Identify and examine potential water quality issues and specifications related to integrating the two programs;
  - iii. Provide for related research, testing, and other technical collaborations;
  - iv. Provide for collaboration on regulatory developments related to both programs; and
  - v. Develop additional areas for collaboration and support, as identified by the Parties.
- c. The Parties intend to develop an MOU that will include conducting and preparing any additional studies necessary to evaluate the integration of these two programs. These studies may include the economic and technical feasibility, financing needs, right-of-way and permitting requirements, environmental and regulatory compliance obligations, brine discharge requirements, and engineering, construction, operational, and water quality specifications.
2. The provisions of this LOI represent a statement of the Parties' general intent only, and shall not be binding on either Party. Neither Party shall have any obligation to enter into the MOU, and no course of conduct of the Parties shall evidence any binding obligations. Each Party fully understands that the terms and conditions of the proposed MOU are subject to approval by the

General Manager of the Los Angeles Department of Water and Power, the Board of Commissioners of the Los Angeles Department of Water and Power, the Los Angeles City Council, the General Manager of Metropolitan, and the Metropolitan Board of Directors, and that no Party shall have any legal obligations to the other unless and until all of the terms and conditions of the proposed MOU have been negotiated and agreed to by all Parties and set forth in the proposed MOU, which have been approved by the Board of Water and Power Commissioners and the Los Angeles City Council, and signed and delivered by all Parties.

3. NOTICES

Any notice under this LOI must be in writing and addressed as follows:

The Metropolitan Water District of Southern California  
Post Office Box 54153  
Los Angeles, CA 90054-0153  
Attn: John Bednarski, Group Manager, Engineering Services  
With a courtesy copy by email to: [jbednarski@mwdh2o.com](mailto:jbednarski@mwdh2o.com)

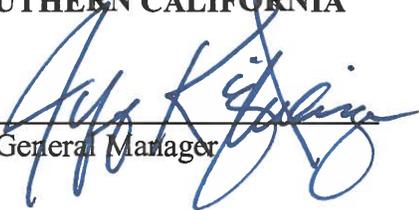
Los Angeles Department of Water  
111 North Hope Street  
Los Angeles, CA 90012  
Room 1460  
Attn: David Pettijohn, Director of Water Resources  
With a courtesy copy by email to: [David.Pettijohn@ladwp.com](mailto:David.Pettijohn@ladwp.com)

A properly addressed notice will be effective on the day of delivery, if delivered directly by a Party or by a nationally recognized delivery service, or on the third day after mailing, if sent postage prepaid by U.S. Mail. The Parties shall transmit a courtesy copy of any notice to the other Party by email on the day the notice is sent.

Either Party may change the address listed in this section by providing five days' notice to the other Party.

The Parties are signing this LOI in duplicate originals.

**THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA**

By:   
General Manager

Date: July 16, 2019

**APPROVED AS TO FORM:**

By:   
General Counsel

**LOS ANGELES DEPARTMENT OF WATER AND POWER**

By:   
General Manager

Date: July 15, 2019

**APPROVED AS TO FORM & LEGALITY:**

Michael F. Feuer  
LOS ANGELES CITY ATTORNEY

By:   
Deputy City Attorney  
melanie A. Torgy  
7/15/19

## 2. San Gabriel Basin Agencies

- Upper San Gabriel Valley Municipal Water District
- Three Valleys Municipal Water District
- Main San Gabriel Basin Water Master



**LETTER OF INTENT TO COLLABORATE ON THE DEVELOPMENT OF FUTURE  
AGREEMENTS FOR THE PURCHASE AND DELIVERY OF ADVANCED TREATED WATER FOR  
REPLENISHMENT OF THE MAIN SAN GABRIEL GROUNDWATER BASIN**

- A. This LETTER OF INTENT (LOI) is made by and between THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA (Metropolitan), THREE VALLEYS MUNICIPAL WATER DISTRICT (Three Valleys), UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT (Upper District), and THE WATERMASTER FOR THE MAIN SAN GABRIEL GROUNDWATER BASIN (Watermaster), who may be referred to individually as "Party" or collectively as "Parties."

**RECITALS**

- B. Metropolitan and County Sanitation No. 2 of Los Angeles County (Sanitation District) are working together to develop a Regional Recycled Water Program (Program). The objective of the Program is to produce up to 150 million gallons per day (MGD) of advanced treated water (AWT Water) from a new advanced water treatment (AWT) facility located at the Sanitation District's Joint Water Pollution Control Plant in Carson, California (Metropolitan AWT Facility). The Program's development may be phased, starting at lower levels of production with the potential to build up to 150 MGD of production as demands and conditions warrant.
- C. If the Program is approved by Metropolitan's Board of Directors, it will also include plans for the development of a conveyance system consisting of approximately 60 miles of pipeline and a series of pump stations (AWT Conveyance System). The AWT Conveyance System could potentially deliver up to 150 MGD of AWT Water to the Central, West Coast, Orange County and Main San Gabriel Groundwater Basins for indirect potable reuse (IPR) through replenishment of those Basins. Delivery locations along the alignment will consist of either existing or new groundwater spreading basins or new or existing injection wells.
- D. The AWT Conveyance System could also deliver some of the AWT Water to Member Agencies in the Los Angeles and Long Beach Harbor areas for delivery to industrial customers of those Member Agencies. Additionally, some of the AWT Water may be delivered through an extension of the AWT Conveyance System to certain Metropolitan treatment plants for direct potable reuse (DPR) through raw water augmentation.
- E. Water rights have been adjudicated in the Main San Gabriel Basin (the "Basin") according to the Judgment in Los Angeles County Superior Court; Civil Action No. 924128 entitled "Upper San Gabriel Valley Municipal Water District vs. City of Alhambra, et al." (herein referred to as "the Judgment"). The Judgment also established the Watermaster as the agency responsible for managing the Basin and authorized Watermaster to purchase Supplemental Water, as defined in the Judgment, for replenishment of the Basin. Watermaster purchases Supplemental Water from three Responsible Agencies, as defined in the Judgment, which have a course of Supplemental Water to the Basin.

- F. Three Valleys and Upper District are named as Responsible Agencies under the Judgment and sell water to the Watermaster for replenishment, and are member agencies of Metropolitan. Metropolitan is a party to the Judgment, which permits it to deliver water to Three Valleys and Upper District for replenishment of the Basin. The San Gabriel Valley Municipal Water District, as State Water Project Contractor and not a Metropolitan member agency, is also named as a Responsible Agency under the Judgment and sells water to Watermaster.
- G. Metropolitan delivers water to service connections for Three Valleys and Upper District, at which point Metropolitan no longer controls or owns the water. The Watermaster has contracted with Los Angeles County Department of Public Works (LA County Public Works) for introduction of water into the Basin. LA County Public Works operates the spreading basins and related facilities that introduce water into the Basin, including Metropolitan water delivered to Three Valleys and Upper District for replenishment of the Basin. Introduction of AWT Water into the Basin may require additional facilities, separate from the existing facilities currently utilized by LA County Public Works to introduce Metropolitan potable water into the Basin.
- H. At times, Metropolitan may not have sufficient quantities of imported water to meet the Watermaster's immediate Supplemental Water requirements to deliver into the Basin. To ensure additional consistency and reliability of Metropolitan deliveries, Three Valleys and Upper District are interested in purchasing and receiving AWT Water by Metropolitan via the AWT Conveyance System to meet the Watermaster's replenishment demands for the Basin.
- I. Due to the size, complexity and anticipated capital investment required of Metropolitan for the Program, it will be beneficial for all Parties to coordinate and collaborate, as appropriate, during the developmental stages of the Program. Such coordination and collaboration will ensure that the system is planned, designed, constructed and operated in a manner consistent with the best interests of the Parties and to ensure delivery of AWT Water into the Basin is feasible. Coordination and collaboration between the Parties is also necessary to ensure the development of a commitment by Three Valleys and Upper District to purchase AWT Water from the Program.

#### **TERMS**

- 1. INTENT OF THE PARTIES:
  - a. The Parties intend to develop a plan to ensure that deliveries of AWT Water from the Program can be introduced into the Basin. To that end, the Parties intend to:
    - i. Collaborate to provide all information the Watermaster, LA County Public Works, or any regulatory agency, may need to approve introduction of AWT Water into the Basin;
    - ii. Identify and examine potential water quality issues and specifications related to the Program that may affect the Watermaster's, or any regulatory agency's,

approval;

- iii. Identify any related research, testing, and other technical work necessary to address any concerns raised by the Watermaster, or regulatory agency, in connection with approval of introduction of AWT Water into the Basin;
  - iv. Collaborate on regulatory developments related to introduction of AWT Water into the Basin;
  - v. Collaborate to develop an agreement with LA County Public Works for its operation of facilities necessary to introduce AWT Water into the Basin, including construction of new facilities that may be required for introduction of AWT Water into the Basin;
  - vi. Develop plans for any new infrastructure that may be necessary to introduce AWT Water into the Basin; Identify opportunities to expand scope of water deliveries to include other responsible agencies and adjacent groundwater basins; and
  - vii. Develop additional areas for collaboration and support, as identified by the Parties.
- b. It is the intent of the Parties to collaborate in the development of a set of agreements between the Parties for:
- i. the long-term purchase and receipt of at least 6,500AFY AWT Water by Three Valleys and at least 35,000 AFY AWT Water by Upper District, with a maximum range of 60,000 to 80,000 AFY AWT, collectively, for both parties, and Metropolitan's delivery of AWT Water to Three Valleys and Upper District;
  - ii. the Watermaster's approval of delivery of AWT water into the Basin, pursuant to a purchase agreement between Metropolitan and each of Three Valleys and Upper District; and

## 2. NON-BINDING INTENT

The provisions of this LOI represent a statement of the Parties' general intent only, and shall not be binding on either Party. No Party shall have any obligation to enter into any agreement listed in Section 1.b., or otherwise, and no course of conduct of the Parties shall evidence any binding obligations. Each Party fully understands that the terms and conditions of any agreements developed pursuant to Section 1.b. are subject to approval by the General Manager and the Board of Directors of Three Valleys, the General Manager and the Board of Directors of Upper District, the General Manager and the Board of Directors of Metropolitan, the Executive Officer and Board of the Watermaster. No Party shall have any legal obligations to the other unless and until all of the terms and conditions of each of the proposed agreements have been negotiated and agreed to by all Parties and set forth in the agreements, approved by the legislative bodies of all Parties, and signed and delivered by all Parties.

### 3. NOTICES AND CORRESPONDENCE

Any notice or correspondence under this LOI must be in writing and addressed as follows:

The Metropolitan Water District of Southern California  
Post Office Box 54153  
Los Angeles, CA 90054-0153  
Attn: John Bednarski, Group Manager, Engineering Services  
With a courtesy copy by email to: [jbednarski@mwdh2o.com](mailto:jbednarski@mwdh2o.com)

Three Valleys Municipal Water District  
1021 E. Miramar Avenue  
Claremont, CA 91711  
Attn: Matthew H. Litchfield, General Manager/Chief Engineer  
With a courtesy copy by email to: [mlitchfield@tvmwd.com](mailto:mlitchfield@tvmwd.com)

Upper San Gabriel Valley Municipal Water District  
602 E. Huntington Drive, Suite B  
Monrovia, CA 91016  
Attn: Tom A. Love, General Manager  
With a courtesy copy by email to: [tom@usgvmwd.org](mailto:tom@usgvmwd.org)

Main San Gabriel Basin Watermaster  
725 North Azusa Avenue  
Azusa, CA 91702  
Attn: Anthony C. Zampello, Executive Officer  
With a courtesy copy by email to: [tonyz@watermaster.org](mailto:tonyz@watermaster.org)

A properly addressed notice will be effective on the day of delivery, if delivered directly by a Party or by a nationally recognized delivery service, or on the third day after mailing, if sent postage prepaid by U.S. Mail. The Parties shall transmit a courtesy copy of any notice to the other Party by email on the day the notice is sent.

Either Party may change the address listed in this section by providing five days' notice to the other Party.

### 4. COUNTERPARTS

This Agreement may be executed in counterparts, and signatures transmitted via facsimile or electronic mail shall be deemed to be originals.

**THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA**

Jeffrey Kightlinger

By: \_\_\_\_\_

General Manager

Date: \_\_\_\_\_

July 14, 2020

**APPROVED AS TO FORM:**

Marcia Scully

By: \_\_\_\_\_

General Counsel

**THREE VALLEYS MUNICIPAL WATER DISTRICT**

Matthew Litchfield P.E.

By: \_\_\_\_\_

General Manager

Date: \_\_\_\_\_

June 16, 2020

**APPROVED AS TO FORM & LEGALITY:**

Steven M. Kennedy

By: \_\_\_\_\_

General Counsel

Date: \_\_\_\_\_

June 16, 2020

**UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT**

Thomas A. Love

By:   
General Manager



Date: May 26, 2020

**APPROVED AS TO FORM & LEGALITY:**

Steven O'Neill

By:   
General Counsel

Date: May 26, 2020

**MAIN SAN GABRIEL BASIN WATERMASTER**

Anthony Zampello

By: \_\_\_\_\_  
Executive Officer

Date: \_\_\_\_\_

**APPROVED AS TO FORM & LEGALITY:**

By: \_\_\_\_\_  
Legal Counsel

Date: \_\_\_\_\_

**UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT**

Tom A. Love

By: \_\_\_\_\_  
General Manager

Date: \_\_\_\_\_

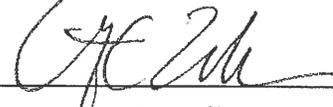
**APPROVED AS TO FORM & LEGALITY:**

By: \_\_\_\_\_  
General Counsel

Date: \_\_\_\_\_

**MAIN SAN GABRIEL BASIN WATERMASTER**

Anthony Zampiello

By:  \_\_\_\_\_  
Executive Officer

Date: 6-5-2020

**APPROVED AS TO FORM & LEGALITY:**

Frederic Fudacz

  
By: \_\_\_\_\_  
Legal Counsel

Date: 6-15-2020



### 3. West Coast and Central Basin Agencies

- City of Long Beach
- City of Torrance
- Water Replenishment District



**LETTER OF INTENT TO COLLABORATE ON THE DEVELOPMENT OF FUTURE  
AGREEMENTS FOR THE PURCHASE AND DELIVERY OF ADVANCED TREATED WATER FOR  
REPLENISHMENT OF THE CENTRAL AND WEST COAST GROUNDWATER BASINS**

- A. This LETTER OF INTENT (LOI) is made by and between THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA (Metropolitan), the CITY OF LONG BEACH acting through its Board of Water Commissioners (Long Beach), the CITY OF TORRANCE (Torrance), and the WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA (WRD), who may be referred to individually as "Party" or collectively as "Parties."

**RECITALS**

- B. Metropolitan and County Sanitation No. 2 of Los Angeles County (Sanitation District) are working together to develop a Regional Recycled Water Program (Program). The objective of the Program is to produce up to 150 million gallons per day (MGD) of advanced treated water (AWT Water) from a new advanced water treatment (AWT) facility located at the Sanitation District's Joint Water Pollution Control Plant in Carson, California (Metropolitan AWT Facility). The Program's development may be phased, starting at lower levels of production with the potential to build up to 150 MGD of production as demands and conditions warrant.
- C. If the Program is approved by Metropolitan's Board of Directors, it will also include plans for the development of a conveyance system consisting of approximately 60 miles of pipeline and a series of pump stations (AWT Conveyance System). The AWT Conveyance System could potentially deliver up to 150 MGD of AWT Water to the Central, West Coast, Orange County and Main San Gabriel Groundwater Basins for indirect potable reuse (IPR) through replenishment of those Basins. Delivery locations along the alignment will consist of either existing or new groundwater spreading basins or new or existing injection wells.
- D. The AWT Conveyance System could also deliver some of the AWT Water to Member Agencies in the Los Angeles and Long Beach Harbor areas for delivery to industrial customers of those Member Agencies. Additionally, some of the AWT Water may be delivered through an extension of the AWT Conveyance System to certain Metropolitan treatment plants for direct potable reuse (DPR) through raw water augmentation.
- E. Water rights have been adjudicated in the West Coast Basin and Central Basin (the "Basins") according to the Judgment in Los Angeles County Superior Court; Civil Action No. C786656 entitled "Central and West Basin Water Replenishment District, etc. v. Charles E. Adams, et al., and Civil Action No. C506806 entitled "California Water Service Co., et. al. vs City of Compton, et al. (herein collectively referred to as "the Judgments"), which have been amended over time. The Judgments also establish a Watermaster, which includes three bodies: 1) the Administrative Body, comprised of WRD, who administers the Watermaster accounting and reporting functions, 2) the Water Rights Panel, comprised of water rights holders who are selected through election and/or appointment, enforces issues related to pumping rights within the Judgments, and 3) the Storage Panel, which is

010-07079

comprised of the Water Rights Panel and the WRD Board of Directors, who together approves certain groundwater storage efforts. WRD's service area overlies the Basins and engages in activities of capturing, purchasing, and producing supplemental water for replenishing the Basins. Long Beach is a water rights holder under the Judgments for the Central Basin and is a member agency of Metropolitan. Torrance is a water rights holder under the Judgment for the West Coast Basin and is a member agency of Metropolitan. Long Beach and Torrance purchase water from Metropolitan and are capable of selling water to WRD for replenishment of the Basins.

- F. WRD is leading the development of a Regional Brackish Water Reclamation Program (Brackish Program) to remediate a brackish groundwater plume in the West Coast Basin and utilize unused groundwater rights to provide to a new water supply for potable consumption. WRD and the Brackish Program Stakeholders are currently completing a Feasibility Study to evaluate potential project location, capacities, and treatment technologies. WRD and the Stakeholders have identified Brackish Program capacity alternatives of up to 20,000 acre-feet per year. If the Brackish Program is finalized and approved by the WRD Board of Directors, it will also include a groundwater replenishment component to mitigate basin water level impacts and constrain plume migration. Replenishment scenarios, locations and quantities are still in development. Torrance is one of several Stakeholders participating in the Regional Brackish Water Reclamation Program and is interested in purchasing and receiving AWT Water by Metropolitan via the AWT Conveyance System to meet WRD's additional replenishment demands associated with the Brackish Program.
  
- G. Furthermore, as specified in the Judgments, there exists a total of 450,000 acre-feet of available dewatered space within the Basins (330,000-acre-feet total in the Central Basin and 120,000 acre-feet in the West Coast Basin). That dewatered space is allocated between the Adjudicated Storage Capacity and a Basin Operating Reserve. In accordance with the Judgments, WRD may use the Basin Operating Reserve to manage available sources of water and otherwise fulfill its replenishment functions. As parties to the Judgments, Long Beach and Torrance may utilize the space available in the Adjudicated Storage Capacity for groundwater storage and/or augmentation projects in the Basins, by any means authorized under the Amended Judgments.
  
- H. The WRD Board of Directors has recently adopted the "WIN 4 ALL" Program to work with the pumping community, including Long Beach and Torrance, to plan and develop groundwater storage and augmentation projects that will utilize the available dewatered space within the Basins for increased regional sustainability and to provide water supply resiliency. The AWT supplies developed within the Program could serve as a potential water supply source for future groundwater augmentation and storage project development. As Metropolitan member agencies, Long Beach and Torrance could serve as purchasers of AWT supplies from the Program for projects developed within the WIN 4 ALL Program.

- I. Due to the size, complexity and anticipated capital investment required of Metropolitan for the Program, it will be beneficial for all Parties to coordinate and collaborate, as appropriate, during the developmental stages of the Program. Such coordination and collaboration will ensure that the system is planned, designed, constructed and operated in a manner consistent with the best interests of the Parties and to ensure delivery of AWT Water into the Basins is feasible. Coordination and collaboration between the Parties is also necessary to ensure the development of a commitment by Long Beach and Torrance to purchase AWT Water from the Program.

#### TERMS

1. INTENT OF THE PARTIES:
  - a. The Parties intend to develop a plan to ensure that deliveries of any AWT Water produced by the Program can be introduced into the Basins. To that end, the Parties intend to:
    - i. Collaborate to provide all information any regulatory agency may need to approve introduction of AWT Water into the Basins;
    - ii. Identify and examine potential water quality issues and specifications related to the Program that may affect the any regulatory agency's approval for introduction of AWT Water into the Basins;
    - iii. Identify any related research, testing, and other technical work necessary to address any concerns raised by any regulatory agency in connection with approval of introduction of AWT Water into the Basins;
    - iv. Collaborate on regulatory developments related to introduction of AWT Water into the Basins;
    - v. Develop plans for any new infrastructure that may be necessary to introduce AWT Water into the Basins; and
    - vi. Develop additional areas for collaboration and support, as identified by the Parties.
  - b. It is the intent of the Parties to collaborate in the development of a set of agreements between the Parties setting forth:
    - i. The cost of obtaining AWT Water;
    - ii. Locations of infrastructure to deliver AWT Water into the Central and West Coast Basins; and
    - iii. The long-term purchase and receipt of up to 81,000 AFY of AWT Water in total by Long Beach and WRD via MWD member agencies, including Long Beach and Torrance, to be used for groundwater replenishment, augmentation, and storage projects within the Basins and for commercial and industrial purposes in the Harbor areas.

2. NON-BINDING INTENT

The provisions of this LOI represent a statement of the Parties' general intent only, and shall not be binding on either Party. No Party shall have any obligation to enter into any agreement listed in Section 1.b., or otherwise, and no course of conduct of the Parties shall evidence any binding obligations. Each Party fully understands that the terms and conditions of any agreements developed pursuant to Section 1.b. are subject to approval by the Board of Water Commissioners of the City of Long Beach, the City Council of Torrance, the Board of Directors of WRD, and the General Manager and the Board of Directors of Metropolitan. No Party shall have any legal obligations to the other unless and until all of the terms and conditions of each of the proposed agreements have been negotiated and agreed to by all Parties and set forth in the agreements, approved by the legislative bodies of all Parties, and signed and delivered by all Parties.

3. NOTICES AND CORRESPONDENCE

Any notice or correspondence under this LOI must be in writing and addressed as follows:

The Metropolitan Water District of Southern California  
Post Office Box 54153  
Los Angeles, CA 90054-0153  
Attn: John Bednarski, Group Manager, Engineering Services  
With a courtesy copy by email to: [jbednarski@mwdh2o.com](mailto:jbednarski@mwdh2o.com)

Long Beach Water Department  
1800 E. Wardlow Road  
Long Beach, CA 90807  
Attn: Christopher J. Garner, General Manager  
With a courtesy copy by email to: [dean.wang@lbwater.org](mailto:dean.wang@lbwater.org)

City of Torrance  
20500 Madrona Avenue  
Torrance, CA 90503  
Attn: Craig Bilezerian, Public Works Director  
With courtesy copies by email to: [adarlak@torranceca.gov](mailto:adarlak@torranceca.gov)  
: [cschaich@torranceca.gov](mailto:cschaich@torranceca.gov)  
: [mknapp@torranceca.gov](mailto:mknapp@torranceca.gov)

Water Replenishment District of Southern California  
4040 Paramount Boulevard  
Lakewood, CA 90712  
Attn: Robb Whitaker, General Manager  
With a courtesy copy by email to: [dgatza@wrd.org](mailto:dgatza@wrd.org)

A properly addressed notice will be effective on the day of delivery, if delivered directly by a Party or by a nationally recognized delivery service, or on the third day after mailing, if sent postage prepaid by U.S. Mail. The Parties shall transmit a courtesy copy of any notice to the other Party by email on the day the notice is sent.

Either Party may change the address listed in this section by providing five days' notice to the other Party.

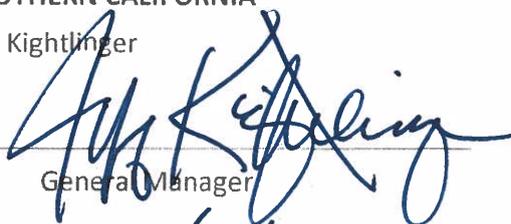
4. COUNTERPARTS

This Agreement may be executed in counterparts, and signatures transmitted via facsimile or electronic mail shall be deemed to be originals.

**THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA**

Jeffrey Kightlinger

By: \_\_\_\_\_



General Manager

Date: \_\_\_\_\_

9/10/20

**APPROVED AS TO FORM:**

Marcia Scully

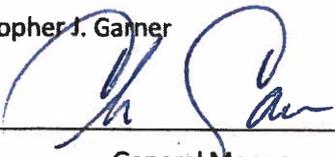
By: \_\_\_\_\_



General Counsel

**BOARD OF WATER COMMISSIONERS OF THE CITY OF LONG BEACH,  
ACTING FOR AND ON BEHALF OF THE CITY OF LONG BEACH AND ON ITS  
OWN BEHALF**

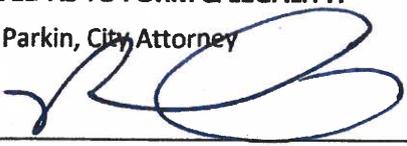
Christopher J. Garner

By:   
General Manager

Date: 8/12/20

**APPROVED AS TO FORM & LEGALITY:**

Charles Parkin, City Attorney

By:   
Deputy City Attorney

**CITY OF TORRANCE**

Patrick J. Furey

By: \_\_\_\_\_  
Mayor

Date: \_\_\_\_\_

**ATTEST:**

Rebecca Poirier, MMC

BY: \_\_\_\_\_  
City Clerk

**APPROVED AS TO FORM:**

Patrick Q Sullivan

By: \_\_\_\_\_  
City Attorney

**BOARD OF WATER COMMISSIONERS OF THE CITY OF LONG BEACH,  
ACTING FOR AND ON BEHALF OF THE CITY OF LONG BEACH AND ON ITS  
OWN BEHALF**

Christopher J. Garner

By: \_\_\_\_\_

General Manager

Date: \_\_\_\_\_

**APPROVED AS TO FORM & LEGALITY:**

Charles Parkin, City Attorney

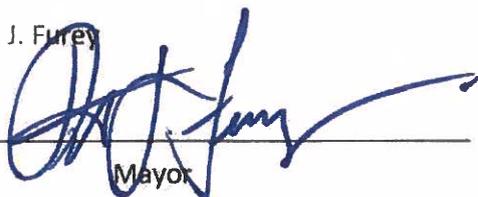
By: \_\_\_\_\_

Deputy City Attorney

**CITY OF TORRANCE**

Patrick J. Furey

By: \_\_\_\_\_



Mayor

Date: 7/20/2020

**ATTEST:**

Rebecca Poirier, MMC

BY: \_\_\_\_\_

  
Eric City Clerk Rebecca Poirier

**APPROVED AS TO FORM:**

Patrick Q Sullivan

By: \_\_\_\_\_

 **JOCELYN N. SARIGUMBA**

**FOR** City Attorney

WATER REPLENISHMENT DISTRICT OF SOUTHERN CALIFORNIA

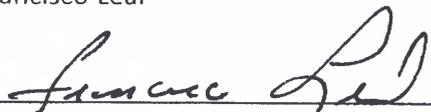
Robb Whitaker

By:   
General Manager

Date: 8/20/2020

APPROVED AS TO FORM & LEGALITY:

H. Francisco Leal

By:   
District Counsel

## 4. Los Angeles County Flood Control District



**LETTER OF INTENT TO COLLABORATE ON THE DEVELOPMENT OF A FUTURE  
MEMORANDUM OF UNDERSTANDING RELATED TO ADVANCED TREATED WATER  
DELIVERY SYSTEMS BETWEEN THE METROPOLITAN WATER DISTRICT OF SOUTHERN  
CALIFORNIA AND THE LOS ANGELES COUNTY FLOOD CONTROL DISTRICT**

This LETTER OF INTENT (LOI) is made by and between THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA (Metropolitan) and the LOS ANGELES COUNTY FLOOD CONTROL DISTRICT (LACFCD), who may be referred to individually as "Party" or collectively as "Parties."

**BACKGROUND**

- A. Metropolitan and County Sanitation No. 2 of Los Angeles County (Sanitation District) are working together to develop a Regional Recycled Water Program (Program). The objective of the Program is to produce up to 150 million gallons per day (MGD) of advanced treated water from a new advanced water treatment (AWT) facility located at the Sanitation District's Joint Water Pollution Control Plant in Carson, California (Metropolitan AWT Facility). The Program's development may be phased, starting at lower levels of production with the potential to build up to 150 MGD of production as demands and conditions warrant.
- B. If the Program is finalized and approved by Metropolitan's Board of Directors, it will also include plans for the development of a conveyance system consisting of approximately 60 miles of pipeline and a series of pump stations (AWT Conveyance System). The AWT Conveyance System could potentially deliver up to 150 MGD of treated water to the Central, West Coast, Orange County and Main San Gabriel Groundwater Basins. The alignment of the AWT Conveyance System could potentially include facilities and property owned by the LACFCD and delivery locations along the alignment could potentially include existing groundwater spreading basins operated by the LACFCD. Metropolitan has divided the pipeline alignment into five segments for consideration of a phased construction approach.
- C. Due to the size, complexity and anticipated capital investment required of the Program, Metropolitan desires to coordinate and collaborate with the LACFCD, as appropriate, during the developmental stages of the Program. Such coordination and collaboration will help ensure that the AWT Conveyance System is planned, designed, constructed, and operated in a manner consistent with the facilities and property of the LACFCD, and will enable the parties to explore the feasibility and desirability of utilizing the facilities and property of the LACFCD in the AWT Conveyance System.

## TERMS

### 1. INTENT AND COMPONENTS:

- a. It is the intent of the Parties to collaborate in the development of a potential future MOU memorializing the respective roles and responsibilities of the Parties in regard to a cooperative study of the feasibility, benefits and challenges of utilizing the facilities and property of the LACFCD in the AWT Conveyance System.
- b. The cooperative study could include the following topics:
  - i. Help ensure continuity and compatibility of the AWT Conveyance System with LACFCD's facilities, operations, and property;
  - ii. Identify and examine potential water quality issues and specifications related to utilizing the LACFCD's facilities and property in the AWT Conveyance System;
  - iii. Identify related research, testing, and other technical collaborations;
  - iv. Identify potential opportunities for collaboration on regulatory developments related to the Program and LACFCD's facilities, operations, and property; and
  - v. Identify additional areas for collaboration and mutual support.
- c. The Parties intend that the potential future MOU could include collaboration on any additional, more detailed studies that the Parties determine are necessary to evaluate the feasibility, benefits and challenges of utilizing the facilities and property of the LACFCD in the AWT Conveyance System. These studies may include the economic and technical feasibility, financing needs, right of way and permitting requirements, environmental and regulatory compliance obligations, brine discharge requirements, and engineering, construction, operational, and water quality specifications.

2. The provisions of this LOI represent a statement of the Parties' general intent only and shall not be binding on either Party. Neither Party shall have any obligation to enter into any MOU, and no course of conduct of the Parties shall evidence any binding obligations. Each Party fully understands that whether or not to enter into any future MOU as well as the terms and conditions of that MOU are subject to approval by the Chief Engineer of the Los Angeles County Flood Control District or its Board of Supervisors, as appropriate, and the Metropolitan Board of Directors, and that no Party shall have any legal obligations to the other unless and until all of the terms and conditions of the proposed MOU have been negotiated and agreed to by all Parties and set forth in the proposed MOU, and signed and delivered by all Parties.

### 3. NOTICES

Any notice under this LOI must be in writing and addressed as follows:

The Metropolitan Water District of Southern California  
Post Office Box 54153  
Los Angeles, CA 90054-0153  
Attn: John Bednarski, Group Manager, Engineering Services  
With a courtesy copy by email to: [jbednarski@mwdh2o.com](mailto:jbednarski@mwdh2o.com)

Los Angeles County Flood Control District  
900 S. Fremont Ave.  
Alhambra, CA 91803  
Attn: Dan Lafferty, Deputy Director  
With a courtesy copy by email to: [dlaff@dow.lacounty.gov](mailto:dlaff@dow.lacounty.gov)

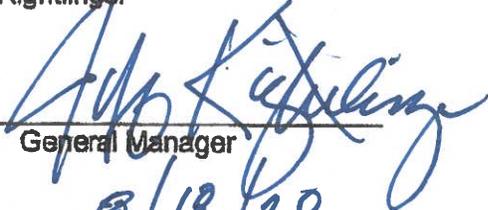
A properly addressed notice will be effective on the day of delivery, if delivered directly by a Party or by a nationally recognized delivery service, or on the third day after mailing, if sent postage prepaid by United States Mail. The Parties shall transmit a courtesy copy of any notice to the other Party by email on the day the notice is sent.

Either Party may change the address listed in this section by providing five days' notice to the other Party. The Parties are signing this LOI in duplicate originals.

4. COUNTERPARTS

This LOI may be executed in counterparts, and signatures transmitted via facsimile or electronic mail shall be deemed to be originals.

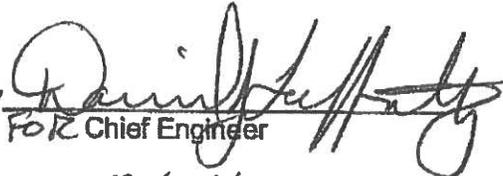
**THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA**  
Jeffrey Kightlinger

By:   
General Manager  
Date: 9/18/20

**APPROVED AS TO FORM:**  
Marcia Scully

By:   
General Counsel

**LOS ANGELES COUNTY  
FLOOD CONTROL DISTRICT,  
A body corporate and politic**

By   
FOR Chief Engineer

Date: 08/15/20

**APPROVED AS TO FORM:**

MARY C. WICKHAM  
County Counsel

By   
Deputy

## 5. Southern Nevada Water Authority



LETTER OF INTENT TO COLLABORATE ON THE DEVELOPMENT OF A FUTURE  
DEVELOPMENT AGREEMENT RELATED TO ADVANCED TREATED WATER DELIVERY  
SYSTEMS BETWEEN THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA  
AND THE SOUTHERN NEVADA WATER AUTHORITY

This LETTER OF INTENT (“LOI”) is made by and between THE METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA (“Metropolitan”) and the SOUTHERN NEVADA WATER AUTHORITY (“SNWA”), who may be referred to individually as “Party” or collectively as “Parties.”

BACKGROUND

- A. SNWA is a Nevada joint powers authority and political subdivision of the State of Nevada, created by agreement dated July 25, 1991, as amended November 17, 1994, and January 1, 1996, pursuant to Nevada Revised Statutes § 277.180, inclusive. Metropolitan is a water district established under the California Metropolitan Water District Act, codified in Section 109-1 et seq., of the Appendix to the West’s Annotated California Water Code, for the purpose of serving water to the coastal plain of southern California. The Parties have collaborated on previous projects and agreements involving water supplies and continue to seek new strategies to help maximize the availability of limited water supplies.
- B. Metropolitan and SNWA are working together to develop a Regional Recycled Water Program (“Project”). The objective of the Project is to produce up to 150 million gallons per day (“MGD”) of advanced treated water from a new advanced water treatment (“AWT”) facility located at Los Angeles County Sanitation District’s Joint Water Pollution Control Plant in Carson, California (“Metropolitan AWT Facility”). The Project’s development may be phased, starting at lower levels of production with the potential to build up to 150 MGD of production as demands and conditions warrant.
- C. If the Project is finalized and approved by Metropolitan’s Board of Directors, it will also include plans for the development of a conveyance system consisting of approximately 60 miles of pipeline and a series of pump stations (“AWT Conveyance System”). The AWT Conveyance System could potentially deliver up to 150 MGD of treated water to the Central, West Coast, Orange County and Main San Gabriel Groundwater Basins. Delivery locations along the alignment will consist of either existing groundwater spreading basins, new or existing injection wells, or industrial customers of Member Agencies in the Los Angeles and Long Beach Harbor areas, or raw water augmentation. Metropolitan has divided the pipeline alignment into five segments for consideration of a phased construction approach.
- D. Due to the size, complexity and anticipated capital investment required for the Project, SNWA will assist in the Project development by providing resources to assist with the planning, design, and construction of the Project. These resources may include, but are not limited to, time, materials, expertise, and financial investment.
- E. The Parties intend to exchange Project water volumes for MWD Colorado River allocation water volumes, conditioned upon final Project authorization and pursuant to the terms of the Development Agreement.

## TERMS

1. **Intent:** It is the intent of the Parties to lay the foundation for a cooperative working relationship, to establish the role of each Party in that relationship as they continue to work together to further their common goal of developing the Project, and to lay the foundation for a joint development agreement to develop the Project and allocate future water disbursements (“Development Agreement”).
2. **Additional Parties:** The Parties recognize that other entities may be of assistance from time to time in various capacities and that the Parties may desire to add such entities as Parties to this LOI or to the Development Agreement. Accordingly, the Parties may at any time agree in writing to add Parties to this LOI, and anticipate including within the Development Agreement provisions for the addition of Parties by mutual, written consent.
3. **Development Agreement:** The Parties anticipate that the Development Agreement will describe the scope of the Project, including studies, planning, design, and construction; describe the distribution and allocation of resources to be provided by each Party toward the development of the Project; commit the Parties to future water distributions upon Project completion; and provide for the ongoing relationship between the Parties as it relates to the Project upon Project completion. Ancillary agreements with third parties may also be necessary as will regulatory changes. The Parties will cooperate to implement such agreements and regulations, inclusive of Colorado River operational rules providing any necessary flexibility for contemplated water exchanges.
4. **Project Representative:** Each Party will designate a project representative to represent the Parties on all issues relating to the Project. Within 30 days of the execution of this LOI, the Parties will identify their respective Project Representative through the notice provisions provided in Section 8 this LOI.
5. **Project Workplans:** Prior to executing the Development Agreement, the Parties may develop a project workplan (“Project Workplan”) that will define tasks to be completed, an approximate schedule for completing the tasks, and, if necessary, the funding or personnel requirements for such tasks. The Project Representatives will oversee the task of developing the Project Workplan and shall review and revise the Project Workplan as necessary.
6. **Technical Collaboration:** The Parties acknowledge that the Project will require advanced technical skills and expertise and that sharing such information is an essential component of their collaboration. To support technical collaboration throughout the Project, the Parties agree to:
  - a. Share information and technology to the greatest extent allowable under their governing legislation and confidentiality requirements;
  - b. Reasonably provide personnel as necessary to assist in implementing shared information and technology;
  - c. Subject to applicable public records laws, maintain all records of Parties in the strictest confidence and use them solely for purposes directly related to such services or as required by law;
  - d. Develop technological enhancements that allow interfaces of common information needs, as appropriate; and

- e. Ensure that sufficient system security provisions shall be utilized by the Parties.

7. **Funding and SNWA Staff Time:**

- a. If necessary, funding for the Project prior to the effective date of the Development Agreement will be provided for in a Project Workplan. The Parties agree that such funding will come from a variety of sources. However, the Parties understand that they will each be responsible for a share of the costs related to the Project.
- b. SNWA's participation in funding for the Project will require approval from the SNWA Board of Directors. Until such approval, SNWA may commit SNWA staff time and resources necessary to facilitate the development process in a timely manner and may assume and be responsible for all internal costs associated with that process, including, but not limited to, the costs of reviewing, analyzing, and commenting upon the Project, environmental studies and review, Project Workplans, Transaction Documents, lobbying efforts, and necessary reports.
- c. The ability to complete the services identified in this LOI are contingent upon the availability of sufficient funds in the budgets approved by the Parties' respective governing bodies.

8. **Non-Binding:** The provisions of this LOI represent a statement of the Parties' general intent only, and shall not be binding on either Party. Neither Party shall have any obligation to enter into the Development Agreement, and no course of conduct of the Parties shall evidence any binding obligations.

9. **Notices:** Any notice under this LOI must be in writing and addressed as follows:

The Metropolitan Water District of Southern California  
Post Office Box 54153  
Los Angeles, CA 90054-0153  
Attn: Deven Upadhyay  
With a courtesy copy by email to [DUpadhyay@mwdh2o.com](mailto:DUpadhyay@mwdh2o.com)

Southern Nevada Water Authority  
1001 South Valley View Boulevard  
Las Vegas, NV 89153  
Attn: General Manager  
With a courtesy copy by email to [greg.walch@lvvwd.com](mailto:greg.walch@lvvwd.com)

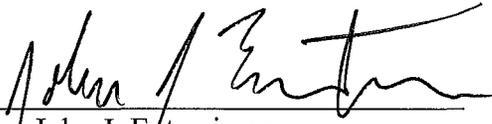
A properly addressed notice will be effective on the day of delivery, if delivered directly by a Party or by a nationally recognized delivery service, or on the third day after mailing, if sent postage prepaid by U.S. Mail. The Parties shall transmit a courtesy copy of any notice to the other Party by email on the day the notice is sent.

Either Party may change the address listed in this section by providing five days' notice to the other Party.

[Signatures Next Page]

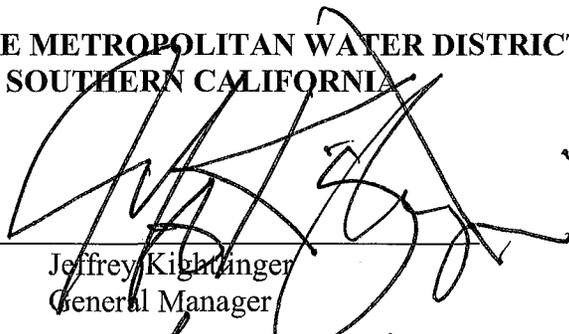
The Parties are signing this LOI in duplicate originals.

**SOUTHERN NEVADA WATER AUTHORITY**

By:   
John J. Entsminger  
General Manager

Date: 3.12.20

**THE METROPOLITAN WATER DISTRICT  
OF SOUTHERN CALIFORNIA**

By:   
Jeffrey Kightlinger  
General Manager

Date: March 12, 2020

## 6. Central Arizona Project/Arizona Department of Water Resources





1110 W Washington St. Suite 310 - Phoenix, AZ 85007 - 602-771-8500



P.O. Box 43020 - Phoenix, AZ 85080 - 623-869-2333

August 26, 2020

Gloria D. Gray, Chairwoman  
Metropolitan Water District of Southern California  
P.O. Box 54153  
Los Angeles, CA 90054-0153

Dear Chairwoman Gray:

The Arizona Department of Water Resources (ADWR) and the Central Arizona Water Conservation District (CAWCD) would like to pursue collaborative efforts toward the development of the Metropolitan Water District of Southern California's (MWD) Regional Recycled Water Program (Project). The Project will purify wastewater to produce high quality water that could be reused and potentially offset use of imported water supplies including Colorado River water.

ADWR and CAWCD believe that significant opportunities to augment the Colorado River could emerge from MWD's Project. Supply augmentation supports our mutual interest— increasing the reliability and resiliency of the Colorado River water supply. Over the years, water managers across the Colorado River basin have worked collectively to address the shared goals of increasing the reliability and resiliency of the water supply provided by the Colorado River through conservation and augmentation. CAWCD, in partnership with MWD and the Southern Nevada Water Authority ("SNWA") have jointly invested in water conservation and augmentation projects such as Brock Reservoir, the Pilot Operation of the Yuma Desalting Plant, and the Pilot System Conservation Project. More recently, ADWR, MWD, SNWA, and Colorado River Commission of Nevada (CRC-NV) entered into an ICS capacity sharing agreement to more effectively use the available ICS storage capacity provided in the Lower Basin Drought Contingency Plan ("LBDCP"). Moreover, one of the goals of the Governor's Water Augmentation, Innovation and Conservation Council, established by Arizona Governor Doug Ducey, is to investigate long-term water augmentation strategies for the state of Arizona. ADWR and CAWCD recognize the potential for MWD's Project to augment Colorado River supplies in the Lower Basin, including supplies that could benefit water users in Arizona.

Gloria D. Gray, Chairwoman

Metropolitan Water District of Southern California

August 26, 2020

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ADWR and CAWCD are pleased to submit this Letter of Interest in participating with MWD on development of the Project including collaborating on any regulatory changes that may be necessary to facilitate potential exchanges of augmented Lower Basin Colorado River supplies. We look forward to continuing our long history of cooperation and collaboration as we work toward opportunities that will benefit the entire Lower Colorado River Basin.

Sincerely,



Thomas Buschatzke  
Director  
Arizona Department of Water Resources



Theodore C. Cooke, D.B.A.  
General Manager  
Central Arizona Water Conservation District