The Water Replenishment District of Southern California

WIN4ALL

Regional Drought Resiliency at the Leo J Vander Lans AWTF

Project Managers:

Lyndsey Bloxom
Senior Analyst, Water Resources
lbloxom@wrd.org

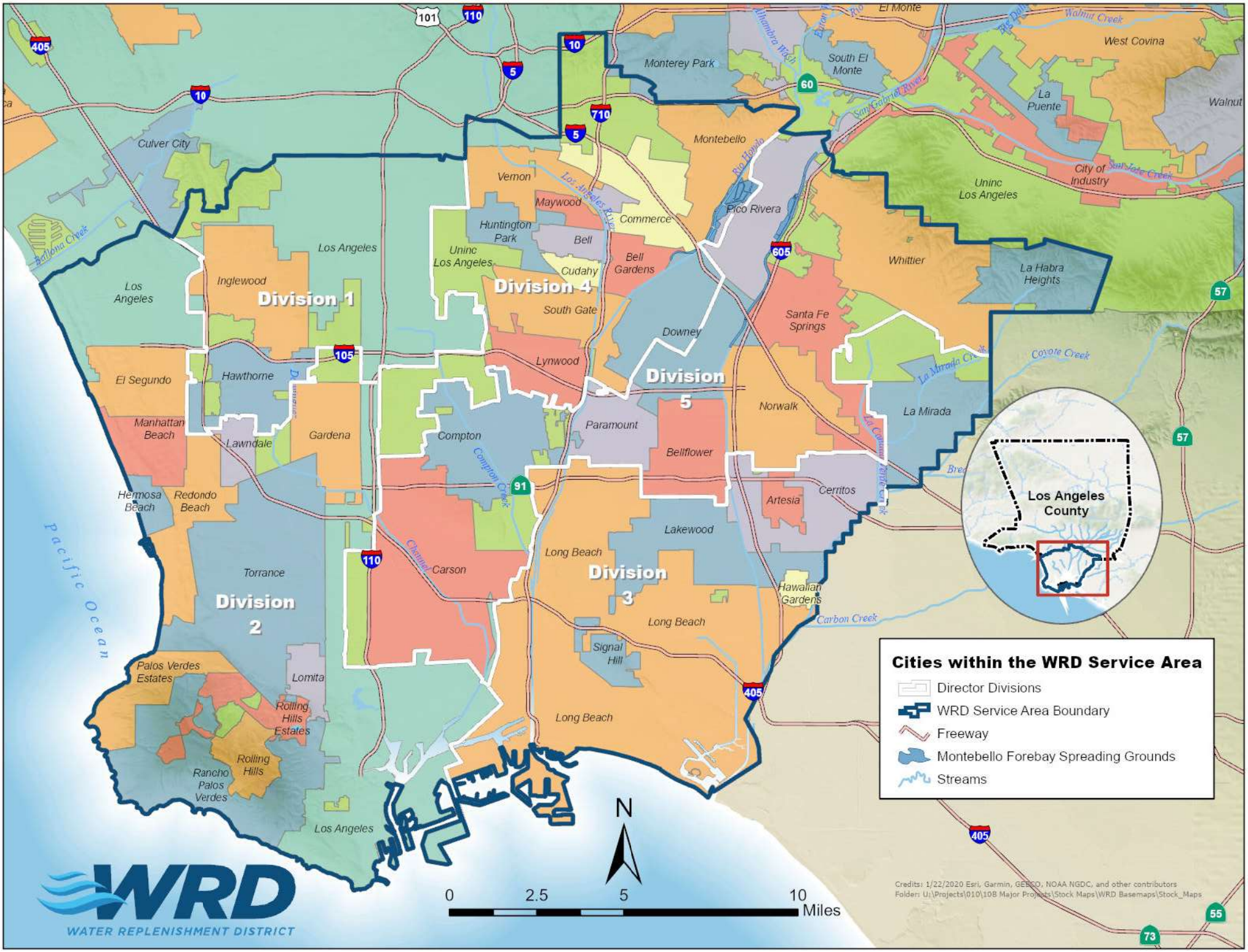
Jessica Koop, PE
Engineer
jkoop@wrd.org

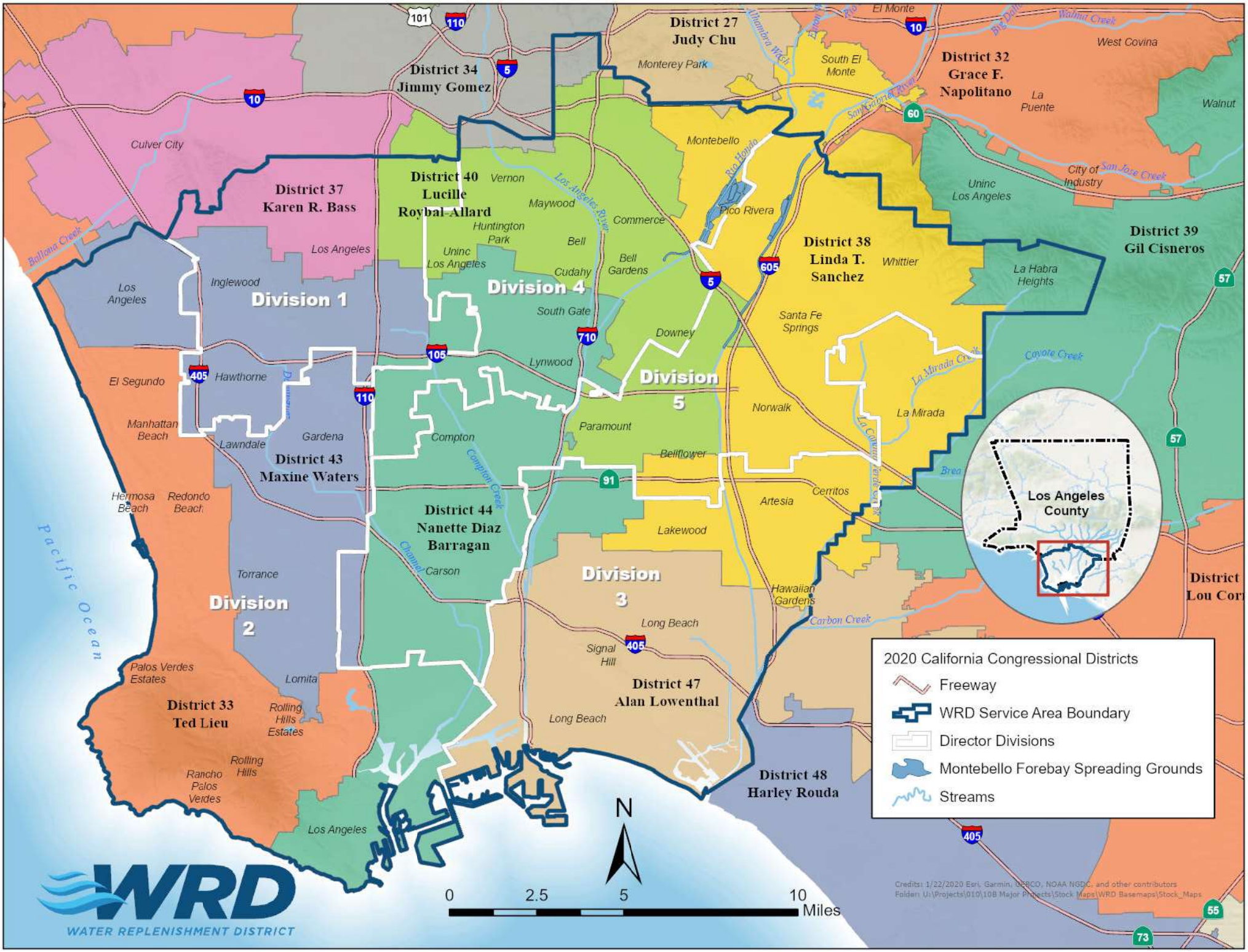
4040 Paramount Boulevard
Lakewood, CA 90712
562.275.4232

Bureau of Reclamation WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Years (FY) 2020 and 2021

FOA No. BOR-DO-20-F002

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org


Division 1
Division 2
Division 3
Division 4
Division 5
Los Angeles County
Cities within the WRD Service Area
Director Divisions
WRD Service Area Boundary
Freeway
Montebello Forebay Spreading Grounds
Streams
N
0
2.5
5
10
Miles
WRD
WATER REPLENISHMENT DISTRICT
Pacific Ocean
Los Angeles
Inglewood
Culver City
Hawthorne
El Segundo
Manhattan Beach
Hermosa Beach
Redondo Beach
Torrance
Palos Verdes Estates
Rancho Palos Verdes
Rolling Hills
Rolling Hills Estates
Lomita
Gardena
Lawndale
Compton
Carson
Long Beach
Signal Hill
Hawaiian Gardens
Lakewood
Artesia
Cerritos
Bellflower
Paramount
Norwalk
La Mirada
Santa Fe Springs
Whittier
La Habra Heights
Pico Rivera
Downey
Bell Gardens
South Gate
Lynwood
Cudahy
Bell
Huntington Park
Maywood
Vernon
Commerce
Unincorporated Los Angeles
Montebello
Monterey Park
South El Monte
El Monte
La Puente
City of Industry
Walnut
West Covina
Unincorporated Los Angeles
Credits: 1/22/2020 Esri, Garmin, GEBCO, NOAA NGDC, and other contributors


District 27
Judy Chu
District 34
Jimmy Gomez
District 32
Grace F.
Napolitano
District 37
Karen R. Bass
District 40
Lucille
Roybal-Allard
District 38
Linda T.
Sanchez
District 39
Gil Cisneros
Division 1
Division 4
Division
5
Division
2
Division
3
District 43
Maxine Waters
District 44
Nanette Diaz
Barragan
District 33
Ted Lieu
District 47
Alan Lowenthal
District 48
Harley Rouda
Culver City
Los Angeles
Inglewood
El Segundo
Manhattan
Beach
Hawthorne
Lawndale
Gardena
Hermosa
Beach
Redondo
Beach
Torrance
Palos Verdes
Estates
Rolling
Hills
Estates
Rolling
Hills
Rancho
Palos
Verdes
Lomita
Pacific Ocean
Monterey Park
South El
Monte
El Monte
West Covina
La
Puente
Walnut
Montebello
Vernon
Maywood
Huntington
Park
Bell
Commerce
Bell
Gardens
Cudahy
South Gate
Lynwood
Downey
Paramount
Compton
Bellflower
Norwalk
La Mirada
Santa Fe
Springs
Whittier
La Habra
Heights
Pico Rivera
Uninc
Los Angeles
City of
Industry
Artesia
Cerritos
Lakewood
Hawaiian
Gardens
Carson
Long Beach
Signal
Hill
Los Angeles
County
2020 California Congressional Districts
Freeway
WRD Service Area Boundary
Director Divisions
Montebello Forebay Spreading Grounds
Streams
N
0
2.5
5
10
Miles
WRD
WATER REPLENISHMENT DISTRICT

1.0 Executive Summary

Date: August 5, 2020

Applicant Name: Water Replenishment District of Southern California

Project Location: City of Long Beach, Los Angeles County, California

The Water Replenishment District of Southern California (WRD) manages two of the most heavily-utilized groundwater basins in California - the Central and West Coast basins in Los Angeles County. To improve drought resiliency and to pilot WRD's first inland groundwater injection well for utilization of basin storage, WRD proposes the WIN 4 ALL - Regional Drought Resiliency Project (project) at the Leo J Vander Lans Advanced Water Treatment Facility (LVL AWTF). When complete, this project will store an average of 2,470 acre-feet per year (AFY) of water currently discharged into the Pacific Ocean for municipal indirect use, drought resiliency, and drought mitigation within the WRD service area.

The existing LVL AWTF currently operates at half-capacity, converting 4 million gallons per day (MGD) of tertiary treated wastewater effluent from the surrounding region into highly purified water. The facility supplies this water to the Alamitos Seawater Intrusion Barrier (Alamitos Barrier), a line of freshwater injection wells that 1) prevents seawater from encroaching into groundwater supplies in Los Angeles and Orange counties and 2) replenishes these drinking water aquifers. Although available treatment capacity exists, tertiary treated water in excess of Alamitos Barrier demand is currently discharged to the Pacific Ocean without further beneficial use, wasting a valuable resource.

Figure 1. The project is located at the existing Leo J Vander Lans Advanced Water Treatment Facility in Long Beach, CA.

In the proposed project, WRD will increase throughput at the LVL AWTF to double existing treatment flows to 8 MGD, the facility's existing treatment capacity. To use this additional purified water, WRD will install a new groundwater injection well, capable of injecting up to 2 MGD of this excess water—2,016 acre-feet per year (AFY)—into the underlying drinking water aquifer for drought resilience. It will operate as WRD's first inland injection well, with the sole purpose of replenishing the aquifer for drought resiliency. During drought conditions, groundwater users in the basin will be able to access 100 percent of the water recharged and stored by this well. WRD will inject the remaining, newly treated flows—up to an additional 2 MGD—into available capacity at the Alamitos Barrier. Of that volume, all water that is not needed to maintain the protective groundwater elevations required by the barrier system—water that has historically wasted

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

to the ocean—will be considered to be in excess of barrier demand and will be managed as drought resiliency water to increase basin reserves. In total, the project will store an average of 2,470 AFY (74,100 AF over the 30-year life of the project) entirely for drought resilience within WRD's service area. Critically, this water will be available for municipal indirect use to support drought resiliency, and drought mitigation.

Demand for these significant new drought-mitigating supplies cannot be overstated. Between 2012 and 2016, California experienced a historic drought. To this day, the Los Angeles region faces continued challenges with insufficient or unreliable water supplies. Nearly 50 percent of the water consumed in WRD's service area is imported from the Colorado River and California's Bay-Delta Authority—two sources that are severely stressed, increasingly unreliable, and uncertain. Without adequate drought resilience planning relying on local water supplies, future drought period reductions in imported water availability could prove catastrophic to local populations.

WRD will deploy the project as one element of its overarching Water Independence Now (WIN 4 ALL) Program framework. The larger WIN 4 ALL program will further increase drought resilience through the utilization of 450,000 AF of available groundwater storage capacity using local recycled water and stormwater supplies. WRD has sustainably managed its groundwater basins for over 60 years and has used recycled water for groundwater replenishment since 1962. WIN 4 ALL builds on that foundation of experience to implement new groundwater storage and augmentation projects designed to decrease regional reliance on imported water supplies while expanding drought resilience. The project was selected as a first step in WIN 4 ALL implementation due to locally available unused tertiary recycled water, existing and available treatment capacity at the LVL AWTF, and available capacity at the Alamitos Barrier. The project simply requires the construction of an injection well and two monitoring wells and the result will be an immediate increase in stored groundwater resources for use in dry years or extended drought periods.

Recharge by well-based injection avoids the need for large areas of land that is typical of passive recharge projects and provides directed recharge into confined production aquifers. Under the project, highly purified water will be injected directly into the subsurface using a purpose-designed injection well. To date, WRD has only provided basin recharge along the existing Los Angeles County saltwater intrusion barrier projects (coastal portion of the service area) or in the unconfined Montebello Forebay (furthest inland portion of the service area). The project will provide a critical-need trial of the installation and use of inland (mid-basin) injection to recharge water directly into confined aquifers for drought resiliency storage. If successful, WRD will used the knowledge gained from the project to replicate it at multiple other sites within its service area, as a critical drought resiliency element of its WIN 4 ALL Program. WRD has already proposed two additional injection sites near the project that will be deployed within the next five years, if the project is successful. WRD is also working with other regional recycled water agencies to plan for multiple additional injection wells thereafter throughout the basins. Thus, the information gained from completion of this project will inform the development of up to 450,000 AF of additional supplies. It will demonstrate the effectiveness of advanced treated-water injection for groundwater storage, supporting increased drought resilience in this region.

The project is currently in the advanced planning stages. WRD will complete all engineering and initial permitting by June 2021, initiate construction and initial well testing by December 2021, and complete construction by December 2022. The project is not located on a Federal facility.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

2.0 Project Location

The proposed project will be located on site at the Leo J Vander Lans Advanced Water Treatment Facility (LVL AWTF) in Long Beach, Los Angeles County, California (7380 E Willow St., Long Beach, CA 90815). The project's latitude is 33° 48' 08.51" N and longitude is 118° 05' 13.38" W. It is located near the southeast corner of Los Angeles County, approximately two miles inland from the Pacific Ocean (Figure 1). The proposed injection well will be installed within the fence line of the LVL AWTF, approximately 100 feet east of the existing treatment facility, as shown in Figure 1. The project site and the surrounding vicinity are flat, with an elevation of approximately 24 feet above mean sea level. See attachments for further details about the site.

Figure 2. Pin shows location of the proposed injection well, at the existing LVLWTF site.

3.0 Technical Project Description

3.1 Role of WRD

WRD manages groundwater for approximately four million residents—roughly 10 percent of the entire population of the State of California—across 43 cities in southern Los Angeles County within the Central and West Coast Groundwater Basins. WRD's 420-square-mile service area consumes approximately 250,000 AFY of groundwater, which equates to nearly 50 percent of the total water demand for this area.

Historically, WRD has purchased imported water delivered by the Metropolitan Water District of Southern California (MWD) for groundwater replenishment and barrier injection. Ultimate sources of this water include the Colorado River and the Sacramento-San Joaquin Bay-Delta (Bay-Delta) system in Northern California. WRD purchases nearly 70,000 AFY of recycled water from the County Sanitation Districts of Los Angeles County (CSDLAC), West Basin Municipal Water District (WBMWD), and the Los Angeles Department of Water and Power (LADWP). Historically, WRD has also relied on imported water available from Northern California or the Colorado River. However, the availability of imported water for replenishment has become consistently less reliable due to a combination of severe drought and water export restrictions from the Bay-Delta Authority. For this reason, and to increase overall basin sustainability, WRD decided to eliminate reliance on imported water to meet annual demand. WRD's existing groundwater replenishment program is now able to meet adjudicated basin demand volumes without imported water. However, the underlying basins are still strongly vulnerable to drought. During the recent 2012 to 2016 drought, for example, groundwater levels in the basin fell substantially due to reduced natural recharge during that period. Therefore, additional replenishment supplies are needed to increase basin reserves and utilize available groundwater storage to provide drought resiliency, including during periods of extended drought.

WRD is moving to create an industry-leading, advanced water management system and infrastructure framework to ensure 100% locally sustainable groundwater supplies for the foreseeable future. To that end, WRD will deploy the project as an early stage element of its overarching WIN 4 ALL program. In 2019, WRD achieved the goals and objectives of the predecessor Water Independence Now (WIN) water conservation/reuse program, which sought to develop local, sustainable sources of water for replenishment (recycled water and stormwater), sufficient to meet 100% of in-basin approved

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

groundwater pumping without water import. Building on the successes of the WIN program, WRD is now pursuing the WIN 4 ALL program, which will use available groundwater storage space and new local supplies to offset water demands above the current annual use of groundwater. These efforts will support drought resiliency and conjunctive use within the basin, ensuring a 100% locally sustainable water supply without relying on water imported from outside of the basin (Figure 1).

To achieve the ambitious goals of WIN 4 ALL, WRD has begun developing and deploying multiple additional water replenishment and storage projects and facilities throughout its service area. Examples include:

- New replenishment / drought storage projects utilizing recycled water and stormwater supplies that are currently not put to beneficial use (i.e., the Project)
- Increased replenishment resiliency including during drought periods
- A proposed regional desalter system that will reclaim water from an aquifer that was historically inundated with saltwater inflow
- Operational enhancements to replenishment facilities
- Increased water reclamation and treatment
- Collaboration with local sanitation districts and water suppliers across the region.

WRD will deploy the proposed project as a key element of the overall WIN 4 ALL program. Refer to Appendix E-1 for further details about the site.

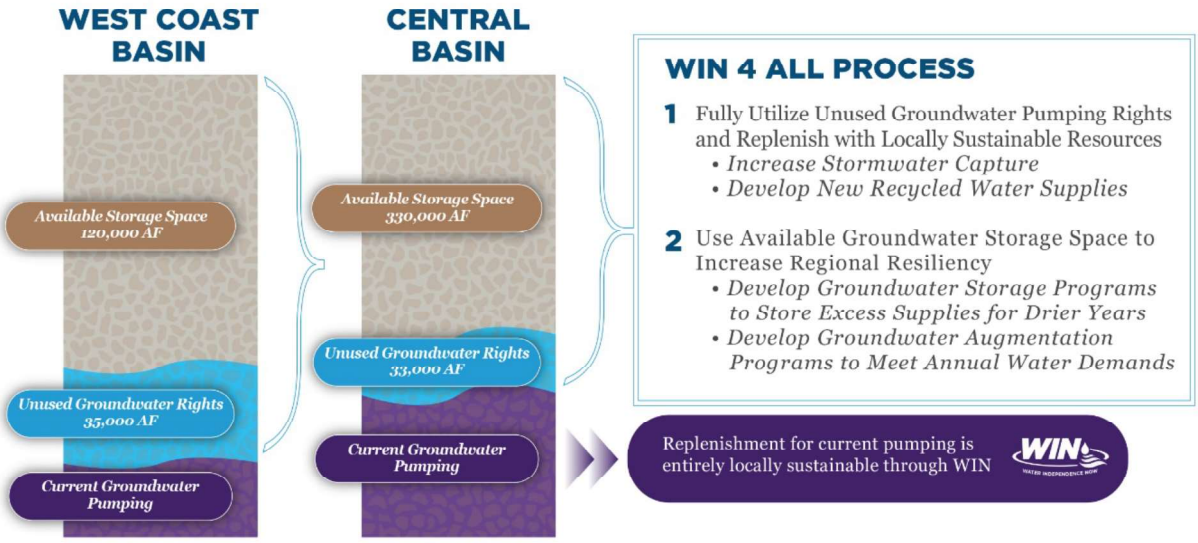


Figure 3. WRD's WIN 4 ALL program seeks to achieve a drought-resistant, 100% locally-sustainable water supply by leveraging available water storage capacity in underlying aquifers to vastly improve drought resilience in WRD's service area.

3.2 Project Goals and Objectives

The primary goal of the project is to increase drought resiliency within WRD's service area by installing a new groundwater injection well that will inject into the underlying aquifer up to 2,000,000 gallons per

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

day of advanced treated water from the LVL AWTF that is currently discharged as tertiary water to the Pacific Ocean. To achieve this goal, WRD will pursue the following objectives:

- Re-route and capture up to 4 MGD of usable, treatable tertiary wastewater that is currently released to the Pacific Ocean without further beneficial use;
- Advance treat the captured water to highly purified quality using WRD's existing LVL AWTF;
- Install and verify / validate operation of the 2 MGD capacity groundwater injection well at the LVL AWTF site, to facilitate injection to the subsurface and storage of an average of 2,016 AFY of usable water;
- Inject additional water into the existing Alamitos Barrier, above and beyond barrier demand, to provide an average of 455 AFY (at a rate of up to 2 MGD above and beyond the proposed injection well) of additional groundwater recharge for drought resiliency; and
- Make 100% of the stored water available for withdrawal and use by groundwater pumpers to offset imported water purchases and for groundwater storage programs, providing drought resilience.

Successful completion of these goals and objectives will enable WRD to add up to 74,100 AF of new groundwater recharge over the 30-year lifetime of the project, greatly increasing water availability during drought periods and helping to ensure locally available, resilient water supplies for all WRD pumpers.

3.3 Existing Facilities

The **LVL AWTF** is a state-of-the-art water treatment facility located in the City of Long Beach, California. The facility is capable of producing 8 MGD of advanced treated water, which is more than sufficient to provide the 4-6 MGD of supply required to satisfy the total demand for the Alamitos Barrier. The **Alamitos Barrier**, in turn, consists of a linear series of injection wells located near the LVL AWTF. Water injected through these wells generates an engineered freshwater pressure ridge that is designed to protect the Central Groundwater Basin of Los Angeles County and the southwest portion of the Coastal Plain area in Orange County from seawater intrusion. WRD supplies recycled water for injection into the Los Angeles County side of the barrier. The pressure ridge is created by the injection of a blend of the recycled water and potable water supplies into the groundwater aquifer, thereby preventing further seawater intrusion.

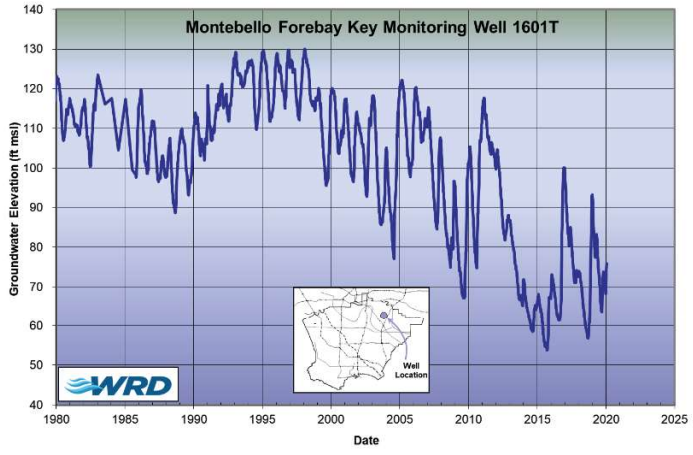


Figure 4. Groundwater Levels from 1980 through 2020: historic reductions in groundwater levels provide aquifer recharge volume that WRD will use to bank additional water, to provide drought period water supply resilience.

The LVL AWTF's primary role is to produce recycled water through advanced treatment of wastewater. The LVL AWTF receives Title 22 recycled water from the LACSD's Long Beach Water Reclamation Plant (LBWRP) using microfiltration (MF), reverse osmosis (RO), and ultraviolet (UV) disinfection. Currently, 4 MGD of advanced treated water

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

from the LVL AWTF is produced daily, then pumped into the Alamitos Barrier. The LVL AWTF's existing treatment capacity is 8.0 MGD, following completion of a recent expansion that was partially funded by Reclamation. With the demand at the Alamitos Barrier between 4 to 5 MGD depending on the season, the additional available facility capacity can now be used for other purposes.

The **Long Beach Water Reclamation Plant (LBWRP)** is an existing wastewater treatment facility providing tertiary treatment to influent wastewater received from the City of Long Beach and the surrounding areas. The LBWRP presently supplies between 4-6 MGD of disinfected filtered tertiary recycled water to the LVL AWTF. Excess water not presently accepted / treated by the LVL AWTF or used as recycled water by the City of Long Beach is dechlorinated and discharged into Coyote Creek and the San Gabriel River, to the east. The LBWRP includes full secondary and tertiary (filtration and disinfection) treatment capacity to meet the California Department of Public Health (CDPH) Title 22 requirements for various end uses. Water quality of the plant effluent is generally very high due to the nature of the treatment provided and the composition of the water from the contributing areas, which are predominantly residential and commercial.

3.3 Available Aquifer Capacity

At one time, the confined aquifer underlying much of the Los Angeles basin functioned as an artesian-flowing aquifer. However, since the 1950s, significant in-basin pumping for agricultural and, more recently, industrial and municipal use have notably depleted the underlying aquifers. WRD has done much to carefully manage the basin, including installing and operating dozens of stormwater capture facilities, injection wells, reclaimed water recharge, in-lieu recharge, and many other water replenishment activities throughout the basin. WRD has also deployed over 300 nested groundwater level monitoring wells, along with a robust sampling program. Together, these efforts have made WRD's service area one of the most extensively characterized, well-defined, and carefully monitored groundwater basin areas in the US West.

Based on monitoring well data and extensive aquifer / formation characterizations, WRD estimates that at least 450,000 AF of additional, unused water storage capacity exists in the aquifers underlying its service territory. In 2014, the adjudications that govern extraction from the basins were amended to enable groundwater rights holders and access to this available storage space. Under the amendments, groundwater rights holders are now permitted to store up to 200% of their adjudicated water rights for later extraction. Furthermore, the amendments provide for groundwater augmentation programs – which require the development of a new reliable replenishment supply and enable the equal increased extraction of that supply amount. Through both storage and augmentation programs, groundwater pumpers within the basins will be able to offset their ongoing imported water usage and store water to increase drought resiliency. Presently, WRD seeks to leverage this available storage capacity and the provisions included in the amended judgments to increase basins reserves and to store new water for drought resilience and future use by groundwater pumpers within WRD's service area.

3.4 Facilities and Equipment to Be Installed

The proposed project will capitalize on existing, available capacity within the LVL AWTF as a source of water to be used for additional groundwater recharge. Presently, the LVL AWTF produces approximately 4 MGD (approximately 50% of design capacity) for injection into the Alamitos Barrier. The demand for injection into the barrier system varies depending on regional water levels and the movement of the saltwater / freshwater interface within the subsurface. During the vast majority of the year, the demand for barrier replenishment is low enough that excess water that is available and could be treated by the

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

LVL AWTF is instead discharged into the lower reaches of the San Gabriel River (a fully channelized, concrete-lined waterway) and allowed to flow into the ocean without providing additional beneficial use.

In the proposed project, WRD will develop an onsite injection well that will provide a replenishment alternative to the barrier system. The proposed project will route excess tertiary treated wastewater through the LVL AWTF, in lieu of allowing it to pass into the ocean, and will provide for onsite direct injection into the drinking water aquifers. Within the LVL AWTF, the water will be treated using membrane-based advanced microfiltration, reverse osmosis and ultraviolet disinfection with advanced oxidation, resulting in advanced-treated effluent water.

Figure 5. Proposed location of the injection well and on-site proposed piping.

The project will specifically include installation of a new, 2 MGD injection well at the LVL AWTF shown in Figure 5, along with 50 HP supply pumps at 40 psi and approximately 300-feet of 10-inch conveyance piping. The supply pumps will be outfitted with a variable frequency drive to handle variable production flows, as applicable. The proposed injection well will be installed into a proposed injection well vault, to be installed underground at the identified location. The proposed well will be accessible through vault cover. Inside the vault the 2 MGD injection well with associated control valving and gauges accessible to the operations staff. The injection well will consist of a casing to a depth deep into the aquifer and contain well screen, sand and gravel pack designed for successful protection and injection into the well.

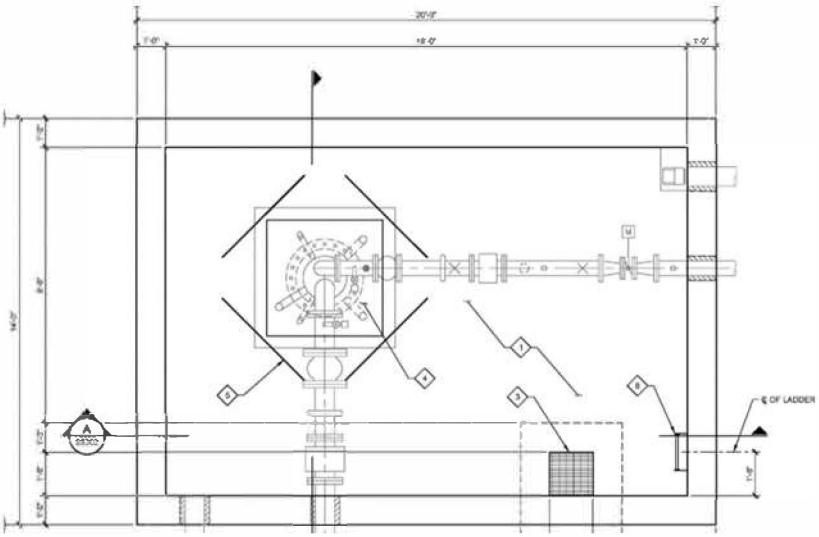


Figure 6. Injection well vault design: overhead view.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

During the construction process, the proposed well will be drilled and subjected to initial **pilot testing** by the well installer. Prior to installation of this pilot test, the well designer will determine adequate acceptance criteria for approval of the pilot well test. Part of the pilot test will include a series of extraction tests over an 8 to 12-hour period, which will be used to determine the production rate of the well. Well production rate will be correlated to anticipated potential injection rate (i.e., extraction rate x 80% = approx. injection rate), and will be used to confirm the well's injection rate for the project. In the event that the calculated injection rate is significantly less than 2 MGD, the installer will extend the length of the well screen or select a new site to ensure that 2 MGD can be achieved. Following completion of the pilot well test, the injection well will be completed and connected to the proposed supply pump and piping. The pump will be located outside the vault, at the existing product water pump station located 300-feet northwest of the injection well (Figure 7).

Figure 7. Proposed 50-HP pump installation location.

Piping to the proposed injection well will include the installation of a 10-inch pipeline, which will be routed aboveground where possible, to avoid conflicts / interference with existing underground utilities. Approximately 300 feet of pipeline will be required to connect the proposed injection well to existing equipment. All proposed pipeline infrastructure will be installed within the fence line of the existing LVL AWTF site, on property owned entirely by WRD. Security on site will be provided by existing fencing that surrounds the LVL AWTF and existing access control systems and protocols. Additional onsite security will not be required.

The proposed well and pump system will be managed automatically by a proposed SCADA-based control system, which will operate as an addition to the LVL AWTF's existing control equipment. The proposed control system will be programmed to turn on automatically based on wet well level and treated water flow rate. When treated water production exceeds the demand at the Alamitos Barrier, the proposed pump will turn on automatically and supply excess flow to the new onsite injection well.

Category	Units	Value
Delivery Volume	AFY	2,016
Injection Rate	MGD	2.0
Hours of Operation (annual)	Hours per year	8,325
Supply Pump Size	HP	50
Supply Pump Efficiency	Percent	90%
Supply Motor Efficiency	Percent	90%
Hydraulic Head Required for Injection at the Supply Pump	Feet	162

Table 1. Injection well parameters.

The project will also include the installation and use of two new groundwater monitoring wells, which will be installed in the vicinity of the proposed injection well. Final location for the monitoring wells will

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

be determined based on regulatory groundwater travel time requirements within the target aquifer, during the project design phase. Placement will be sufficient to monitor groundwater levels and quality resulting from project-related injection and to ensure project compliance with regulatory residence time requirements.

- In summary, the project will deploy the following equipment:
- 50 HP supply pumps (2)
- 300-ft of 10-inch conveyance piping
- Monitoring wells (2)
- Injection well vault
- Control valving

4.0 Performance Measures

WRD will include the following performance measures for the project; adherence to these measures will ensure that the project meets the goals and objectives identified for the proposed injection well:

Performance Measure	Description	Verification Procedure	Verification Data Collected
System Operability	Verify operability of the system per the specifications identified above	LVL AWTF operators will initiate then operate the proposed well for a period of 60 to 90 days to verify operation.	Operation metrics: hours operated, water volume injected, pump / injection rate
Pilot Well Injection Capacity (Initial)	Verify the calculated injection capacity for the test well	WRD's qualified consultant will complete a pump test for the well. Injection rate will be calculated based on observed extraction rate, using the formula shown above, based on 8 to 12 hours of pumping. The test will also monitor well level to check drawdown, and confirm adequate specific capacity, and observe water level stabilization.	Observed water extraction rate during pump test
Injection Capacity	Verify the actual injection capacity for the completed well	WRD will operate the completed well at design injection capacity (i.e., 2 MGD) for a period of 8 and 72 hours to verify actual injection capacity and to note any changes in the capacity.	Observed water injection rate.
Monitoring	WRD will set up for quarterly long-term monitoring of the two proposed groundwater monitoring wells, consistent with California Title 22 requirements	WRD will complete installation of the 2 proposed monitoring wells, according to injection well permit standards. The monitoring wells will be incorporated into WRD's ongoing Regional Groundwater Monitoring Program and sampled in perpetuity.	WRD will collect data on pressure responses, temperature, and conductivity, and confirm connectivity of the monitoring wells to the injection well.

Table 2. Project performance measures.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

5.0 Evaluation Criteria

5.1 Project Benefits

New Long-Term Drought Benefits

As described in detail in the following sections, the project will facilitate the advanced treatment and use of up to 4.0 MGD (up to 4,480 AFY) of water that is currently released to the ocean, without further beneficial use. A total of 2.0 MGD (2,016 AFY on average) of this new water will be consistently injected to the subsurface using the proposed injection well, and banked for drought resiliency. An average of 455 AFY (at a rate of up to 2.0 MGD when water is available) of additional water will also be banked for drought resiliency, as overinjection through the Alamitos Barrier, when available. One hundred percent of this banked resiliency water will be administratively available across the entire groundwater basin underlying the project, benefitting groundwater users across roughly half of WRD's service territory. New water captured under the project will be made available from the LBWRP, and will be consistent from year to year. Therefore, **the volumes cited above and in the following discussion represent consistent annual volumes; they are equivalent to 10-year average annual volumes.** The following newly available water supplies, management flexibility, and other benefits will be available under for the 30-year lifetime of the project.

Newly Available Water Supply

The project will capture, advanced-treat, and store for drought resiliency, water from the LBWRP that currently flows to the ocean. Presently, the existing Alamitos Barrier demand is 4-6 MGD varying based on seasonal and long-term fluctuations in groundwater levels. Of that amount, only 4 MGD is already supplied by the LVL AWTF. The LVL AWTF has a treatment capacity of 8.0 MGD. However, due to supply and operational constraints, under existing conditions, it only treats 4.0 MGD of water for Alamitos Barrier injection. The remaining demand is supplied from imported drinking water. Concurrently, 4.0+ MGD of treated effluent from the LBWRP is released to the ocean without further beneficial use (Table 3).

Under the project, the 4.0 MGD (equivalent to 4,480 AFY) of LBWRP water currently lost to the ocean will be captured, advanced treated at the LVL AWTF, and used for recharge. A total of 2.0 MGD (2,016 AFY) of this newly captured water will be routed to the proposed injection well for drought resiliency. The remaining volume will be also injected at the Alamitos Barrier; however, this additional volume will only be available during certain periods due to variable availability, variable barrier demand, and losses to the ocean via the subsurface. On average, a total of 1.0 MGD of this additional water will be available 84% of the year, with available demand 50% of the year, and 10% loss to the ocean (379 AFY). The remaining 1.0 MGD of additional water will be available on average 84% of the year, with available demand 10% of the year, and 10% loss to the ocean (76 AFY). Note that during all periods, plant availability is conservatively assumed to be 90%. Therefore, as shown in Table 3, the project will supply a total annual average water volume of 2,471 AFY to the subsurface for drought resiliency storage and future use.

By relying on consistently available outflow from the LBWRP, the project will consistently provide 2.0 MGD (2,471 AFY) of banked water for drought resiliency, totaling 74,130 AF over the 30-year lifetime of the project.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

Once placed into groundwater storage, the banked water will be used to provide drought resiliency supplies during subsequent periods of drought demand. Under existing conditions, many of the municipalities and other users within WRD's service area must rely on imported water during drought periods. In contrast, with additional water available under the project, these municipalities and other users will be able to rely on stored resiliency groundwater, alleviating strain on California's imported water system and providing increased water availability, environmental, and water management benefits within that system.

	Water Source	Incremental Flow (MGD)	LVL AWTF Total Production (MGD)	Percent of Availability*	Net Volume to Drought Storage (AFY)
LVL AWTF existing volume to Alamitos Barrier	Existing	4.0	4.0	90%	N/A
New water to inland injection well	Project	2.0	8.0	90%	2,016
New water to Alamitos Barrier	Project	1.0	7.0	38%	379
Additional / Infrequent Barrier injection	Project	1.0	8.0	8%	76
Total Additional Water to Storage under the Project					**2,471**

Table 3. Summary of flows and new water supplied for drought resiliency under the project.
* Percent of availability was calculated based on historical flows. At times, the full incremental flow will be available for the project.

While the total annual adjudicated volume of groundwater permitted for extraction in WRD's service area is exceptionally large—281,835 AFY—the project will nonetheless provide a significant local benefit to basin users. Presently, only carried-over unpumped water has been placed into the adjudicated storage space within the basin and no additional water is currently recharged to the basin for the sole purpose of providing additional drought resiliency. The project, which will provide an additional 2,471 AFY of water, would represent 100% of the total in-basin drought resiliency allocation that is derived from the beneficial use and increased recharge of available local supplies. Although the process of carryover conversion – converting unpumped water rights into stored water – is very helpful for drought planning for groundwater pumpers, it does not provide physical basin resource protection. This project will develop a new replenishment supply that will increase available groundwater supplies and raise water levels to provide true drought protection and basin resiliency. Moreover, these resiliency benefits will be available for groundwater pumping by users basinwide, even to vulnerable areas where there are no available connections to imported surface water.

Improved Water Supply Management

The project will improve water supply management through two primary elements. First, it will increase water management flexibility for WRD at the project site and for the Alamitos Barrier. Presently, WRD is unable to provide more than 4 MGD of advanced treated water to the Alamitos Barrier, while an additional 4 MGD of LBWRP water passes to the ocean unused. Under the project, WRD will be able to capture the latter 4 MGD and use it, in part (see prior discussion), to offset imported drinking water use

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

by the Alamitos Barrier. Resiliency water banked under the project will be available during dry and critically dry years. Pumpers in WRD's service area will then increasingly rely on groundwater in lieu of imported water, thereby reducing demand for imported water during times when the imported water is most critically needed elsewhere.

Second, the project will improve water supply / water management and operational flexibility across much of WRD's service area, as summarized in Figure 8. Under existing conditions, water users will draw groundwater and imported water (if available) as usual. During dry water years, users will draw up to their adjudicated groundwater allocation, but less imported water may be available. Typically, the disparity here could be made up through additional conservation. During an extreme drought, however, the situation becomes more dire. Imported surface water availability may drop significantly, even to zero. Additional groundwater cannot be drawn due to adjudication, and water rationing must be instituted, with insufficient supply and shortages likely.

Under the project, 2.0 MGD (2,016 AFY) of newly banked drought reserve will be made available for groundwater users located within the contiguous groundwater basin through implementation of groundwater storage programs. Note that, if left unused, this banked water will accrue indefinitely in the basin operating reserve until needed, with zero annual loss assumed by local basin management requirements. During dry water years, users would have the option to draw banked resiliency water if needed. Importantly, during an extreme drought, users could deploy additional conservation alongside withdrawal of banked resiliency supply, thereby avoiding or reducing the incidence of rationing and shortages.

Figure 8: Improved management flexibility and resiliency under the project.

These benefits will provide substantially improved drought management flexibility, drought period water availability, and water cost reductions to pumpers within WRD's service area. WRD serves approximately 180 pumpers, of which approximately 140 are small pumpers with adjudicated groundwater rights of less than 1,000 AFY. Average adjudicated water rights among pumpers in the Central Basin is 1,712 AFY (range of 1 to 32,692 AFY). The water volume stored under the project will have a very large relative impact on the supplies available for these small water pumpers. Over time, and especially with future expansions (if the project is successful), banked volumes will provide significant drought period water supplies and flexibility to all WRD pumpers, while further reducing need for costly imported water.

New Information for Water Managers

The project will provide new information and a real-world demonstration of the efficacy of using water from an advanced water treatment facility for groundwater recharge, including for indirect potable reuse.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

Unlike conventional reclaimed water recharge systems, the project will inject exceptionally high quality advanced treated water into the subsurface for subsequent use. The project will serve as a model for at least two additional WRD injection wells that will also inject advanced treated water, and—importantly—will provide a basis and model for use by other agencies and regulators across California and, ultimately, nationwide that are considering groundwater replenishment using advanced treated water at purpose-dedicated injection wells. Moreover, this project will be a first step in the development of active groundwater *augmentation and storage* within WRD's service area, in contrast to long-standing programs that have, to date, sought to ensure sufficient groundwater availability to meet adjudicated demand. This information will serve as an example internally at WRD and to other water managers.

Environmental Benefits

The project will provide notable upstream benefits to fish, wildlife, and the environment, and will avoid environmental impacts related to groundwater surfacing. Under existing conditions, water users within WRD's service area rely on imported surface water for nearly 50% of total basin-wide water supply, equivalent to approximately 250,000 AFY (total water consumption is approx. 500,000AFY). Under the project, water users within WRD's service area will be able to shift an average of 2,471 AFY of water demand from imported water to newly supplied groundwater available under the project. As a result, water demand from environmentally sensitive out-of-basin sources, including the Colorado River Watershed and the Bay-Delta, will see less demand on their water supplies. Reducing demand on these imported supplies is therefore beneficial for habitat in the Bay-Delta and the Colorado River.

By offsetting out-of-basin supply, the project will also reduce reliance on water supplied by the Colorado River and the Bay-Delta, which require approximately 2,000 kWh/AF and 2,850 kWh/AF of electricity for conveyance to the Los Angeles region, respectively. Therefore, reducing imported water demand by 2,471 AFY will save at least 4,942,000 kWh/yr of electricity, including associated greenhouse gas and criteria pollutant emissions.

Project operation will also increase the volume of water stored in the groundwater basin underlying the project. Based on previously completed modeling efforts, there is sufficient available aquifer storage volume (120,000 AF in West Coast Basin and 330,000 AF in Central Basin) to enable storage of the proposed water volume without water surfacing or other deleterious surface-related recharge impacts.

Expanded Basin Replenishment Understanding

During operations, WRD will monitor groundwater levels on an ongoing basis at two proposed monitoring wells. The specific sites for these wells will be selected based on the results of the testing proposed for the primary injection well. WRD will use data from these monitoring wells to confirm that the proposed injection well is performing as designed. The new wells will also add new data points to WRD's ongoing Regional Monitoring Program for groundwater levels within its service area.

In addition to project and operational level data, the project will also provide an expanded understanding of basin replenishment processes in light of newly available hydrogeologic data. WRD will collect site specific hydrogeologic data during the installation of the proposed injection well and two monitoring wells. Key information will include recycled water travel times and location-specific transmissivity data. WRD will leverage these critical pieces of information to support further planning under the overarching WIN 4 ALL program.

5.2 Drought Planning and Preparedness

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

The project is supported by an existing drought plan and will deploy the proposed groundwater recharge / resiliency program, which is a key and critical facet of WRD's overall conservation strategy and a foundational element of the regional WIN 4 ALL Program.

WRD's drought resilience planning, under the GBMP and the WIN 4 ALL Program, was developed as part of a long-term planning process that will guide WRD's capital project development over the next two decades and operations over the next 60 years. WRD developed its program, including the **embedded drought resilience and conservation strategies**, through a multi-year collaborative process that involved an extensive engineering level feasibility and constraints analysis, preparation of programmatic level environmental documentation, and **input from multiple key stakeholders**, including the County of Los Angeles, cities within WRD's service territory, local wastewater managers, state and federal regulatory agencies, other water purveyors in California, and the general public at large. The overall plan considers **climate change** impacts to water resources and drought, including effects such as reduced snowpack in California and the Colorado River Basin, reduced reservoir inflows, increased frequency of short duration / high intensity storms that cannot easily be diverted to off-stream storage due to high sediment loading, sea level rise that could affect imported water supplies and seawater intrusion into aquifers, and other climate related vulnerabilities to California's State Water Project system that supplies imported water to the Los Angeles region.

Planning Support for the Project

The project, including the proposed LVL AWTF throughput increase to 8 MGD and the proposed injection well, **is considered as a priority project** in both the GBMP (under Concept A) and the WIN 4 ALL Program. Based on Reclamation's stated framework, the project is **characterized as a mitigation effort** to help minimize the need for future emergency response actions. The **overarching goal** of the GBMP is to enhance reliability of supply for groundwater replenishment (i.e., including drought resilience) in the Central Basin in WRD's service area. The project is **prioritized** in the GBMP as a critical element of the Concept A list of projects to be developed. Under the WIN 4 ALL strategy, the project is again forwarded and supported as a key project element, including through the allocation of WRD staff and available funding resources to the project, and its development as an early priority within the overall framework of the WIN 4 ALL Program. Refer to Appendix D-1 for plan documents.

5.3 Severity of Actual or Potential Drought Impacts Addressed by the Project

The tenuous water supply situation in this region, including WRD's service area, cannot be overstated. California experienced a historic drought in 2012-2016 and faces continued challenges with insufficient or unreliable water supplies, as well as residual groundwater basin depletion (Figure 4). Nearly 50% of the water consumed in WRD's service area is imported from the Colorado River and the Bay-Delta. The Delta and Colorado River are both severely stressed, and the reliability of these water supplies during natural disaster, in the face of a changing climate, or during drought periods is becoming increasingly uncertain. Moreover, the cost of imported water is projected to rise substantially as competing demands affect the supply. Coupled with the large population in WRD's service area and projected regional growth, relying on uncertain imported water for the region is not a sustainable solution.

If no further action were taken, the majority of water users in WRD's service area will remain heavily dependent on uncertain supplies of imported water. Users served by WRD focus primarily on **municipal and industrial (M&I)** use, but also include **independent pumpers**. Significant shortages to these groups could result in the following:

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

- **Impacted Supply, Rationing, and Inability to Serve.** Groundwater users in WRD's service area have varying levels of resiliency and drought contingency / management options available to them, depending on the make-up of their water supply portfolio. However, during a severe drought, these options may be insufficient to provide needed water, including to M&I uses, with potentially dire consequences. Lack of available drought period water supply can be very expensive, including through increased reliance on imported water that can cost 300% to 400% more than WRD-supplied groundwater. Water rationing or, worse yet, limited service interruption could have direct social and economic impacts, including on public health, operability of water-dependent industry, recreation, and municipal services.
- **Increased Water Costs Disproportionately Affect Economically Disadvantaged and Priority Populations.** Over 30% of WRD's service area is located within low income / economically disadvantaged census tracts. Changes in water rates within these areas can have significant consequence to affected households, many of which are already struggling to pay utility bills. The project has strong potential to alleviate high drought period water supply costs, which could otherwise be passed on to ratepayers, including low income ratepayers. Municipalities serving these ratepayers in WRD's service area also commonly have fewer drought period management options available. As a result, drought period reliance on costly imported water supplies could have considerable economic impact on these areas. Groundwater provided by WRD, including during drought periods, will be available for under $400 per AF. In contrast, typical rates for imported water are $1,200+ per AF, a figure that is likely to increase during drought periods. Thus the project will alleviate potential ratepayer cost hikes needed to supply imported water during drought periods.

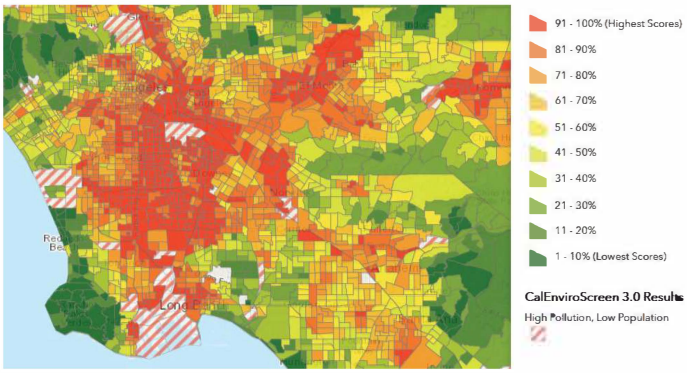


Figure 9: Over 30% of WRD's service area—including areas served by the project—is within economically disadvantaged communities.

- **Well Deepening.** Within the adjudicated basin, specific and pre-determined groundwater volumes are available to each applicable user. However, in the event of an extended drought, independent pumpers may need to lower their wells—at great expense—to be able to physically withdraw groundwater from the aquifer. Without drought resilience, independent pumpers may also be required to endure additional conservation requirements or even rationing, which could affect day to day operations and / or livelihoods.

5.4 Project Implementation

The project will be ready to proceed immediately upon entering into a financial assistance agreement with Reclamation. WRD has developed a 34-month schedule for completing the project. As shown in the schedule and milestone summary below, the project will include completion of all elements required to initiate and operate the project, including permitting and environmental compliance, design and engineering, procurement, construction and installation, startup / testing, and validation / verification. Table 4 summarizes the tasks, milestones, and key dates relevant to successful project deployment and implementation. Note that the initialization of full-scale operation will occur in Q1 of 2023, after the project has been completed and fully verified. Initiation of operations will occur in Q1 of 2024, following completion of the project, and consistent with the anticipated injection well permitting schedule.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

Detailed Project Schedule and Milestones

WRD will deploy the project according to the following detailed schedule and milestones:

Milestone # and Description	Start Date	End Date
01 Project kickoff & site visit		25/20
02 Meeting to discuss regulatory approach	N/A	12/23/20
03 CEQA permitting	2/18/21	8/11/22
04 State well permit (DWSAP)	12/24/20	3/17/21
05a Contract review: MWD LRP	10/1/20	2/16/22
05b Contract review: OCWD	7/9/20	11/11/20
05c Contract review: LACDPW	10/1/20	2/16/22
05d Contract review: LBWD	10/1/20	2/16/22
06 Hydraulic evaluation	11/26/20	2/17/21
07 Resubmit Title 22 engineer's report	11/25/20	1/3/24
07a DDW / RWQB meeting to discuss Title 22 work plan	N/A	11/25/20
07b Update OOP	11/26/20	3/31/21
07c Prepare Title 22 work plan, model, prelim drawings	11/26/20	3/31/21
07d Conditional approval meeting	N/A	3/31/21
07e Work plan approval	4/1/21	4/13/22
07f Prepare engineer's Title 22 report	4/14/22	12/21/22
07g Submit engineer's Title 22 report	12/21/22	12/21/22
07h Final approval for well use	12/22/22	10/1/23
08 pilot hole & final well design and installation	11/26/20	11/12/21
08a Pilot hole acceptance criteria	11/26/20	12/9/20
08b Pilot hole & well design, cost, schedule	2/18/21	5/12/21
08c Review bid packages	5/13/21	9/29/21
08d Pilot hole installation	9/30/21	11/10/21
08e Pilot test preliminary report	11/11/21	11/12/21
09 Construction: well installation / oversight	11/11/21	2/2/22
10 Well installation report	2/3/22	3/16/22
11 Pipeline design and wellhead completion	2/18/21	2/2/22
11a Pipeline preliminary design – 30%	2/18/21	4/21/21
11b Pipeline final design – 100%	11/11/21	2/2/22
12 Bidding for pipeline installation	2/3/22	6/22/22
13 Construction: pipeline, pump, connections	6/23/22	10/26/22
14 Start-up and testing	10/27/22	12/7/22
15 Initiate Full Operation (subsequent to 7h)	10/1/23	N/A

Table 4. Milestone summary and schedule.

Permits, Design, and Policies

The project will require WRD to acquire the following permits:

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

- **Update to the Title 22 Engineering Report for LVL AWTF for approval by DDW and RWCB:** *Plan for obtaining permit*: WRD has already initiated preliminary discussions with DDW and RWCB, to introduce these agencies to the proposed project. Initial requirements provided by the agencies are for a complete update of the existing Title 22 Engineering Report for LVL AWTF, in lieu of an amendment to the existing report. To complete the update, WRD will meet with DDW and RWCB to discuss the development of a Work Plan. WRD will draft a Work Plan and submit for review by RWCB and DDW. Once the Work Plan has been approved, the updated Title 22 Engineering Report will be submitted for approval. This total process can take up to 3 years depending on the review time by RWCB and DDW (i.e., completion by October 2023). WRD is working with RWCB and DDW to streamline this process and expects completion within this timeframe. *As a contingency*, however, note that WRD will complete all project testing and verification identified under the project. In the unlikely event of an additional delay in this permitting process, WRD will have nonetheless completed all project elements and verification sufficient to fulfill the objectives and reporting requirements for this project. WRD would then initiate full scale operation upon permit availability.
- **Waste Discharge Permit** (RWCB): *Plan for obtaining permit:* This permit allows for discharge of water into the proposed injection well. The total process can take 3-4 months. WRD will initiate the process at least 6 months prior to completion of the proposed injection well.
- **Well Permit - State DWSAP, if required** (DDW): *Plan for obtaining permit*: WRD will identify the travel times, any contaminated sites, and any potential for impact on other wells. WRD will then submit an application to the DDW, if required, at least 3 months prior to completion of construction of the proposed well. The total review process can take up to 1 month.
- **Well Permit Approval** (City of Long Beach, Department of Public Health): *Plan for obtaining permit:* WRD will complete and submit an application for well permit approval and inspection of well installations with the City. The City will review submitted materials and complete an inspection to ensure that offsets for sanitary sewers and sanitary seals are properly installed.
- **Building Permit, if required** (City of Long Beach): *Plan for obtaining permit:* WRD will apply for all required building permits approximately one month prior to the initiation of project construction. Given the current scope of the project, building permits will be limited if required at all. If required, WRD will submit a building permit application during the later design phase of the project to the City of Long Beach for approval. Once approved, construction activities can begin. If required, WRD will direct its construction contractor to ensure necessary inspections are built into their construction schedule and meet the City of Long Beach requirements.

Engineering and design work to be performed will include completion of all engineering and design work needed for procurement and construction of the proposed project. Engineering and design work will be completed according to the milestones and schedule / timeline shown in Table 4. The project will not require new or updated administrative policies or actions. Although separate from the permitting process, the project will also be required to comply with the California Environmental Quality Act (CEQA). Based on a preliminary review of the Project, WRD anticipates that the most appropriate CEQA compliance strategy would be through either an Initial Study / Mitigated Negative Declaration, or an exemption. Either strategy would be easily achievable within the timeframe proposed for the project.

5.5 Nexus to Reclamation

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

The project will be closely linked to other Reclamation-funded activities and projects that WRD has previously and successfully deployed, on time and within budget. Specifically, WRD has successfully completed the following agreements with Reclamation, used to support the previous development of the LVL AWTF. WRD has met all project goals and objectives identified under each agreement, on time and within budget. Reclamation's funding of the proposed project will provide follow-on investment to these projects, to expand and further develop the prior water management and drought resiliency goals set forth collaboratively by Reclamation and WRD.

Agreement No.	Description	Status / Outcome
Agreement OO-FC-30-0008	Original LVL AWTF Design and Construction	Successfully completed all project elements, on time and within budget
ARRA Agreement R10AC35R19	Predesign for Expansion of the LVL AWTF	Successfully completed all project elements, on time and within budget
Agreement R11AC35299	Final Design for Expansion of the LVL AWTF	Successfully completed all project elements, on time and within budget
Agreement Rl2AC35346	Construction for Expansion of the LVL AWTF	Successfully completed all project elements, on time and within budget
Agreement R12AC35346 (FOA13)	Construction for Expansion of the LVL AWTF	Successfully completed all project elements, on time and within budget

Table 5. Prior Reclamation-funded projects and activities relevant to the LVL AWTF and to the proposed project. Reclamation funding of the project will provide for continued expansion and development of Reclamation's prior investments in the LVL AWTF.

Finally, the project is located within the same basin as multiple other Reclamation projects and activities, including WRD's own Albert Robles Center Advanced Water Treatment Facility (formally GRIP) which provides recycled water for groundwater replenishment and was completed within the WIN Program. As described previously, the project will substantially increase the volume of water available within the basin for use as a supply of water to support drought resilience. As a result, the project will help to reduce and alleviate strain on other Reclamation-owned and Reclamation supported facilities which support the storage and conveyance of imported water to the region.

5.6 Department of the Interior and Bureau of Reclamation Priorities

Increase Water Supplies, Storage, and Reliability under WIN and Other Authorities

The project will directly increase water supplies, storage, and reliability under Reclamation's WIN program. The project will inject an average of 2,470 AFY of water for drought storage (at a rate of up to 2.0 MGD at the proposed well plus up to 2.0 MGD of new water to the Alamitos Barrier), equivalent to 74,100 AF over the project lifetime. This additional water supply—using water that is currently released to the Pacific Ocean without additional beneficial use—will therefore directly increase water storage and reliability, consistent with Reclamation priorities.

Remove Unnecessary Burdens to Provide More Water and Supply Reliability to Communities

The project will provide readily available groundwater to support pumping for drought resiliency within WRD's service area. Water will be available to communities within the targeted basin, many of which are disadvantaged with limited resources dedicated to drought-related outreach and conservation programs. Under existing conditions, many of these communities could be forced to rely on imported water during

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

drought periods—a practice which can be exceptionally expensive and economically burdensome for the agency and their ratepayers. Typical rates for imported water are $1,200+ per AF. In contrast, water provided by WRD, including under the project, will less than $400 per AF. Therefore, the project will help communities provide more water, and more reliable / affordable water during drought periods.

Leverage Scientific and Technology to Improve Water Supply Reliability to Communities

The project will leverage cutting edge advanced treatment technologies and WRD's extensive understanding of underlying aquifer properties and dynamics to provide additional drought resiliency supplies to communities located within WRD's service area. Recently completed (2014) updates at the LVL AWTF added unique treatment process enhancements that reduce the facility's waste generation and improve throughput. Key elements include (1) a third-stage RO to increase recovery from the original 85% to 92.5%; and (2) a microfiltration backwash waste treatment system that recovers 95% of the backwash waste stream through dissolve air flotation (DAF) treatment and follow-up polishing. These enhancements have allowed the facility to greatly increase production capacity without any increase in waste generation. By putting to use the additional LVL AWTF capacity provided by these upgrades, the project will demonstrate efficacy of these advanced treatment technologies to support groundwater recharge and pave the way for additional future deployments by WRD and others.

Address Ongoing Drought

California endured a historic drought—the longest on record—from December 2011 through March 2019. While the state is no longer in a drought, it is still recovering from extreme drought conditions, which peaked in intensity in 2014. During drought periods, water users in WRD's service area rely more heavily on groundwater than during normal and wet years. As a result, groundwater levels in WRD's service area have dropped substantially during the recent drought, and have not yet recovered (Figure 4). The project will address this lingering effect of the recent drought by providing an average of 2,470 AFY of newly injected groundwater for drought resiliency, offsetting the ongoing effects of the recent drought.

Improve the Value of Hydropower to Reclamation Power Customers

The project will reduce demand on imported water by providing new / additional drought period groundwater supplies. As a result, during dry and critical water years, including extended droughts, California's water import system will be under less strain as a result of the project. These demand reductions will translate into reduced consumption of imported water, meaning that additional water will be available in reservoirs across California and within the Colorado River system. Additional water available in these reservoirs could provide water managers new flexibility to support increased hydropower generation within affected reservoirs. As a result, the project would indirectly improve the amount and value of hydropower to electricity users statewide, including to USBR power customers.

Improve Water Supplies for Tribal and Rural Communities

By providing additional drought resiliency supplies as banked groundwater within its service area, the project will allow overlying communities to substantially reduce their drought period demand for imported water. Reductions in imported water demand will, in turn, alleviate strain on California's water transmission infrastructure, upstream sources. The project will leave additional water in California's system to support junior appropriators and other water right holders across the state. As a result—particularly during dry and critical water periods—the project will free up much-needed water supplies to other users, including Tribal and rural appropriators and other water users. The project will support drought resiliency directly within WRD's service area, but also across the state to other users including those served by the State Water Project, the Colorado River, and potentially the Central Valley Project.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

6. Project Budget

6.1 Funding Plan

Cost-Share Requirement

The cost-share requirement of $3,347,336 will be supplied entirely by the Water Replenishment District of Southern California (WRD, Applicant). WRD has developed an internal Project Costs and Funding Plan to identify potential financing and funding options and to describe the total cost of the project. The plan includes a review of possible funding options from the private sector and evaluates potential local, state, and federal grant and loan funding options that are available to offset the development costs for the project

Source of Funds

WRD's share of the implementation costs of the project will be budgeted within WRD's Capital Improvement Projects Program (CIP) which is updated every 5 years and is funded through bond sales. WRD encumbers bonds in 3-year increments, sufficient to encompass multiple projects. Enough funds are currently available to initiate the design phase of the project. WRD is currently evaluating the existing bond program and will be issuing additional bonds to finance either the remainder of the current CIP costs or a portion of the remaining costs. WRD is also developing a financing plan specifically for the project. The financing plan will include a replenishment assessment and its capability to generate funds to repay bonded indebtedness. WRD will adjust the replenishment rates in anticipation of any bond financing.

No third-party contributions are included in the cost-share amount and there are no pending grants or loans awaiting approval for the project. All cost-share funds needed for the project will be made available as soon as the grant is awarded.

The budget proposal does not include any project costs that have been incurred prior to the award.

Letter of Commitment

A Letter of Commitment from WRD (Applicant) can be found in Appendix F1

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

6.2 Budget Proposal

Table 1: Total Project Cost	
SOURCE	**AMOUNT**
Costs to be reimbursed with the requested Federal funding	$ 1,500,000.00
Costs to be paid by the applicant	$ 3,347,336.00
Value of third-party contributions	N/A
TOTAL PROJECT COST	**$ 4,847,336.00**

Table 2: Summary of Non-Federal and Federal Funding Sources	
FUNDING SOURCES	**AMOUNT**
Non-Federal Entities	
1. Water Replenishment District of Southern California	$ 3,347,336.00
Non-Federal Sub-Total	$ **3,347,336.00**
REQUESTED RECLAMATION FUNDING	**$ 1,500,000.00**

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

Table 3: Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		Quantity Type	TOTAL COST
	$/Unit	Quantity		
Salaries and Wages				
N/A				
Fringe Benefits				
N/A				
Travel				
N/A				
Equipment				
N/A				
Supplies and Materials				
N/A				
Contractual/Construction				
Design and Permitting	$ 572,520.00	1	Contract	$ 572,520.00
Environmental Compliance	$ 76,336.00	1	Contract	$ 76,336.00
Drilling	$ 3,394,300.00	1	Contract	$ 3,394,300.00
Construction Management	$ 381,680.00	1	Contract	$ 381,680.00
General Contractor	$ 422,500.00	1	Contract	$ 422,500.00
Total Project Cost				$ 4,847,336.00
Other				
N/A				
TOTAL DIRECT COSTS				**$4,847,336.00**
Indirect Costs				
N/A				
TOTAL ESTIMATED PROJECT COSTS				**$4,847,336.00**

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

6.3 Budget Narrative

This budget narrative discusses and provides an explanation for each of the items included in the Budget Proposal. Note that there are no third-party in-kind or other third-party match contributions included in the project.

Salaries and Wages

WRD is not seeking reimbursement for any salaries or wages, nor is WRD relying on salaries or wages to provide cost share / match for the project. Note that WRD will complete all **project administration and internal project management** with staff already dedicated to successfully administering similar size and type of grants. Work includes project management, project accounting, site inspection, assurance the Project is completed within the budget and performance period, and in accordance with approved procedures, applicable laws and regulations. WRD staff will be responsible for tracking project expenses and maintaining project records in a manner that allows for a full audit trail of all awarded grant funds.

Fringe Benefits

WRD is not seeking reimbursement for any fringe benefits, nor is WRD relying on fringe benefits as a source of cost share / match for the project.

Travel

WRD is not seeking reimbursement for any travel costs, nor is WRD relying on travel costs as a source of cost share / match for the project.

Fringe Benefits

WRD is not seeking reimbursement for any fringe benefits, nor is WRD relying on fringe benefits as a source of cost share / match for the project.

Equipment

WRD is not seeking direct reimbursement for any costs associated with the purchase of equipment, nor is WRD relying on direct equipment purchase costs as a source of cost share / match for the project. Note that all equipment will be furnished and installed under a construction contract, and is accounted for within the contracted costs discussed below.

Materials and Supplies

WRD is not seeking direct reimbursement for any costs associated with the purchase of materials and supplies, nor is WRD relying on direct purchase costs for materials and supplies as a source of cost share / match for the project. Note that all materials and supplies will be furnished and installed under a construction contract, and are accounted for within the contracted costs discussed below.

Contractual

All costs for the project will be included as contractual expenses. Contractors will be hired based on WRD's standard bid process, which is consistent with Reclamation / federal competitive procurement methods, as defined at 2 CFR §200.320, using only a qualifications-based procurement method only for all architectural and engineering services. WRD has worked extensively with Reclamation under prior grant funded projects and already understands applicable federal requirements for procurement, profit negotiation, and typical contracting requirements. WRD's procurement process includes:

1. Issuance of a publicly available RFB through WRD's existing web-based portal

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

2. Completion of a pre-bid meeting or conference call, as applicable
3. Acceptance and review of received bids
4. Bids will be scored based on qualification requirements and construction cost
5. The contract will be awarded to the respondent that is the lowest construction cost while also meeting the qualification/contractual requirements.
6. WRD will initiate and complete the contracting process with the selected contractor

Contractual expenses will include the following project elements:

Project Design and Permitting:

- **Work to be Accomplished:** WRD will retain a qualified design and permitting specialist to complete all stages of project design and permitting. The consultant will provide support services needed to acquire all well permitting and other permitting requirements. The consultant will also develop and provide all iterative and final design documents for the pilot well, final well, two monitoring wells, and all pipes, pumps, utility connections, and appurtenances.
- **Budget Estimate:** The budget estimate as shown in the Budget Proposal above (Table 3) is based on the Engineer's Estimate of Probable Capital Costs for this project, included in a Technical Memorandum prepared for WRD by RMC (Woodard and Curran Company) and KEH & Associates. Design and Permitting is estimated as $572,520 which is 15% of the total costs for drilling and the general contractor costs ($3,816,800). WRD and the consultants have successfully used this formula for correctly calculating design and permitting on multiple projects of similar size and scale.

Environmental Compliance

- **Work to be Accomplished:** WRD will retain a qualified environmental consultant to complete all required environmental compliance for the project. Located in California, the project will require WRD to adhere to the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The consultant will provide support services needed to adequately complete all CEQA and NEPA requirements, including support to WRD and Reclamation, as warranted, to complete all NEPA compliance. The consultant will complete all required analysis, documentation, public outreach, and other environmental compliance services as warranted.

  Based on WRD's understanding of the project and Reclamation's requirements for NEPA compliance and the NEPA process, we anticipate that a categorical exclusion will be the most appropriate document required to meet NEPA process requirements. WRD has allocated contractor budget to support this process, and to collaborate with Reclamation to ensure that all NEPA compliance is completed on time and adequately. Note that CEQA compliance is expected to include completion of an Initial Study / Mitigated Negative Declaration. This process will generate more than sufficient analysis and documentation to complete an exemption for the project. In the unlikely event that Reclamation requires completion of an Environmental Assessment / Finding of No Significance, the vast majority of the documentation needed for that level of environmental documentation will already be available through the state level CEQA

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

process. Environmental compliance budgets and timeframes have been included, sufficient to provide WRD with the ability to manage environmental compliance fees and timelines within the proposed project and project budget.

- **Budget Estimate:** The budget estimate as shown in the Budget Proposal above (Table 3) is based on the Engineer's Estimate of Probable Capital Costs for this project, included in the Technical Memorandum prepared for WRD by RMC. Design and Permitting is estimated as $76,336 which is 2% of the total costs for drilling and the general contractor costs ($3,816,800). WRD and consultants have successfully used this formula for correctly calculating design and permitting on multiple projects of similar size and scale.

Drilling

- **Work to be Accomplished:** WRD will retain a qualified drilling contractor capable of drilling, casing, installing pump equipment, testing, and finalizing the proposed injection well. The drilling contractor will also be responsible for drilling, casing, installing monitoring equipment, testing, and finalizing two proposed monitoring wells, which will be installed in accordance with state groundwater injection well permit requirements. The consultant will provide all equipment, labor, materials, and other requirements to complete this element of the project.

- **Detailed Budget Estimate** is a rounded down figure based upon a GRIP proposal by J.F. Shea (Walnut, CA) with 30% contingency included. Costs are:

Item	Costs
Injection Well	$1,243,000
Monitoring wells (2 @ $685,000/monitoring well)	$1,368,000
Contingency (30%)	$783,300

Construction Management:

- **Work to be Accomplished.** WRD will retain a qualified construction manager to oversee and actively manage all stages of project construction. The construction manager will track all progress for the project, ensure that tasks are completed according to schedule and budget, manage and oversee procurement, and develop mitigation strategies in the event of a potential delay. If a delay is imminent, the construction manager will immediately inform WRD to support a collaborative mitigation / decisionmaking process to ensure that impact to schedule and budget are minimized. The construction manager will also provide day to day site management, ensure adequate completion of tasks and milestones within the purview of construction management, and provide site checks for all completed equipment / activities.

- **Budget Estimate:** This contract value is also based on the Technical Memorandum prepared for WRD by RMC a Woodard and Curran Company and KEH & Associates and is estimated as $381,680 which is 10% of the total costs for drilling and the general contractor costs ($3,816,800). WRD and consultants have successfully used this formula for calculating construction management costs on multiple projects of similar size and scale.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

General Contractor:

- **Work to be Accomplished.** WRD will retain a qualified general contractor to implement and manage the installation of other site requirements and appurtenances proposed under the project, including utility connections, pipe installation, well vault installation, and other project elements, as described in the Technical Report.
- **Budget Estimate:** This contract value is also based on the Technical Memorandum prepared for WRD by RMC and includes the following items:

Item	Costs
Piping 300 foot of 10inch pipe @$22/inch diameter per foot	$66,000
Paving and Curbing	$22,000
Pump – 50 hp @ $500/hp and VFDs @ $327/hp	$44,000
Electrical/SCADA - ~15% of injection well and pump cost	$193,000
Contingency (30%)	$97,500

Other Expenses

WRD has not identified or included any additional expenses associated with the project.

Indirect Costs

WRD will not include or seek reimbursement for or use as cost share / matching funds, any indirect costs incurred under the project.

Third Party In-Kind Contributions

WRD has not included any third-party in-kind contributions to the project.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

7. Environmental and Cultural Resources Compliance

- **Will the proposed project impact the surrounding environment (e.g., soil [dust], air, water [quality and quantity], animal habitat)? Please briefly describe all earth-disturbing work and any work that will affect the air, water, or animal habitat in the project area. Please also explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts.**

The project site is located entirely within the LVLWTF's existing facility / site boundary area. Surrounding land uses include El Dorado Regional Park on the north side of Willow Street, a golf course to the west of the San Gabriel River, and the San Gabriel Freeway on the east side of Coyote Creek. The San Gabriel River and Coyote Creek, which flank the site, are concrete-lined and thus urban in appearance. At western edge of the property along the San Gabriel River is an undeveloped easement with high voltage overhead power lines. The project site however, and all areas that immediately surround the project site, are previously disturbed and within the fence-line of the existing LVLWTF.

All construction work will take place within an approximately [1]-acre section of the existing 4-acre LVLWTF site. The entire project site is currently paved. Excavations will be limited to the proposed underground well vault and drilling of the well itself; all appurtenant piping will be installed aboveground. The materials staging and storage would be located on paved or concrete areas within the existing facility. All materials for project construction would be delivered by truck on existing roadways. The entire site is paved and enclosed by chain link fencing with a monitored access gate.

Impacts to the environment:

Water quality: There will be no change in water quality during operations because there will be no change in ground surface and only a temporary change in stormwater quality during construction, which would be managed in accordance with the applicable MS4 permit.

Air Quality: The proposed pump will run on electricity with no emissions. Temporary construction will have negligible emissions

Animal Habitat: The project site is paved with minimal land-scaping and contains no significant animal habitat

- **Are you aware of any species listed or proposed to be listed as a Federal threatened or endangered species, or designated critical habitat in the project area? If so, would they be affected by any activities associated with the proposed project?**

WRD is not aware of any listed or proposed or proposed to be listed or designated critical habitat in the project vicinity. The site is in the vicinity of disturbed open space, including a power line easement, although the site itself is paved and currently used to house the existing LVLWTF. To the north of the site, the El Dorado Natural Center is located opposite Willow Street and will not be disturbed in any way by the project.

Given the disturbed nature of the site and the lack of appropriate habitat, no species have the potential to be located at the project site. Three bat species, including two California Species of Concern (western mastiff bat [Eumops perotis californicus] and western yellow bat [Lasiurus xanthinus]) could potentially

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

roost in mature trees in the vicinity (i.e, El Dorado Regional Park). However, there are no reports of sightings either there or at the project site.

All construction and construction staging would occur within the project site footprint and the site would be accessed by existing roadways. The site is currently paved and developed with a water treatment facility, and no threatened, endangered, or rare animal species occur on the site. Additionally, no protected species would be impacted because the site is not occupied by any habitat, including stands of shrubs or trees that would provide potential nesting or roosting sites.

The open space in the vicinity of the project site is disturbed and has low potential for sensitive species or habitat to occur, and thus indirect impacts associated with construction noise and dust are not expected to occur. There are no mature trees in the immediate vicinity that could be used for roosting sites by sensitive bat species or nesting sites by migratory bird species. No substantial disturbance to sensitive species or habitats is expected during construction or operations and no impact would occur.

- **Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States?" If so, please describe and estimate any impacts the proposed project may have.**

There are no jurisdictional wetlands or drainage features on the proposed project site; therefore, no impact to wetlands or drainage features would occur. Moreover, there is no riparian habitat, other sensitive natural community, or ecologically significant or critical areas located within the proposed project site. The San Gabriel River and Coyote Creek adjacent to the project site are channelized and thus do not have notable riparian or wetland habitat, and in any case, will not be impacted in any way by the project.

- **When was the water delivery system constructed?**

The water delivery system at the site was constructed in 2003 and expanded to double the capacity in 2014.

- **Will the proposed project result in any modification of or effects to, individual features of an irrigation system (e.g., headgates, canals, or flumes)? If so, state when those features were constructed and describe the nature and timing of any extensive alterations or modifications to those features completed previously.**

Water will be delivered to a new injection well; no modification of or effects to, individual features of an irrigation system will occur.

- **Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?**

In October 2010, a records search was conducted by the South-Central Coast Information Center, California State University, Fullerton. The search included review of all recorded archaeological sites within a 1/2-mile radius of the project site, including review of cultural resource reports on file. In addition, the California Points of Historical Interest, the California Historical Landmarks, the California Register of Historical Resources (CRHR), the National Register of Historic Places (NRHP), and the California State Historic Resources Inventory listings were reviewed for the project area. No resources of any kind are previously recorded within a 1/2-mile radius of the project site.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

- **Are there any known archeological sites in the proposed project area?**

The proposed project site was excavated in the 1960s to develop a storm water detention basin. As part of the LVLWTF construction in 2003, approximately 150,000 cubic yards of fill material was brought to the site to bring the building pad elevation above flood elevation level. Given that the site is highly disturbed and the building pad is comprised of fill, it is very unlikely to contain intact cultural resources. Further, a site survey was conducted in 1975 for Los Angeles County associated with development of the adjacent LBWRP. The survey found no archaeological or paleontological resources. Additionally, no resources were identified in the study conducted for development of the existing LVLWTF facilities (Psomas and Associates, 1998).

Similarly, since the project site and much of the surrounding area has been previously graded and developed, the underlying deposits are likely to have a low potential to contain fossil resources, and are thus, considered to have little to no paleontological sensitivity.

Additionally, as stated above, in October 2010, a records search was conducted by the South-Central Coast Information Center, California State University, Fullerton. The search included review of all recorded archaeological sites within a 1/2-mile radius of the project site, including review of cultural resource reports on file. In addition, the California Points of Historical Interest, the California Historical Landmarks, the California Register of Historical Resources (CRHR), the National Register of Historic Places (NRHP), and the California State Historic Resources Inventory listings were reviewed for the project area. No resources of any kind are previously recorded within a 1/2-mile radius of the project site.

- **Will the proposed project have a disproportionately high and adverse effect on low income or minority populations?**

The project will be located within boundaries of the existing LVLWTF site, surrounded by the existing infrastructure on the site and is separated from any community and will not have a disproportionately high and adverse effect on low income or minority populations. The closest community to the project area is Rossmoor across the 605 freeway. According to the US Census (V2019) Rossmoor CDP is made up as follows:

White alone: 80.1%
Black or African American alone: 0.3%
American Indian or Alaska native, alone: 0.7%
Asian alone: 10.9%
Native Hawaiian and Other Pacific Islander alone: 0.5%
Two or more races: 5.9%
Hispanic or Latino: 12.4%

As stated above, the community of Rossmoor is across the 605 freeway from the project and will not be impacted in any way by the project.

- **Will the proposed project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?**

The project will not limit access to and ceremonial use of Indian sacred sites or any other impacts on tribal lands. There are no such lands located on site nor in proximity to the project site.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

- **Will the proposed project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?**

The proposed project will not contribute to the introduction, continued existence or spread of noxious weeds as the project will be constructed in an existing paved site. The unpaved area on site consists of a small amount area of ornamental landscaping, and no special-status plant species are located on the project site. The project will include only limited on-site construction activities and land disturbance will be limited to areas that are already paved. No natural vegetation is present on site, and the project will not result in the import of any invasive species.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

8. Required Permits or Approvals

One of the first scope items for the Consultant, chosen to perform the project design, permitting and construction support, will be to conduct a thorough review of all permit requirements for this project. The Consultant shall develop a detailed description of each permit and a schedule associated with meeting the permit deadlines for approval. At this stage in the project, the following is a preliminary list of permits that may be necessary for this project:

- **Update to the Title 22 Engineering Report for LVL AWTF for approval by DDW and RWCB**

Plan for obtaining permit: WRD has already initiated preliminary discussions with DDW and RWCB, to introduce these agencies to the proposed project. Initial requirements provided by the agencies are for a complete update of the existing Title 22 Engineering Report for LVL AWTF, in lieu of an amendment to the existing report. To complete the update, WRD will meet with DDW and RWCB to discuss the development of a Work Plan. WRD will draft a Work Plan and submit for review by RWCB and DDW. Once the Work Plan has been approved, the updated Title 22 Engineering Report will be submitted for approval. This total process can take up to 3 years depending on the review time by RWCB and DDW (i.e., completion by October, 2023). WRD is working with RWCB and DDW to streamline this process and expects completion within this timeframe. As a contingency, however, note that WRD will complete all project testing and verification identified under the project. In the unlikely event of an additional delay in this permitting process, WRD will have nonetheless completed all project elements and verification sufficient to fulfill the objectives and reporting requirements for this project. WRD would then initiate full scale operation upon permit availability.

- **Waste Discharge Permit** (RWCB)

Plan for obtaining permit: This permit allows for discharge of water into the proposed injection well. The total process can take 3-4 months. WRD will initiate the process at least 6 months prior to completion of the proposed injection well.

- **Well Permit - State DWSAP, if required** (DDW)

Plan for obtaining permit: WRD will identify the travel times, any contaminated sites, and any potential for impact on other wells. WRD will then submit an application to the DDW, if required, at least 3 months prior to completion of construction of the proposed well. The total review process can take up to 1 month.

- **Well Permit Approval** (City of Long Beach, Department of Public Health)

Plan for obtaining permit: WRD will complete and submit an application for well permit approval and inspection of well installations with the City. The City will review submitted materials and complete an inspection to ensure that offsets for sanitary sewers and sanitary seals are properly installed.

- **Building Permit, if required** (City of Long Beach):

Plan for obtaining permit: WRD will apply for all required building permits approximately one month prior to the initiation of project construction. Given the current scope of the project, building permits will

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

be limited if required at all. If required, WRD will submit a building permit application during the later design phase of the project to the City of Long Beach for approval. Once approved, construction activities can begin. If required, WRD will direct its construction contractor to ensure necessary inspections are built into their construction schedule and meet the City of Long Beach requirements.

The project will also require compliance with federal and state environmental law, as follows:

National Environmental Policy Act (NEPA) compliance: Reclamation will serve as the NEPA lead agency for the project. Based on a preliminary review of the project and its potential to impact the environment, WRD anticipates that a Categorical Exclusion will be the most appropriate environmental document to secure NEPA compliance. WRD contacted Reclamation on August 4, 2020 to confirm this strategy. In the event that additional NEPA documentation is required, WRD will leverage additional California Environmental Quality Act (CEQA) documentation that will be required under the project (see below), which will be sufficient to complete the majority of the analysis required for an Environmental Assessment / Finding of No Significant Impact (EA/FONSI). All funding, including any additional funds needed to complete an EA/FONSI, are accounted for in WRD's proposed budget.

California Environmental Quality Act (CEQA): WRD will serve as the lead agency for CEQA. Based on a preliminary review completed in support of this project, WRD anticipates that an Initial Study / Mitigated Negative Declaration (IS/MND) will be the most appropriate environmental document to secure CEQA compliance. Although the project will be constructed within the boundaries of the existing advanced water treatment facility, it will also alter the flow of water within the local system, including through the injection of advanced treated water into the subsurface. As a result, an IS/MND (rather than an exemption), is expected to be the most appropriate mechanism for CEQA compliance. All costs and timing required to complete CEQA documentation are fully accounted for within the project.

4040 Paramount Boulevard, Lakewood, California 90712 Phone (562) 921-5521 Fax (562) 921-6101 www.wrd.org

DIANNE FEINSTEIN
CALIFORNIA

COMMITTEE ON THE JUDICIARY
—RANKING MEMBER
SELECT COMMITTEE ON
INTELLIGENCE
COMMITTEE ON APPROPRIATIONS
COMMITTEE ON RULES AND
ADMINISTRATION

United States Senate
WASHINGTON, DC 20510–0504
http://feinstein.senate.gov

July 29, 2020

The Honorable Brenda Burman
Commissioner
Bureau of Reclamation
1849 C Street, N.W.
Washington, DC 20240

Dear Commissioner Burman,

I write in support of the Water Replenishment District of Southern California's (WRD) application for funding from the WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2021, administered by the Bureau of Reclamation, U.S. Department of the Interior.

WRD is requesting a grant award of $1.5 million for its Drought Resiliency Through Groundwater Augmentation Project. WRD would construct a new injection well at the Leo J. Vander Lans Advanced Water Treatment Facility (AWTF). The AWTF purifies up to eight million gallons of effluent water per day from the surrounding region and supplies much of this water to the Alamitos Barrier, which prevents seawater from encroaching into groundwater supplies in Los Angeles County and Orange County. Water left over from the purification process is currently wasted due to WRD's limited storage capacity.

If awarded this grant, WRD would install a groundwater injection well capable of routing up to 2 million gallons of excess water per day into the underlying aquifer, where it would be available for municipal indirect use, drought resiliency and drought mitigation. The proposed project would serve as a model for the installation of two additional injection wells. It would also support water conservation, water supply reliability and WRD's drought contingency planning. Finally, the project would be an integral part of WRD's efforts to create a locally sustainable groundwater supply for the Los Angeles Basin Region.

I urge you to give the Water Replenishment District of Southern California's application every consideration. Please keep my office informed of the status of this request, and if I can be of further assistance, please do not hesitate to contact my Los Angeles office at (310) 914-7300.

Sincerely,

Dianne Feinstein
United States Senator

DF/gm

FRESNO OFFICE:
2500 Tulare Street
Suite 4290
Fresno, CA 93721
(559) 485-7430

LOS ANGELES OFFICE:
11111 Santa Monica Boulevard
Suite 915
Los Angeles, CA 90025
(310) 914-7300

SAN DIEGO OFFICE:
750 B Street
Suite 1030
San Diego, CA 92101
(619) 231-9712

SAN FRANCISCO OFFICE:
One Post Street
Suite 2450
San Francisco, CA 94104
(415) 393-0707

NANETTE DIAZ BARRAGÁN
44TH DISTRICT, CALIFORNIA
WWW.BARRAGAN.HOUSE.GOV
FACEBOOK.COM/CONGRESSWOMANBARRAGAN
TWITTER: @REPBARRAGAN

COMMITTEE ON ENERGY AND COMMERCE
SUBCOMMITTEES:
HEALTH
ENVIRONMENT AND CLIMATE CHANGE
ENERGY

COMMITTEE ON HOMELAND SECURITY
SUBCOMMITTEES:
TRANSPORTATION AND MARITIME SECURITY
OVERSIGHT, MANAGEMENT AND ACCOUNTABILITY

CONGRESSIONAL HISPANIC CAUCUS
2ND VICE CHAIR

PORTS CAUCUS

Congress of the United States
House of Representatives
Washington, DC 20515

WASHINGTON OFFICE:
1030 LONGWORTH HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-8220

DISTRICT OFFICES:
302 W. FIFTH STREET, SUITE 201
SAN PEDRO, CA 90731
(310) 831-1799

701 E. CARSON STREET
CARSON, CA 90745

8650 CALIFORNIA AVENUE
SOUTH GATE, CA 90280

205 S WILLOWBROOK AVENUE
COMPTON, CA 90220

July 31, 2020

The Honorable Brenda Burman
Commissioner
Bureau of Reclamation
1849 C Street, NW
Washington, DC 20240

RE: FY2021 WaterSMART Drought Response Program: Drought Resiliency Projects

Dear Commissioner Burman:

I write in regard to the Water Replenishment District of Southern California's (WRD) proposal for an FY21 WaterSMART Drought Response Program: Drought Resiliency Projects grant to support the construction a new injection well at the Leo J. Vander Lans Advanced Water Treatment Facility (AWTF).

As the largest groundwater agency in Southern California, the WRD is tasked with managing and protecting the groundwater water supply for over four million residents across a 420-square mile service area in Los Angeles County. The proposed installation of a new injection well at the Leo J. Vander Lans AWTF is a vital element of the agency's Water Independence Now For All (WIN4ALL) Program, which strives to utilize available groundwater storage capacity and new recharge to develop a locally sustainable groundwater supply for the Los Angeles Basin Region, while significantly reduce the demand for water imported from Northern California.

Currently, the Leo J. Vander Lans AWTF has the capacity to convert eight million gallons of effluent water into purified water each day. This facility provides much of this water to the Alamitos Barrier, which prevents seawater from entering groundwater supplies in Los Angeles and Orange counties. Unfortunately, the excess water leftover from the purification process is presently discharged to the Pacific Ocean. However, the proposed project would allow the WRD to build a new groundwater injection well capable of transporting up to two million gallons of this excess water into the underlying aquifer per day. This critical project will allow the excess water to be available for drought resiliency, drought mitigation, and municipal indirect use.

In my congressional district, every municipality and unincorporated community is served by the WRD. This project is essential to the sustainability of their groundwater supplies as it will support water conservation, increase water supply reliability for multiple purposes, and assist the WRD with its drought contingency planning, which will directly impact my constituents and local stakeholders for years to come. WRD's efforts to move our region toward independence from imported water is commendable, and this proposal would help to achieve that goal.

As the Representative of California's 44th Congressional District, I respectfully request your thorough consideration of WRD's proposal for a WaterSMART Drought Resiliency Projects grant.

Sincerely,

Nanette Diaz Barragán

Nanette Diaz Barragán
Member of Congress

COMMITTEE ON ARMED SERVICES
SUBCOMMITTEE ON SEAPOWER
SUBCOMMITTEE ON PERSONNEL

COMMITTEE ON VETERANS' AFFAIRS
SUBCOMMITTEE ON HEALTH
SUBCOMMITTEE ON DISABILITY ASSISTANCE AND MEMORIAL AFFAIRS
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

CONGRESSIONAL HISPANIC CAUCUS

CONGRESSIONAL ASIAN PACIFIC AMERICAN CAUCUS

United States House of Representatives
Gilbert R. Cisneros, Jr.
39th District. California

WASHINGTON OFFICE:
431 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-4111

FULLERTON OFFICE:
1440 NORTH HARBOR BOULEVARD, SUITE 601
FULLERTON, CA 92835
(714) 459-4575

DIAMOND BAR OFFICE:
20995 PATHFINDER ROAD, SUITE 330
DIAMOND BAR, CA 91765
(909) 569-0525

WWW.CISNEROS.HOUSE.GOV
FACEBOOK.COM/REPGILCISNEROS
TWITTER: @REPGILCISNEROS

July 31, 2020

Brenda Burman
Commissioner
U.S. Bureau of Reclamation
1849 C Street NW
Washington, DC 20240-0001

RE: Support –WRD's Drought Resiliency Through Groundwater Augmentation Project at the Leo J Vander Lans Advanced Water Treatment Facility Project (AWTF)

Dear Ms. Burman,

I am pleased to support the Water Replenishment District of Southern California (WRD) in its application to the U.S. Bureau of Reclamation's WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2021. WRD is requesting $1,500,000 to construct a new injection well at the Leo J Vander Lans Advanced Water Treatment Facility (AWTF).

I understand that WRD will develop and deploy the Drought Resiliency Through Groundwater Augmentation Project (project) at its existing AWTF. Currently, the AWTF has the capacity to convert eight million gallons of effluent water per day from the surrounding region into highly purified water. The facility supplies much of this water to the Alamitos Barrier, which prevents seawater from encroaching into groundwater supplies in Los Angeles and Orange counties. Excess water leftover from the purification process is discharged to the Pacific Ocean, wasting a valuable resource.

In the proposed project, WRD will install a new groundwater injection well capable of injecting up to 2,000,000 gallons per day of this excess water—2,240 acre-feet per year—into the underlying aquifer, where it will be available for municipal indirect use, drought resiliency, and drought mitigation.

WRD—a national leader in sustainable groundwater management—will undertake the proposed project as a key element of its Water Independence Now For All (WIN4ALL) Program, which seeks to use available groundwater storage capacity and new recharge to create a 100% locally sustainable groundwater supply for the Los Angeles Basin Region. Once complete, the project will serve as a model for the construction and installation of two additional injection wells that will further capture locally available advanced treated wastewater supplies.

COMMITTEE ON ARMED SERVICES
SUBCOMMITTEE ON SEAPOWER
SUBCOMMITTEE ON PERSONNEL

COMMITTEE ON VETERANS' AFFAIRS
SUBCOMMITTEE ON HEALTH
SUBCOMMITTEE ON DISABILITY ASSISTANCE AND MEMORIAL AFFAIRS
SUBCOMMITTEE ON OVERSIGHT AND INVESTIGATIONS

CONGRESSIONAL HISPANIC CAUCUS

CONGRESSIONAL ASIAN PACIFIC AMERICAN CAUCUS

United States House of Representatives
Gilbert R. Cisneros, Jr.
39th District. California

WASHINGTON OFFICE:
431 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225-4111

FULLERTON OFFICE:
1440 NORTH HARBOR BOULEVARD, SUITE 601
FULLERTON, CA 92835
(714) 459-4575

DIAMOND BAR OFFICE:
20995 PATHFINDER ROAD, SUITE 330
DIAMOND BAR, CA 91765
(909) 569-0525

WWW.CISNEROS.HOUSE.GOV
FACEBOOK.COM/REPGILCISNEROS
TWITTER: @REPGILCISNEROS

Thus, the project is critical element of WRD's overarching WIN4ALL strategy. It will support water conservation and effective management, increase water supply reliability for multiple end uses, and help WRD to actualize and deploy its existing drought contingency planning.

As a strong advocate for sustainable water solutions, I support the proposed project without reservation, and urge the U.S. Bureau of Reclamation to fully fund this important, high-return project. If you have any question about my support for the proposed project, please contact my grants coordinator Erika Flores at Erika.Flores@mail.house.gov or at (714) 459-4575.

Sincerely,

Gilbert R. Cisneros, Jr.
Member of Congress

Congress of the United States
Washington, DC 20515

August 3, 2020

Matthew D. Reichert
Grants Management Specialist
U.S. Bureau of Reclamation
1849 C Street NW
Washington, DC 20240

RE: Letter of support from Congressman Jimmy Gomez for the Water Replenishment District of Southern California's WaterSMART Drought Response Program grant proposal.

Dear Mr. Reichert,

I write to request full and fair consideration of the application submitted by the Water Replenishment District of Southern California (WRD) for the U.S. Department of the Interior's Bureau of Reclamation WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Years 2020 and 2021 grant. The WaterSMART Drought Response Program provides funding for organizations with water delivery authority to leverage their money and resources by cost sharing with Reclamation on Drought Resiliency Projects that will increase the reliability of water supplies, improve water management, and provide benefits for wildlife and the environment to mitigate impacts caused by drought.

For over 60 years, WRD has worked to protect the groundwater resources of the Central and West Coast Groundwater Basins. Their efforts include protecting the basins through artificial groundwater replenishment, ensuring that aquifers maintain healthy levels and monitoring the groundwater to ensure the quality meets all health standards. The WRD shared they are currently the largest groundwater agency in all of California. They currently serve 43 cities, including the 34th Congressional District, providing about 82 billion gallons of water annually.

Through this funding, WRD intends to construct a new injection well at the Leo J Vander Lans Advanced Water Treatment Facility (AWTF). WRD shared that currently, the AWTF has the capacity to convert eight million gallons of effluent water per day into highly purified water. Excess water leftover from the purification process is discharged to the Pacific Ocean. WRD outlined it will install a new groundwater injection well capable of injecting up to 2,000,000 gallons per day of this excess water into the underlying aquifer. By saving this valuable resource, the water would become available for municipal indirect use, drought resiliency, and drought mitigation.

I ask for your consideration of the WaterSMART Drought Response Program grant proposal submitted by the WRD, which is consistent with applicable statutes and regulations. Please contact Roberto Gama at Roberto.Gama@mail.house.gov or (213) 481-1425 should you have any questions regarding this letter.

Sincerely,

Jimmy Gomez
MEMBER OF CONGRESS

TED W. LIEU
33RD DISTRICT, CALIFORNIA

COMMITTEE ON THE JUDICIARY

COMMITTEE ON FOREIGN AFFAIRS

Congress of the United States
House of Representatives
Washington, DC 20515–0533

403 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
(202) 225–3976

1645 CORINTH AVENUE, SUITE 101
LOS ANGELES, CA 90025
(310) 652–3095

1600 ROSECRANS AVENUE, 4TH FLOOR
MANHATTAN BEACH, CA 90266
(310) 321–7664

August 3, 2020

Brenda Burman
Commissioner
U.S. Bureau of Reclamation
1849 C Street NW
Washington, D.C. 20240

Dear Commissioner Burman:

I am writing in support of the grant application submitted by the Water Replenishment District of Southern California (WRD) to the U.S. Bureau of Reclamation's WaterSMART Drought Response Program to construct a new injection well at the Leo J. Vander Lans Advanced Water Treatment Facility (AWTF).

The Water Replenishment District's existing AWTF has the capacity to convert 8 million gallons of effluent water per day from the surrounding region into highly purified water. Much of the water the AWTF supplies goes to the Alamitos Barrier, which prevents seawater from encroaching into groundwater supplies in Los Angeles and Orange counties, while excess water is discharged into the Pacific Ocean. WRD plans to install a new groundwater injection well capable of injecting up to 2 million gallons per day of excess water into the underlying aquifer.

This project is a critical element of WRD's Water Independence Now for All (WIN4ALL) Program, which aims to use available groundwater storage capacity and new recharge to create a 100% locally sustainable groundwater supply for the Los Angeles Basin Region. Once complete, the project will serve as a model for the construction and installation of two additional injection wells that will further capture locally available advanced treated wastewater supplies, as well as support water conservation and effective management, increase water supply reliability for multiple end uses, and help WRD actualize and deploy its existing drought contingency planning.

If awarded this grant in the amount of $1,500,000, WRD's well would be able to store 2,240 acre-feet of water per year, allowing for municipal indirect use, drought resiliency, and drought mitigation down the road.

Thank you for your attention to this matter. Should your staff have any questions, please contact Ryan Leou and Faith Tetlow from my staff at (323) 651-1040.

Sincerely,

Ted W. Lieu

Ted W. Lieu
Member of Congress

ALAN LOWENTHAL
47TH DISTRICT, CALIFORNIA

COMMITTEE ON NATURAL RESOURCES
CHAIR, SUBCOMMITTEE ON ENERGY & MINERAL RESOURCES
SUBCOMMITTEE ON NATIONAL PARKS, FORESTS, & PUBLIC LANDS
SUBCOMMITTEE ON WATER, OCEANS, & WILDLIFE

COMMITTEE ON TRANSPORTATION & INFRASTRUCTURE
SUBCOMMITTEE ON HIGHWAYS & TRANSIT
SUBCOMMITTEE ON WATER & ENVIRONMENT
SUBCOMMITTEE ON COAST GUARD & MARITIME
SUBCOMMITTEE ON RAILROADS, PIPELINES & HAZARDOUS MATERIALS

Congress of the United States
House of Representatives
Washington, DC 20515

108 CANNON HOUSE OFFICE BUILDING
WASHINGTON, DC 20515
PHONE (202) 225-7924
FAX (202) 225-7926

275 MAGNOLIA AVENUE
SUITE 1955
LONG BEACH, CA 90802
PHONE (562) 436-3828
FAX (562) 437-6434

12865 MAIN STREET
SUITE 200
GARDEN GROVE, CA 92840
PHONE (714) 243-4088
FAX (562) 437-6434

www.lowenthal.house.gov
facebook.com/RepLowenthal
twitter.com/RepLowenthal

July 31, 2020

The Honorable Brenda Burman
Commissioner
U.S. Bureau of Reclamation
1849 C Street N.W.
Washington, DC 20240-0001

RE: Support –WRD's Drought Resiliency Through Groundwater Augmentation Project at the Leo J Vander Lans Advanced Water Treatment Facility Project (AWTF)

Dear Commissioner Burman,

I am pleased to support the Water Replenishment District of Southern California's (WRD) in its application to the U.S. Bureau of Reclamation's WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2021. WRD is requesting $1,500,000 to construct a new injection well at the Leo J. Vander Lans Advanced Water Treatment Facility (AWTF).

I understand that WRD will develop and deploy the Drought Resiliency Through Groundwater Augmentation Project (project) at its existing AWTF. Currently, the AWTF has the capacity to convert eight million gallons of effluent water per day from the surrounding region into highly purified water. The facility supplies much of this water to the Alamitos Barrier, which prevents seawater from encroaching into groundwater supplies in Los Angeles and Orange counties. Excess water leftover from the purification process is discharged to the Pacific Ocean, wasting a valuable resource.

In the proposed project, WRD will install a new groundwater injection well capable of injecting up to 2,000,000 gallons per day of this excess water—2,240 acre-feet per year—into the underlying aquifer, where it will be available for municipal indirect use, drought resiliency, and drought mitigation.

WRD—a national leader in sustainable groundwater management—will undertake the proposed project as a key element of its Water Independence Now For All (WIN4ALL) Program, which seeks to use available groundwater storage capacity and new recharge to create a 100% locally sustainable groundwater supply for the Los Angeles Basin Region. Once complete, the project will serve as a model for the construction and installation of two additional injection wells that will further capture locally available advanced treated wastewater supplies.

This project is a critical element of WRD's overarching WIN4ALL strategy. It will support water conservation and effective management, increase water supply reliability for multiple end uses, and help WRD realize and deploy its existing drought contingency planning.

For these reasons and more, I support the proposed project, and urge the U.S. Bureau of Reclamation to fully fund this important, high-return project. If you have any questions, please contact my Washington office at (202) 225-7924.

Sincerely,

Alan Lowenthal

Alan Lowenthal
Member of Congress

CAPITOL OFFICE
1610 LONGWORTH BUILDING
WASHINGTON, DC 20515
(202) 225-5256
FAX (202) 225-0027

DISTRICT OFFICE
4401 SANTA ANITA AVE, #201
EL MONTE, CA 91731
(626) 350-0150
FAX (626) 350-0450
www.napolitano.house.gov

Grace F. Napolitano
Congress of the United States
House of Representatives
32nd District of California

TRANSPORTATION AND INFRASTRUCTURE
WATER RESOURCES AND ENVIRONMENT - CHAIRWOMAN
AVIATION
HIGHWAYS AND TRANSIT
RAILROADS, PIPELINES, AND HAZARDOUS MATERIALS

NATURAL RESOURCES
WATER, OCEANS, AND WILDLIFE

CONGRESSIONAL MENTAL HEALTH CAUCUS
CO-CHAIR

CONGRESSIONAL YOUTH CHALLENGE CAUCUS
CO-CHAIR

CONGRESSIONAL HISPANIC CAUCUS

July 27, 2020

The Honorable Brenda Burman
Commissioner
U.S. Bureau of Reclamation
1849 C Street N.W.
Washington, DC 20240-0001

RE: Support –WRD's Drought Resiliency Through Groundwater Augmentation Project at the Leo J Vander Lans Advanced Water Treatment Facility Project (AWTF)

Dear Commissioner Burman,

I am pleased to support the Water Replenishment District of Southern California (WRD) in its application to the U.S. Bureau of Reclamation's WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2021. WRD is requesting $1,500,000 to construct a new injection well at the Leo J. Vander Lans Advanced Water Treatment Facility (AWTF).

I understand that WRD will develop and deploy the Drought Resiliency Through Groundwater Augmentation Project (project) at its existing AWTF. Currently, the AWTF has the capacity to convert eight million gallons of effluent water per day from the surrounding region into highly purified water. The facility supplies much of this water to the Alamitos Barrier, which prevents seawater from encroaching into groundwater supplies in Los Angeles and Orange counties. Excess water leftover from the purification process is discharged to the Pacific Ocean, wasting a valuable resource.

In the proposed project, WRD will install a new groundwater injection well capable of injecting up to 2,000,000 gallons per day of this excess water—2,240 acre-feet per year—into the underlying aquifer, where it will be available for municipal indirect use, drought resiliency, and drought mitigation.

I urge the U.S. Bureau of Reclamation to give full consideration to this important project for Southern California and our water supply.

Sincerely,

Grace F. Napolitano
Member of Congress

MEMBER:
COMMITTEE ON WAYS AND MEANS
SUBCOMMITTEE ON OVERSIGHT
SUBCOMMITTEE ON SELECT REVENUE MEASURES
SUBCOMMITTEE ON SOCIAL SECURITY

Linda T. Sánchez
38TH DISTRICT, CALIFORNIA

Congress of the United States
House of Representatives
Washington, DC 20515

DC OFFICE:
2329 RAYBURN BUILDING
WASHINGTON, DC 20515
(202) 225-6676

DISTRICT OFFICE:
12440 EAST IMPERIAL HIGHWAY
SUITE 140
NORWALK, CA 90650
(562) 860-5050

www.lindasanchez.house.gov

July 29, 2020

Brenda Burman
Commissioner
U.S. Bureau of Reclamation
1849 C Street NW
Washington, DC 20240-0001

RE: Support forWRD's Drought Resiliency Through Groundwater Augmentation Project at the Leo J Vander Lans Advanced Water Treatment Facility Project (AWTF)

Dear Mr. Reichert,

I am writing to support for the Water Replenishment District of Southern California (WRD) in its application to the U.S. Bureau of Reclamation's WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2021. WRD is requesting $1,500,000 to construct a new injection well at the Leo J Vander Lans Advanced Water Treatment Facility (AWTF).

WRD is the largest groundwater agency in the State of California, managing and protecting local groundwater resources for over four million residents. WRD provides a reliable supply of high-quality groundwater to my district and surrounding communities through the use of recycled water and storm water capture. Currently, their AWTF has the capacity to convert eight million gallons of effluent water per day from the surrounding region into highly purified water. The facility supplies much of this water to the Alamitos Barrier, which prevents seawater from encroaching into groundwater supplies in Los Angeles and Orange counties. Excess water leftover from the purification process is discharged to the Pacific Ocean, wasting a valuable resource. In the proposed project, WRD will install a new groundwater injection well capable of injecting up to 2,000,000 gallons per day of this excess water—2,240 acre-feet per year—into the underlying aquifer, where it will be available for municipal indirect use, drought resiliency, and drought mitigation.

WRD—a national leader in sustainable groundwater management—will undertake the proposed project as a key element of its Water Independence Now For All (WIN4ALL) Program, which seeks to use available groundwater storage capacity and new recharge to create a 100% locally sustainable groundwater supply for the Los Angeles Basin Region. Once complete, the project will serve as a model for the construction and installation of two additional injection wells that will further capture locally available advanced treated wastewater supplies.

Thus, the project is critical element of WRD's overarching WIN4ALL strategy. It will support water conservation and effective management, increase water supply reliability for multiple end uses, and help WRD to actualize and deploy its existing drought contingency planning.

I appreciate your consideration of this worthwhile request. I am confident WRD will continue to protect the water supply in the basin. Should you have any questions, please do not hesitate to contact me.

Sincerely,

Linda T. Sánchez
Member of Congress

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

Mr. Matthew Reichert
Financial Assistance Support Section
U.S. Bureau of Reclamation
P.O. Box 25007, MS 84-27814
Denver, CO 80225

July 31, 2020

Dear Mr. Reichert:

Support for Water Replenishment District's Drought Resiliency Through Groundwater Augmentation Project at the Leo J. Vander Lans Advanced Water Treatment Facility

On behalf the Los Angeles County Sanitation Districts (Sanitation Districts), I am pleased to support the Water Replenishment District of Southern California (WRD) in its application to the U.S. Bureau of Reclamation's WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year 2021. WRD is requesting $1,500,000 to construct a new injection well at the Leo J. Vander Lans Advanced Water Treatment Facility (AWTF).

I understand that WRD will develop and deploy the Drought Resiliency Through Groundwater Augmentation Project (project) at its existing AWTF. Currently, the AWTF has the capacity to convert 8 million gallons of recycled water per day from the surrounding region into highly purified water. The facility supplies much of this water to the Alamitos Barrier, which prevents seawater from encroaching into groundwater supplies in Los Angeles and Orange counties. The production capacity for purified water at the AWTF currently exceeds the needs at the Alamitos Barrier.

In the proposed project, WRD will install a new groundwater injection well capable of injecting up to 2,000,000 gallons per day (2,240 acre-feet per year) of this excess water into the underlying aquifer, where it will be available for municipal indirect use, drought resiliency, and drought mitigation.

WRD is a long-time partner of the Sanitation Districts and is recognized as a national leader in sustainable groundwater management. WRD will undertake the proposed project as a key element of its Water Independence Now For All (WIN4ALL) Program, which seeks to use available groundwater storage capacity and new recharge to create a 100 percent locally sustainable groundwater supply for the Los Angeles Basin Region. Once complete, the project will serve as a model for the construction and installation of two additional injection wells that will further beneficially reuse locally available advanced treated wastewater supplies.

In addition, the project would involve the use of excess tertiary effluent from the Sanitation Districts' Los Coyotes Water Reclamation Plant as feedwater at the AWTF. Thus, the project is not only a critical element of WRD's overarching WIN4ALL strategy, but is also vital to the Sanitation Districts' commitment for maximizing the use of recycled water from our treatment plants. The project will support water conservation and effective management, increase water supply reliability for multiple end uses, and help WRD to actualize and deploy its existing drought contingency planning.

For these reasons and more, I support the proposed project without reservation, and urge the U.S. Bureau of Reclamation to fully fund this important, high-return project. If you have any questions about my support for the proposed project, please contact me at rtremblay@lacsd.org or (562) 908-4288, extension 2701.

Very truly yours,

Ray Tremblay

Raymond L. Tremblay
Department Head
Facilities Planning

RT:CC:ddg

DOC 5845722

August 3, 2020

Matthew Reichert
US Bureau of Reclamation
Financial Assistance Support Section
P.O. Box 25007, MS 84-27814
Denver, CO, 80225

Subject: Commitment Letter for WRD's WIN 4 ALL - Regional Drought Resiliency at the Leo J Vander Lans AWTF Project

Dear Mr. Reichert,

The Water Replenishment District of Southern California (Applicant) is pleased to submit this Letter of Commitment in support of the WIN 4 ALL - Regional Drought Resiliency at the Leo J Vander Lans AWTF Project.

The Applicant certifies its commitment to providing staff and services as needed to fulfill the scope of work outlined in the project, including engineering and design, completion of all required approvals, oversight and implementation of the construction process and oversight of subcontractors.

The Applicant further commits to providing all match funding needed to support the project. Specifically, the Applicant will provide $3,347,336 from agency funds in total match funding needed to support the project.

We are excited about the proposed project and look forward to begin implementation. If you have any questions at all about our commitment to the project, please don't hesitate to contact me at 562-921-5521or dgatza@wrd.org.

Sincerely yours,

Diane Gatza
Manager of Water Resources