Proposal to:

U.S. Department of Interior, Bureau of Reclamation

WaterSMART Grants:
Drought Response Program: Drought Resiliency Projects for Fiscal Year 2022

FOA No. R22AS00020

UPPER VALLE DE LOS CABALLOS OPTIMIZATION PROJECT: WELL #173

Temecula, CA

October 5, 2021

Applicant: Rancho California Water District

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Date
October 5, 2021

Applicant Information
Rancho California Water District ***Category "A" Applicant)***
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Project Summary
The Rancho California Water District (Rancho Water/District) is in the process of implementing its Upper Valle De Los Caballos Optimization Project (Upper VDC Project , which is designed to significantly increase the District's capacity for groundwater recharge and recovery. While the initial phases of the Upper VDC Project are complete, the final phases, which include the design and construction of treatment facilities, a pump station, and a series of extraction wells, are now underway. Construction of the treatment facilities and pump station are scheduled for completion in 2022, and will allow for an increase of recharge at existing facilities from 13 cubic feet per second (CFS) to 42 CFS, a 223% increase. Under this grant proposal, Rancho Water is requesting a grant award of $2,000,000 for the construction of extraction well #173 (Proposed Project), which will be drilled immediately down-gradient from these new recharge facilities. Well #173 is in the final design stage, environmental compliance has been initiated, all non-Federal funding has been secured, and construction is scheduled to begin in the summer of 2022. Rancho Water's service area is in the midst of a severe drought, which is worsening by the day, and the Proposed Project helps the District mitigate the effects of shrinking water supplies by providing the ability to extract 1,200 acre feet per year of additional recharge water during all water supply conditions, including dry years. In addition, the project provides the operational flexibility to extract either local surface water conveyed to the District's recharge facilities from nearby Vail Lake or untreated import water purchased from Metropolitan Water District, whichever is available. The Proposed Project is specifically listed in the Upper Santa Margarita Watershed's Integrated Regional Water Management Plan (the regional Drought Plan) as an effort that improves the overall sustainability and reliability of groundwater supplies, and improves regional water management. In addition, it contributes to the goals of the U.S. Bureau of Reclamation's WaterSMART Grants: Drought Response Program by building long-term resilience to drought and reducing the need for emergency response actions.

Project Schedule *length of time and estimated completion date*
The Proposed Project can be completed within the three-year requirement for Funding Group II projects. Project construction activities would begin in October 2022, and the Project would be complete (final report submitted) by February 2025. The Project Schedule indicates key program milestones and deliverables, and is provided on page 18 of this proposal.

Proximity of Project to Federal Facility
The Proposed Project is not on Reclamation project lands and does not involve Reclamation facilities. However, the project does reside in the Colorado River Basin within Reclamation's

Lower Colorado Region, and a large portion of the water used in the Proposed Project area is imported through the Colorado River Aqueduct (CRA), Reclamation project water.

F. Project Location

Rancho California Water District's (Rancho Water/District) service area consists of nearly 100,000 acres in the southwestern portion of Riverside County, California. Rancho Water provides water for urban and agricultural uses to the City of Temecula, portions of the City of Murrieta, and unincorporated southwestern Riverside County lands in the surrounding area. The District is about 85 miles southeast of the City of Los Angeles, 40 miles south of City of Riverside and 65 miles north of the City of San Diego.

Figure 1 shows the location and boundary of Rancho Water. The Proposed Project is located at lat/long 33.50541863265187, -117.01751918846072 within the District's Rancho Division (east side of I-15 about one mile downstream of Vail Lake.

Figure 1

G. Technical Project Description

Project Summary

The Proposed Project is a component of the Upper VDC Optimization Project, which is designed to significantly increase the District's capacity for groundwater recharge and recovery see Appendix B). As part of the Upper VDC project, Rancho Water is requesting a grant award of $2,000,000 for construction of a new recovery/extraction well, well #173. The Proposed Project improves drought resiliency by enabling the District to extract 1,200 acre feet per year of additional water during all water supply conditions, including dry years, and improves operational flexibility by giving the District the ability to extract either local water conveyed to the recharge facilities from nearby Vail Lake or untreated import water purchased through Metropolitan Water District, whichever is available. The Proposed Project is beginning its final design stage, environmental compliance has been initiated, all non-Federal funding has been secured, and construction is scheduled to begin in October 2022. Specific work required for implementation of the Proposed Project includes Contractor Procurement, Final Design, Environmental Compliance, Permitting, and Construction. Following are detailed descriptions of these activities.

- ***Contractor Procurement for Final Design of Well Drilling and Equipping***
  Rancho Water will advertise two design bid opportunities for final design, one for well drilling, and one for well equipping. Once received, District staff will review the bids submitted, award two separate contracts for the design work, and issue Notices to Proceed to each contractor.

- ***Environmental Compliance***
  Environmental compliance includes gaining both California Environmental Quality Act (CEQA) and National Environmental Protection Act (NEPA) approval for the Proposed Project. Rancho Water staff has vast experience with both state and Federal environmental requirements pertaining to well construction, and will have no issues with gaining approval.

- ***Final Design - Well Drilling***
  Specific activities required for completion of this Final Design include preparation of 90% Well Drilling Design Plans by a consultant, Rancho Water staff review of the Well Drilling Design Plans, and completion of 100% Well Drilling Design Plans by the consultant based on Rancho Water staff input.

- ***Contractor Procurement for Well Drilling Construction***
  When Final Design – Well Drilling is complete, Rancho Water will advertise a construction bid opportunity for drilling Well #173. District staff will review the bids submitted, award a contract for the drilling work, and issue a Notice to Proceed.

- ***Permitting***
  Upon issuance of the contract for the drilling of Well 173 the District and the Contractor will jointly apply for a well drilling permit through the Riverside County Department of Environmental Health. This permit is typically issued within one to two weeks from time of submittal and its primary purpose is for the County to gather information about the proposed well and ensure there are no public health concerns associated with the proposed placement of the well. In addition, the District maintains a water supply permit from the Regional Water Quality Control Board (RWQCB), which requires a permit amendment prior to a new well going into service. A permit amendment requires that the District complete an application package that includes a well construction details, a Drinking Water Source Protection Plan, documentation of Environmental Compliance (California Environmental Quality Act), well and disinfection data sheets, and an operations plan. Once the application package is approved, RWQCB completes the permit amendment and issues to the District any conditions for operation of the facility including water quality monitoring requirements and water quality thresholds.

- ***Construction: Well Drilling***
  Drilling of the well and associated activities will begin after a well drilling contractor is procured, and appropriate permits are secured. The contract for Well Drilling will include specific activities such as:

    - Preliminary Site Work
        - Excavation and clearing
        - Access road grading,
        - Well pad construction,
        - Engineering support and inspection,
        - Site restoration upon completion

- Well Drilling
  - Pilot hole drilling isolation zone testing,
  - Ream pilot hole to full well diameter
  - Install well casing,
  - Pump testing and development
  - Well disinfection and cleanup

A more detailed description of the types of equipment involved for well drilling is included as part of the Project Budget in the table shown on page 26 of this proposal.

- ***Final Design: Well Equipping***
  Final Design activities for well equipping will begin during well drilling construction after pump test data become available. Specific activities required for Final Design: Well Equipping include preparation of 90% Well Equipping Design Plans by a consultant, review of pump test results from well drilling construction, and completion of 100% Well Equipping Design Plans.
- ***Contractor Procurement for Well Equipping Construction***
  When Final Design for well equipping is completed, Rancho Water will advertise a construction bid opportunity for the equipping of the well. District staff will review the bids submitted, award a contract for the equipping work, and issue a Notice to Proceed.
- ***Construction: Well Equipping***
  Equipping of the well will begin after a contractor is procured. The contract will include activities such as:

  - General
    - Equipment mobilization and demobilization
  - Site Work
    - Paving and drainage
    - Construction of concrete pads for electrical equipment
    - Construction of concrete well block
    - Construction of concrete pad for discharge piping
  - Mechanical
    - Installation of vertical line shaft for pump and motor equipment
    - Installation of well pump column piping
    - Installation of discharge head and wellhead piping
    - Installation of pump to waste piping and discharge structure
    - Installation of valves and flow meters
  - Electrical
    - Installation of variable frequency drive motor
    - Installation of panel board and Manual transfer switch
    - Installation of metered switchboard
    - Installation of instrumentation components
    - Installation of control panel
    - Programming

A more detailed description of the types of equipment involved for well equipping is included as part of the Project Budget in the table shown on page 26 of this proposal.

H. Performance Measures

Among the many benefits the Proposed Project provides to the District, the primary benefit is the creation of additional water supply that will be available during dry years and drought emergencies. Rancho Water proposes the use of two performance measures for quantifying this benefit:

1. ***Groundwater Produced by the Newly Constructed Well***
   Well #173 will be outfitted with a flow meter connected to the District's existing automated metering infrastructure, which will allow for remote monitoring and supervision of water volume provided by the well. Production data from the flow meter will be collected by District staff and stored in a database, and will be considered additional water supply.

2. ***Total Groundwater Produced***
   To confirm that groundwater produced at the well constitutes additional water supply, total groundwater produced at the recharge facilities after construction of the new well will be compared to groundwater production at the facilities during prior years when the well was not in operation. The difference in groundwater production at the recharge facilities before and after construction of the well will be compared the amount of groundwater produced by the new well to confirm actual additional water supply created by the Proposed Project. The District will report on these performance measures to Reclamation as data becomes available.

I. Evaluation Criteria

1. Project Benefits

The Proposed Project is a component of the larger Upper VDC Optimization Project (see Appendix B), which is specifically designed to build long-term resilience to drought through enhancements to Rancho Water's groundwater recharge, storage and extraction capabilities. The project improves water supply reliability for the District's service area, and improves operational flexibility and cost-effectiveness in managing water supplies. Following are detailed descriptions of Proposed Project's benefits.

Long-Term Drought Resilience

Rancho Water's dependence on expensive treated import water threatens the District's resilience to drought. Subject to local groundwater conditions, up to 75% of the District's total annual water supply may consist of treated water imported through the Metropolitan Water District of Southern California. The Proposed Project is part of the larger Upper VDC Optimization Project, which is specifically designed to reduce dependence on treated import water and to increase water supply reliability by utilizing the underlying groundwater basin to create additional local water supply for use during dry years. These additional supplies are less costly than treated import water, and are created by increasing Rancho Water's ability to recharge locally available surface water from nearby Vail Lake and/or relatively inexpensive untreated import water, whichever is available, and to draw upon them during any water supply condition, including during dry years and drought emergencies. Water supply reliability efforts implemented as part of the Proposed Project will continue to provide drought resiliency to

the District for at least 30 years, and the District expects that the Proposed Project's Well #173, with proper maintenance, will provide these benefits for at least 50 years.

Additional Water Supplies

The estimated quantity of additional water supply made available by the Proposed Project is 1,200 acre feet per year (AFY). The 1,200 AFY production is based on an estimated instantaneous production rate from Well #173 of 1,000 gallons per minute and a utilization factor of 75%, or 18 hours per day run time. Based on prior experience with constructing wells in the vicinity of the Proposed Project, the District is confident that the well will produce the anticipated 1,200 AFY. Moreover, the District's Hydrogeologist constructed a focused groundwater model as part of Preliminary Design efforts to confirm these anticipated yields. The focused model is based on the District's existing basin wide groundwater model, on 25 years of production history, and on relevant data collected in the area.

The 1,200 AFY of additional water supply created by the Proposed Project represents 4% of the District's groundwater supplies, and 5.6% of the District's imported water supplies. These percentages are calculated based on comparing Well #173's 1,200 AFY to average annual District water production over the past three calendar years, 2018 through 2020, during which Rancho Water produced an average of 30,373 acre feet of local groundwater, and imported an average of 21,410 acre feet of treated water through Metropolitan. (1,200 AFY / 30,373 AF = 4%, 1,200 AFY / 21,410 AF = 5.6%).

The additional supplies made available by the Proposed Project are significant in terms of mitigating the effects of existing drought conditions. On August 17, 2021, Metropolitan Water District of Southern California's Board of Directors declared a Water Supply Alert in response to the extreme drought conditions impacting the region, calling for consumers and businesses to voluntarily reduce their water use to help preserve the region's storage reserves. But because voluntary reductions have not been effective thus far, and the drought continues to worsen, it is expected that Metropolitan will soon move to the next stage of drought response actions by implementing its Water Supply Allocation Plan. Under this Plan, Metropolitan will likely implement an initial reduction of Rancho Water's annual imported water supply allocation by 5%, which is equal to about 1,070 acre feet. Based on the 1,200 AF of additional groundwater supply created by Well #173, the Proposed Project can completely offset an imported water supply reduction of this magnitude.

Improved Water Management

Optimization of the Upper VDC Recharge Facilities drastically improves water management by providing the District with the operational flexibility to extract either local water conveyed to the newly improved recharge facilities from nearby Vail Lake or untreated import water purchased from Metropolitan, whichever is available. The project allows Rancho Water to extract these additional stored supplies during both normal year operations and during times of drought. The estimated quantity of water better managed through the implementation of the Proposed Project is 1,200 acre feet per year, which is equal to the amount of water recovered on an annual basis by Well #173.

Furthermore, the Proposed Project improves water management through more cost-effective water management practices. By recharging and recovering inexpensive and locally available

surface water supplies and/or relatively inexpensive untreated import water, the District realizes considerable cost savings over the alternative of importing treated supplies, which keeps water rates low for its customers. For example, extracted recharge water sourced from Vail Lake costs $950 per acre foot less than treated import supplies. Based on the number of acre feet produced by Well #173, these savings are equal to $1,140,000 annually if the well pumps water sourced from Vail Lake. Moreover, untreated import water costs $319 per acre foot less than treated import supplies. Based on the number of acre feet produced by Well #173, use of this water supply leads to savings of $382,800 annually if the well pumps untreated import water.

The water management benefits provided by the Proposed Project are very significant in terms of enabling the District to meet water demand during times of drought and to do so in a cost effective manner. By increasing operational flexibility, diversifying the water supply portfolio, and reducing the District's reliance on a single source of water, Well #173 could completely offset a 5% reduction in imported water supplies imposed by Metropolitan due to drought.

Applicable Additional Information – Wells

The District operates its Upper VDC Recharge Facility within the Temecula Valley Groundwater Basin and within the boundaries of two major aquifers, the Temecula and the Pauba, to provide a sustainable groundwater supply. The facility is located along the upper reach of the Temecula Creek, approximately 2.5 miles downstream of Vail Lake, and is capable of receiving either local surface water from Vail Lake or untreated import water through a Metropolitan pipeline. Its recharge ponds consist of five basins with a recharge area of approximately 115 acres. The ponds are surrounded by earthen berms approximately 3 feet to 15 feet in height. Six active production wells (W152, W153, W154, W157, W158, and W161) are located on the berms surrounding the ponds and are near-continuously pumped to recover recharged water.

The District in now in the process of designing and constructing new treatment equipment and pump station facilities for the Upper VDC Recharge Facility, which will increase the District's recharge capabilities from 13 cubic feet per second by more than two times to 42 cubic feet per second. The central purpose of the Proposed Project's Well #173 is to extract additional stored recharge water for improving drought resiliency and water supply reliability for the District's existing water demands. It is NOT intended to support increased demands resulting from population growth or increased irrigation demands. The well will be an approximately 1,000 foot deep vertical or slant type groundwater well, and will be constructed of type 316L stainless steel casing and screen to reduce corrosion and extend the useful life of the facility. The estimated capacity of Well #173 is 1,200 acre feet per year. The 1,200 AFY production is based on an estimated instantaneous production rate from the well of 1,000 gallons per minute and a utilization factor of 75%, or 18 hours per day of run time. The District plans to use the well as a primary source of supply to extract either local surface water or untreated import water, whichever is available, during all water supply conditions.

Neither of the two aquifers nor the Temecula Valley Groundwater Basin is overdrafted, and the installation of Well #173 will not lead to land subsidence or overdraft conditions since the District will continue to operate the groundwater basin with safe yield limits. To prevent groundwater overdraft and all of its associated impacts, the District conducts an annual review

of available groundwater supplies in collaboration with the District's Hydrogeologist Geoscience Support Services, Inc. (See Appendix C . The purpose of the review is to recommend a ground water production program for each fiscal year. Groundwater production recommendations are based primarily on a review of individual well production and historical hydrographs. During the review, groundwater level elevations from all production and monitoring wells are considered and Hydrologic subareas and "index wells" representing water level changes in subareas are used to help formulate recommendations for groundwater production. The review also includes analysis of reviews from previous years, instantaneous yield, natural and artificial recharge, water quality, pump settings, and well construction factors. Where water level trends in subarea index wells indicate a decline over several years, lower production values are recommended. Where water level declines have not occurred, and as other factors permitted, recommended production values are sometimes increased. The recommended amount of annual production for the wells are made with consideration given to historical water levels, precipitation, production, and expected natural and artificial recharge. Consideration is also given to the projected production from Western Municipal Water District's production wells in the northern Murrieta Valley area. For illustrative purposes, the 2016-2017 recommended Upper VDC purchased untreated water recharge was 12,700 acre feet.

Implementation of the Proposed Project will not negatively impact other parties with interests in the local groundwater basin. Moreover, the project will not be in conflict with any water rights judgements. The Temecula Valley Groundwater Basin has been governed under court jurisdiction since 1928, as part of the Santa Margarita River Watershed system, and since then, a series of court judgments have been issued directing the use and allocation of groundwater in the region. These judgments ultimately led to a settlement agreement, the *"Cooperative Water Resource Management Agreement between Camp Pendleton and Rancho California Water District",* which was reached and executed in March 2002. This agreement remains in place today to govern water flow in the Santa Margarita River and use of the Murrieta-Temecula Basin. In addition, as a result of the judgments the State Water Resources Control Board issued Permit 7032 to Rancho Water in 2009, providing water appropriations in Vail Lake.

By increasing Rancho Water's available groundwater supplies, the Proposed Project increases the overall sustainability of the District's local supplies, decreases the District's dependence on drought-stricken and expensive imported supplies, and reduces the threat of water shortage impacts. The following map shows the approximate location of Well #173 within the Upper VDC Recharge area.

2. Sustainability and Supplemental Benefits

A. Climate Change

The Proposed Project's Well #173 is an important addition to Rancho Water's expanded recharge facilities, which support Executive Order 14008 by increasing resilience to the impacts of climate change and protecting public health. Examples in which the Proposed Project contributes to climate change adaptation and resiliency, include the following:

Increased Resiliency to Drought Caused by Climate Change

It is widely accepted that, as a result of climate change, storm events in the southwestern United States have become less frequent, but more intense. Because of this, surplus water available during wet years tends to come in great quantities and all at once. This creates challenges for water agencies that rely on stromwater capture as a source of supply, particularly those that rely on groundwater basins for storage. This is because high inflow rates associated with intense storm events tend to exceed the recharge capacities of groundwater basins, which means most of the water produced by storms is lost to surface runoff.

While RCWD faces similar challenges with recharging its local groundwater basin during extreme storm events, the District is able to leverage Vail Dam and its associated recharge and recovery facilities (Upper VDC facilities) to capture stormwater while maximizing groundwater recharge. For example, during large storm events, RCWD can both capture local stormwater behind Vail Dam and convey surplus stormwater available through Metropolitan via the Vail Lake Pipeline and Pump Station to the lake at high rates of flow. Then, at the appropriate time, the stored water can be released to recharge facilities at reduced rates of flow that do not

exceed the groundwater basins recharge capacity. This allows the District to optimize stormwater capture and to maximize its groundwater storage capabilities. The Proposed Project's Well #173 is a crucial and necessary component of these recharge and recovery facilities because it will enable the extraction and distribution of the surplus stored water to meet demands during any water supply condition, including drought years caused by climate change.

Reductions to Natural Hazard Risks Caused by Climate Change

Wildfires

According to scientists, climate change has made the U.S. West warmer and drier in the past 30 years and will continue to make weather more extreme, both increasing the frequency and severity of wildfires. Rancho Water's Upper VDC facilities increase drought resiliency, providing a more reliable source of water for use by firefighters to combat wildfire. The Proposed Project's Well #173 is an important addition to these facilities because it will enable the extraction and distribution of stored water to meet firefighting demands.

Floods

Based on an article published in the American Geophysical Union Journal, climate change experts predict once-in-a-century storms will become 20% more severe and up to three times more frequent, leading to potential floods. Not only does Rancho Water's Vail Dam prevent catastrophic flooding events from occurring along Temecula Creek within unincorporated areas of Riverside County and the city of Temecula, California, but also it can store surplus stormwater imported through Metropolitan that could have caused flooding elsewhere. The Proposed Project's Well #173 is essential for helping to extract and distribute flood waters stored behind Vail Dam to avoid dam overtopping and flooding of local urban areas.

Improved Climate Resilience through Sustainable Infrastructure Development

The overall loss of snowpack in California associated with climate change has negatively impacted statewide groundwater supplies, and the passage of California's Sustainable Groundwater Management Act (SGMA) in 2014 created a statewide framework for the long-term protection of groundwater resources. California's Department of Water Resources (DWR) enforces SGMA, and encourages implementation of best management practices for maintaining sustainable groundwater basins. For example, DWR encourages practices that prevent:

1. Chronic lowering of groundwater levels,
2. Significant and unreasonable reduction of groundwater storage,
3. Significant and unreasonable land subsidence, and
4. Depletions of interconnected surface water.

Among these practices, groundwater recharge is among the most important for sustainable groundwater management, as increasing the amount of recharge can help improve conditions in overdrafted basins, or allow for additional pumping in basins that are not experiencing chronic declines in groundwater levels. The Proposed

Project supports SGMA because it is a component of the District's Upper VDC Optimization Project, which is designed to maximize groundwater recharge without depleting local surface supplies or causing land subsidence. The goal of the Project is to develop infrastructure to take advantage of water available for recharge—especially during wet years when the timing of large storms caused by climate change create an enormous surplus of water during a few days or weeks—to sustain and maintain balance within the Murrieta-Temecula Groundwater Basin. The Proposed Project is a vital component of the Upper VDC Optimization Project because it extracts and distributes recharged water to meet demands during any water supply condition, including drought years caused by climate change without casuing negative impacts to the basin.

B. Disadvantaged or Underserved Communities

Section 1015 of the Cooperative Watershed Act defines disadvantaged community as a community with an annual median household income that is less than 100 percent of the statewide annual median household income for the state. According to the 2019 Census ACS 1-year survey, the median household income for California was $80,440 in 2019**,** the latest figures available. Rancho Water's service area consists of several census block groups, which represent communities having Median Household Incomes MHI) that were below this statewide average in 2019. The following table shows 2019 data for Census Block Groups that fit the above definition of disadvantaged communities.

Census Block Group Number	MHI	% of Statewide MHI	Population	Number of Households
06065.43254.1	$77,679	97%	1,288	409
06065.51200.1	$60,529	75%	4,188	1,416
06065.43250.5	$71,098	88%	3,269	1,123
06065.43220.2	$67,348	84%	1,877	664
06065.43266.2	$72,279	90%	5,149	1,737
06065.43216.1	$68,875	86%	1,681	743
06065.43216.2	$56,250	70%	2,098	808
06065.49600.1	$65,875	82%	2,124	730
		TOTAL	21,674	7,630

These disadvantaged communities will benefit from the Proposed Project in terms of water supply reliability. The Proposed Project creates additional water supplies that will be available for maintaining public health within these communities during all water supply conditions, including drought years.

C. Tribal Benefits

The Proposed Project supports the Pechanga Band of Luiseno Mission Indians' (Pechanga) resilience to climate change and associated drought impacts. Pechanga is a Federally recognized Indian tribe with a reservation of over 6,000 acres located adjacent to Rancho Water's service area. Pechanga and Rancho Water have had a groundwater management agreement in place since 2006 to address concerns with

over-pumping in the groundwater basin. In addition, the United States Congress enacted the Pechanga Band of Luiseno Mission Indians Water Rights Settlement Act (Pechanga Act) in 2016 as part of the WIIN Act. This Act successfully concluded decades of conflict and uncertainty over water rights and years of negotiations through a comprehensive settlement that resolves the Band's water-rights claims and secures sufficient water to meet their current and future water needs while protecting the legitimate interests of Rancho Water and its customers. The Proposed Project helps further resolve potential conflict over local groundwater supplies by creating additional supplies for use by Rancho Water customers, which reduces pressure on the groundwater basin in which both Rancho Water and Pechanga have an interest. In addition, the project helps Reclamation to fulfill the Pechanga Act and Federal Government's responsibility to uphold its Tribal Water Rights trust responsibilities.

D. Other Benefits

Rancho Water provides service to a diverse group of customers including a high density residential community, a more rural urban community consisting of large residential lots, a significant business/commercial sector, and an agricultural community that irrigates approximately 10,000 acres of cropland. Additional water supplies created by the Proposed Project's Well #173 provide drought resiliency benefits to each of these Rancho Water customer types.

In addition, water supplies created by project provide drought resiliency benefits to all entities reliant on Colorado River water supplies and/or supplies originating in California's Sierra Nevada Mountains. This is because for every acre foot of water the District can store within its groundwater basin during a wet year and deliver using the Proposed Project's Well #173 during a drought year, one less acre foot of water is imported through the Colorado River Aqueduct and/or California's State Water Project during the drought year. This increases the reliability of water supplies drought for every upstream entity reliant upon these supplies including northern Californians and water users in neighboring states within the Upper and Lower Colorado River Basins.

3. Drought Planning and Preparedness

The Proposed Project represents an important contribution to the accomplishment of the goals and objectives described in the Upper Santa Margarita Watershed's (USMW) Integrated Regional Water Management Plan (IRWM Plan). Rancho Water leads the Regional Water Management Group, which developed the IRWM Plan in order to identify strategies for enhancing regional drought resiliency through more efficient use of water, protecting and improving water quality, and promoting environmental stewardship (See Appendix A). Development of the IRWM Plan was a collaborative process with significant input provided by multiple stakeholders including Federal agencies, state agencies, state conservancies and commissions, local agencies, Indian tribes, and non-profit organizations. Taking into consideration climate change impacts to water resources, the IRWM Plan outlines specific goals and objectives for achieving drought resiliency.

The two goals described in Chapter 3 of the IRWM Plan that are supported by the Proposed Project are: 1) increasing the diversification of the water supply portfolio, and 2) maximizing

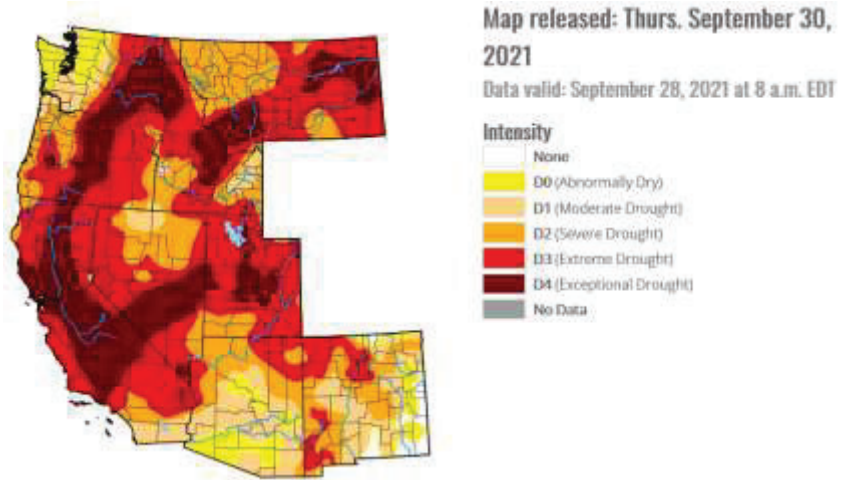
groundwater potential for increasing drought resiliency. Elaborating on these goals, the IRWM defines objectives necessary for achieving them, including: 1) increasing local supply development through implementation of projects that construct additional local water supply infrastructure for water conveyance, treatment, storage and distribution of these sources, and 2) improving the quality and ability to access and increase groundwater supply by improving water quality, optimizing existing supplies, and expanding infrastructure and maximizing storage through recharge and recovery. The Proposed Project contributes to the accomplishment of these goals and objectives by constructing facilities that increase the recovery of groundwater recharge.

The Proposed Project is included on the IRWM Plan's priority Project List as part of the Upper VDC Optimization Project.

4. Severity of Actual or Potential Drought Impacts to be Addressed by the Project

Current Drought Conditions

As of October 2021, the western United States is once again experiencing serious drought conditions. At this point, the outlook on drought recovery is not good according to Paleoclimatologist, Kathleen Johnson, Associate Professor of Earth System Science at the University of California, Irvine. When asked about the severity of the drought, she responded, "This current drought is potentially on track to become the worst that we've seen in at least 1,200 years."



The U.S. Drought Monitor currently classifies the majority of the west as experiencing some form of drought condition, and almost all of the state of California is experiencing either an "Exceptional," "Extreme," or "Severe" drought. Rancho Water's service area, located in the County of Riverside, California, is in a "severe" drought, and these conditions have had significant negative impacts on the availability of both imported and locally sourced groundwater. Recently, Federal officials ordered the first-ever water cuts on the Colorado River system that sustains 40 million people, including those who live in Rancho Water's service area. In addition, Rancho Water's other source of imported supply, California's State Water Project, will only be able to provide 5% of requested supplies, and there has been conjecture among water professionals that this could be reduced to 0%. In terms of local supplies, levels in the District's Vail Lake have receded, and recent precipitation levels have not been adequate for replenishing these supplies.

Starting in May 2021, California's Governor began declaring drought emergencies for the hardest hit counties. Then three months later, Rancho Water's imported water supplier,

Metropolitan Water District, declared a Water Supply Alert in response to the extreme drought conditions impacting Southern California, calling for consumers and businesses to voluntarily reduce their water use and help preserve the region's storage reserves. But because the drought continues to worsen, it is expected that Metropolitan will move to the next stage of drought response actions by implementing its Water Supply Allocation Plan. Under this Plan, Metropolitan would implement a reduction of Rancho Water's imported water supply allocation, likely by 5% to begin with, which is equal to 1,070.5 acre feet, and then by more if the drought continues to worsen.

Long Term Drought Outlook

Addressing long term water supply conditions, the region's IRWM Plan Appendix A) summarizes the impacts and effects of climate change for the Upper Santa Margarita Watershed including the District's service area through the year 2050. Generally, climate change is anticipated to cause increased temperatures and reduced rainfall; projections vary with some showing two to four inches less rainfall. And it's generally accepted that storms will be less frequent, but more intense, which will negatively impact Rancho Water's ability to recharge groundwater supplies. In addition, the District projects a 6% and 12% decrease in available local groundwater supplies in the third and fourth years of a multiple dry year scenario, respectively. In addition to negatively impacting local groundwater supplies, climate change is anticipated to decrease imported water supplies from the State Water Project (Bay-Delta) by up to 25 percent. Colorado River supplies to the lower basin states (Arizona, California, and Nevada) may decrease by up to 24 percent, or 1.8 thousand AFY out of the 7.8 million AFY allocated to the lower basin states.

Increases in temperature and a drier climate are expected to increase water demand, particularly for irrigation (unless plant palettes are changed [e.g., removal of turf], or agricultural crops change), due to increases in evapotranspiration rates. Based on the types of crops grown on the approximately 10,000 farmed acres within the District's service area, a 10% increase in evapotranspiration rates would lead to an estimated agricultural water demand increase equal to approximately 3,500 acre feet per year (between 5% and 7% of the District's total water supply . This increased water demand increases production costs for farmers, threatens the viability of agribusiness in the District service area, and negatively impacts the monetary value of farmland. In addition to rising evapotranspiration rates, rising population within the District's service area is increasing urban water demands. Population within the District's service area has increased by more than 15% since 2013, and under severe drought conditions, the availability of water for human health and safety is threatened. Temperature increases are also expected to increase the frequency of wildfires, with studies suggesting a slightly increased risk of wildfire in the local region. Increases in wildfires have the potential to increase sedimentation and turbidity of surface waters and increase flash flooding.

The District's local groundwater supplies are limited, and it relies on imported supplies from California's State Water Project and the Colorado River Aqueduct to satisfy a portion of the service area's ever-growing demands. Under conditions of severe drought, where both sources both local and imported water supplies are compromised, the District will not have another water source available to satisfy demands.

The Solution

For Rancho Water, the best solution for addressing current severe drought conditions and mitigating long-term water supply issues stemming from climate change is two-fold: 1) In anticipation of an immediate water shortage, the District recently updated its Water Shortage Contingency Plan and is prepared to move to the next stage of the Plan if necessary, which would impose additional water conservation requirements on its users, and 2 The District will address climate change through the continued implementation of it Upper VDC Optimization Project, which increases long-term water supply reliability by maximizing groundwater recharge during wet years for use during dry years. The Proposed Project is a critical component of the Upper VDC Project.

5. Project Implementation

Implementation of the Proposed Project does not require any new policies for administrative actions. Rancho Water is capable of proceeding with its implementation immediately upon entering into a Financial Assistance Agreement with Reclamation. The following information describes required engineering work, permitting, and environmental and regulatory compliance. In addition, a table is provided, which contains a Project Schedule, showing the stages and duration of the required work, including major tasks, milestones, and dates.

Design and Engineering

Preliminary Design of the well is complete, and included the development of a focused groundwater model for the Upper VDC recharge area and preparation of a Preliminary Design Report. Final Design for well drilling and well equipping can begin once the procurement of the design contractor is completed. The scope of work for final design includes:

Final Design - Well Drilling

- Preparation of Technical Plans, Drawings and Specifications;
- Permitting and Bidding Assistance;
- Construction Management Inspection;
- Comprehensive Well Destruction / Completion Report; and
- Preparation of Drinking Water Source Assessment Documents

Final Design - Well Equipping

- Preliminary well site layout alternatives;
- Utility verification (potholing), and traffic control details
- Well site and well site access road grading plans and storm drainage improvements;
- Engineering design of well discharge piping and connection to the existing system;
- Engineering design of the well pump-to-waste piping and discharge location
- Engineering design of the proposed well equipment and electrical service;
- Traffic control details for construction;
- Preparation of contract documents (bid documents, drawings, and specifications);
- Acquisition of all required construction encroachment permits;
- Preparation of engineer's estimates and construction schedules; and
- Bidding period support

It is anticipated that the contracts for Final Design will be procured before the end of 2021, and that work will be completed prior to award.

Permitting

When Preliminary Design and Final Design are complete, a contractor will be procured for well drilling. Upon issuance of the contract for the drilling of the well, the District and the contractor will jointly apply for a well drilling permit through the Riverside County Department of Environmental Health. This permit is typically issued within one to two weeks from time of submittal and its primary purpose is for the County to gather information about the proposed well for their database and ensure there are no public health concerns associated with the proposed placement of the well.

In addition, the District maintains a water supply permit from the Regional Water Quality Control Board (RWQCB), which requires the District request a permit amendment prior to a new well going into service. A permit amendment requires that the District complete an application package that includes well construction details, a Drinking Water Source Protection Plan, documentation of Environmental Compliance (California Environmental Quality Act), well and disinfection data sheets, and an operations plan. Once the application package is approved, RWQCB completes the permit amendment and issues to the District any conditions for operation of the facility including water quality monitoring requirements and water quality thresholds.

Environmental and Cultural Resources Compliance

The Proposed Project implementation plan takes into account environmental and cultural resources compliance with the California Environmental Quality Act, and applicable Federal environmental laws. Rancho Water staff has worked with the local Reclamation office extensively on well drilling projects in the past and has discussed both the cost and timing for completing these requirements. Based on this experience, also included in the budget is an estimated line item cost of $10,000 for the potential Federal environmental compliance effort.

Project Schedule

Project Tasks	Est. Project Schedule		Milestones and Deliverables
	Start	End	
Task 1: Grant Agreement Negotiation and Execution Includes negotiation and execution of a grant agreement between Rancho Water and Reclamation.	3/1/2022	6/1/2022	Milestones: • Award of Grant by Reclamation Deliverables: • Executed Grant Agreement
Task 2: Contractor Procurement-Final Design Includes advertisement of two separate design bid opportunities (one for drilling and one for equipping the well , review of bids submitted to Rancho Water staff, award of two contracts for the final design, and issuances of Notices to Proceed.	12/1/2021	2/15/2022	Milestones: • Rancho Water approves Award of Contract to lowest qualified bidder Deliverables: • Bid Documents • Proof of Advertisement • Contractor Notice of Award • Contractor Notice to Proceed

Project Tasks	Est. Project Schedule		Milestones and Deliverables
	Start	End	
Task 3: Environmental Compliance Includes gaining California Environmental Quality Act (CEQA) and applicable Federal approval.	2/16/2022	9/15/2022	Milestones: • Satisfy compliance requirements Deliverables: • Documentation illustrating compliance approval
Task 4: Final Design – Well Drilling Includes preparation of 90% Well Drilling Design Plans, Rancho Water staff review, and completion of 100% Well Drilling Design Plans.	2/16/2022	6/15/2022	Milestones: • Complete Final Design Deliverables: • 90% plans • 100% plans
Task 5: Contractor Procurement – Well Drilling Includes advertisement of construction bid opportunity for drilling the well, review of bids by Rancho Water staff, award of contract for drilling work, and issuance of Notice to Proceed.	6/16/2022	10/15/2022	Milestones: • RANCHO WATER approves Award of Contract to lowest qualified bidder Deliverables: • Bid Documents • Proof of Advertisement • Contractor Notice of Award • Contractor Notice to Proceed
Task 6: Permitting Includes obtaining permits through the Riverside County and Regional Water Quality Control Board.	6/16/2022	8/30/2022	Milestones: • Obtain permits Deliverables: • Permit documentation
Task 7: Construction – Well Drilling Includes drilling of the well by drilling contractor and inspection activities conducted by Rancho Water staff.	10/16/2022	7/16/2023	Milestones: • Drill Well Deliverables: • RANCHO WATER Inspection Reports
Task 8: Final Design – Well Equipping Includes preparation of 90% Well Equipping Design Plans, review of pump test results from well drilling construction, and completion of 100% Well Equipping Design Plans.	2/1/2023	7/16/2023	Milestones: • Complete Final Design Deliverables: • 90% plans • Pump test results • 100% plans
Task 9: Contractor Procurement – Well Equipping Includes advertisement of construction bid opportunity for equipping of the well, review of bids submitted by Rancho Water staff, award of contract for the equipping	7/17/2023	9/15/2023	Milestones: • RANCHO WATER approves Award of Contract to lowest qualified bidder Deliverables: • Bid Documents • Proof of Advertisement

Project Tasks	Est. Project Schedule		Milestones and Deliverables
	Start	End	
work, and issuance of Notice to Proceed.			• Contractor Notice of Award • Contractor Notice to Proceed
Task 10: Construction – Well Equipping Includes equipping of the well and inspection activities by Rancho Water staff.	10/1/2023	5/15/2024	Milestones: • Equip Well Deliverables: • Rancho Water Inspection Reports
Task 10: Project Administration Includes monitoring of performance measures, reporting, and invoicing by Rancho Water staff.	9/1/2022	2/28/2025	Milestones/Deliverables: • Submit Federal Financial Reports • Submit Performance Monitoring Reports • Submit Progress Reports • Submit Final Report • Submit invoices and periodic financial reimbursement requests

6. Nexus to Reclamation

The Proposed Project location is within the Colorado River Basin in Reclamation's Lower Colorado Region, and a large portion of the water used in the Proposed Project area is imported through the Colorado River Aqueduct (CRA) (Reclamation project water). Although Rancho Water is not a Reclamation contractor, District purchases these Reclamation supplies through the Metropolitan Water District of Southern California, which has a 550,000 AFY water diversion entitlement through the "Seven Party Agreement." The Proposed Project supports Reclamation's objective of building long-term resilience to drought and reducing the need for emergency response actions by modernizing water delivery infrastructure to increase the reliability of water supplies and improve water management, as described earlier in this proposal.

The Proposed Project also supports the Pechanga Band of Luiseno Mission Indians' resilience to climate change and associated drought impacts. Pechanga and Rancho Water have had a groundwater management agreement in place since 2006 to address concerns with over-pumping in the Wolf Valley Basin, which underlies the Reservation's land and Rancho Water's off-reservation service area. In addition, the United States Congress enacted the Pechanga Band of Luiseno Mission Indians Water Rights Settlement Act (Pechanga Act) in 2016 as part of the WIIN Act. This Act successfully concluded decades of conflict and uncertainty over water rights and years of negotiations through a comprehensive settlement that resolves the Band's water-rights claims and secures sufficient water to meet their current and future water needs while protecting the legitimate interests of Rancho Water and its customers. The Proposed Project helps further resolve potential conflict over local groundwater supplies by creating additional supplies for use by Rancho Water customers, which reduces pressure on the groundwater basin in which both Rancho Water and Pechanga have an interest.

PROJECT BUDGET

A. Funding Plan and Letter of Commitment

Non-Reclamation Share of Project Costs

The Proposed Project's estimated non-Federal contribution is $3,630,548.48, which will be funded through the Rancho Water's annual budget for Capital Improvement Projects CIP). Of the $3,630,548.48, non-Federal contribution, approximately $91,863 of these costs will be incurred prior to award. These pre-award costs include those necessary for work related to Contractor Procurement for Final Design, Environmental Compliance, and review of Final Design plans These expenditures are absolutely necessary for completion of the Proposed Project—without completion of this work, construction of the Proposed Project could not proceed. The incurrence of these costs will begin in late 2021, and continue through award announcement (estimated March 2022) and agreement execution.

Letters of Commitment

The District is committed to providing at least $3,630,548.48 in cash for implementation of the Proposed Project, which represents the entire non-Federal contribution to the Project. Because there are no third-party contributors to the Proposed Project cost, there are no Letters of Commitment included with this proposal. This non-Federal contribution has been secured and has been approved by the District's Board of Directors. An Official Resolution from the District's Board of Directors will be provided to ensure commitment of these matching funds.

B. Budget Proposal

The total estimated cost for the Proposed Project is $5,630,548.48. Rancho Water is requesting a $2,000,000 grant to cover approximately 36% of the project cost. Grant funding will be used to pay for final design and construction of the Proposed Project's Well #173. Following is the Total Project Cost Table, which breaks down the total project cost according to cost sharing entities.

Table 1. Total Project Cost Table	
SOURCE	**AMOUNT**
Costs to be reimbursed with the requested Federal funding	$2,000,000.00
Costs to be paid by the applicant	$3,630,548.48
Value of third-party contributions	$0
Total Project Cost	**$5,630,548.48**

Furthermore, the following table provides detail regarding sources of Non-Federal and Federal funding.

Table 2. Summary of Non-Federal and Federal Funding Sources	
Funding Sources	**Funding Amount**
Non-Federal Entities	
1. Rancho California Water District	$3,630,548.48
Non-Federal Subtotal	**$3,630,548.48**
Other Federal Entities	
1. None	$ 0.00
Other Federal Subtotal	$ 0.00
Requested Reclamation Funding	**$2,000,000.00**
Total Program Funding	**$5,630,548.48**

The following Budget Proposal includes detailed information on Proposed Project cost categories and per-unit costs, and identifies the source of funding for each category (Federal or non-Federal).

TABLE: 3: BUDGET PROPOSAL						
Budget Item Description	**Computation**		**Quantity Type**	**Reclamation Funding**	**Recipient Funding**	**Total Cost**
	$/Unit	**Quantity**				
Salaries and Wages						
Engineering Manager	$ 96.19	200	$/HR	$ -	$ 19,238.00	$ 19,238.00
Principal Engineers	$ 64.90	400	$/HR	$ -	$ 25,960.00	$ 25,960.00
Contracts Manager	$ 80.34	100	$/HR	$ -	$ 8,034.00	$ 8,034.00
Sr. Contracts Administrator	$ 38.69	200	$/HR	$ -	$ 7,738.00	$ 7,738.00
Sr. Construction Inspector	$ 44.45	250	$/HR	$ -	$ 11,112.50	$ 11,112.50
Construction Inspector	$ 40.70	1100	$/HR	$ -	$ 44,770.00	$ 44,770.00
Water System Supervisor	$ 57.17	60	$/HR	$ -	$ 3,430.20	$ 3,430.20
Water System Operator	$ 42.88	120	$/HR	$ -	$ 5,145.60	$ 5,145.60
Water Quality Supervisor	$ 56.81	40	$/HR	$ -	$ 2,272.40	$ 2,272.40
Cross Connection Control Tech	$ 36.08	80	$/HR	$ -	$ 2,886.40	$ 2,886.40
Electrical Services Supervisor	$ 57.17	80	$/HR	$ -	$ 4,573.60	$ 4,573.60
Salaries and Wages Subtotal		*2630*		*$ -*	*$ 135,160.70*	*$ 135,160.70*
Fringe Benefits	*Basis*	*% of Basis*				
As per Federally approved Indirect Cost Rate Agreement	$ 135,160.70	97.75%		$ -	$ 132,119.58	$ 132,119.58
Fringe Benefits Subtotal				*$ -*	*$ 132,119.58*	*$ 132,119.58*
Travel - Not Applicable (N/A)						
Travel Subtotal	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Equipment - Not Applicable (N/A)						
Equipment Subtotal	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Supplies/Materials - Not Applicable (N/A)						
Supplies/Materials Subtotal	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*	*N/A*
Contractual						
Final Design	$ 350,000.00	1		$ -	$ 350,000.00	$ 350,000.00
Well Drilling Construction	$2,546,000.00	1	per contract	$ 1,000,000.00	$ 1,546,000.00	$2,546,000.00
Well Equipping Construction	$2,061,000.00	1	per contract	$ 1,000,000.00	$ 1,061,000.00	$2,061,000.00
Contractual Subtotal				*$ 2,000,000.00*	*$ 2,957,000.00*	*$4,957,000.00*
Environmental and Cultural Resources Compliance						
State Compliance	$ 40,000.00	1	lump sum	$ -	$ 40,000.00	$ 40,000.00
Federal Compliance*	$ 10,000.00	1	lump sum	$ -	$ 10,000.00	$ 10,000.00
Permitting	$ 10,000.00	1	lump sum	$ -	$ 10,000.00	$ 10,000.00
Environmental and Regulatory Compliance Subtotal				*$ -*	*$ 60,000.00*	*$ 60,000.00*
Total Direct Costs				**$ 2,000,000.00**	**$ 3,284,280.28**	**$5,284,280.28**
Approved Indirect Costs	*Basis*	*% of Basis*				
As per Federally approved Indirect Cost Rate Agreement	*$ 135,160.70*	*256.19%*		$ -	$ 346,268.20	*$ 346,268.20*
Total Project Costs				**$ 2,000,000.00**	**$ 3,630,548.48**	**$5,630,548.48**

*Federal Environmental Compliance Costs were estimated based on input provided by local Reclamation office compliance staff.

C. Budget Narrative

Salaries and Wages

The District's Engineering Manager, Jacob Wiley, will function as the Project Manager. Other personnel involved in implementation of the Proposed Project include the Principal Engineer, Contracts Manager, Sr. Contracts Administrator, Sr. Construction Inspector, Inspectors, Water Systems Supervisor, Water System Operators, Water Quality Supervisor, Cross Connection Control Technician, and Electrical Services Supervisor. For each of these personnel positions, Table 4 indicates the rate of compensation, estimated hours, and total salaries and wages for the Proposed Project on a task by task basis. Hours are based on estimated level of staff involvement and duration of the Task based on the Schedule shown in the Technical Project Description. Rates reflect current rates and do not include fringe benefits or indirect costs. While rates generally increase each Fiscal Year, the amount is not known until the budget is approved each year. Salaries of administrative staff are not included and covered in the Indirect Cost section of the Budget Proposal.

TABLE 4: SALARIES & WAGES					
Employee	Task	Activity	Hours	Rate	Total Wages
Engineering Manager	3	Contractor Procurement-Final Design	70	$ 96.19	$ 6,733.30
	4	Environmental Compliance	10		$ 961.90
	5	Final Design-Well Drilling	40		$ 3,847.60
	6	Contractor Procurement-Well Drilling	10		$ 961.90
	7	Permitting	10		$ 961.90
	9	Final Design-Well Equipping	40		$ 3,847.60
	10	Contractor Procurement-Well Equipping	10		$ 961.90
	12	Project Administration & Reporting	10		$ 961.90
		Subtotal	200		$ 19,238.00
Principal Engineer	3	Contractor Procurement-Final Design	40	$ 64.90	$ 2,596.00
	4	Environmental Compliance	50		$ 3,245.00
	5	Final Design-Well Drilling	100		$ 6,490.00
	6	Contractor Procurement-Well Drilling	40		$ 2,596.00
	7	Permitting	50		$ 3,245.00
	9	Final Design-Well Equipping	100		$ 6,490.00
	10	Contractor Procurement-Well Equipping	20		$ 1,298.00
		Subtotal	400		$ 25,960.00
Contracts Manager	3	Contractor Procurement-Final Design	20	$ 80.34	$ 1,606.80
	6	Contractor Procurement-Well Drilling	40		$ 3,213.60
	10	Contractor Procurement-Well Equipping	40		$ 3,213.60
		Subtotal	100		$ 8,034.00
Sr. Contracts Administrator	3	Contractor Procurement-Final Design	40	$ 38.69	$ 1,547.60
	6	Contractor Procurement-Well Drilling	80		$ 3,095.20
	10	Contractor Procurement-Well Equipping	80		$ 3,095.20
		Subtotal	200		$ 7,738.00
Sr. Construction Inspector	7	Construction - Well Drilling	125	$ 44.45	$ 5,556.25
	10	Construction - Well Equipping	125		$ 5,556.25
		Subtotal	250		$ 11,112.50
Construction Inspector	7	Construction - Well Drilling	550	$ 40.70	$ 22,385.00
	10	Construction - Well Equipping	550		$ 22,385.00
		Subtotal	1100		$ 44,770.00
Water System Supervisor	10	Construction - Well Equipping	60	$ 57.17	$ 3,430.20
		Subtotal	60		$ 3,430.20
Water System Operator	10	Construction - Well Equipping	120	$ 42.88	$ 5,145.60
		Subtotal	120		$ 5,145.60
Water Quality Supervisor	10	Construction - Well Equipping	40	$ 56.81	$ 2,272.40
		Subtotal	40		$ 2,272.40
Cross Connection Control Tech	10	Construction - Well Equipping	80	$ 36.08	$ 2,886.40
		Subtotal	80		$ 2,886.40
Electrical Services Supervisor	10	Construction - Well Equipping	80	$ 57.17	$ 4,573.60
		Subtotal	80		$ 4,573.60
		TOTAL HOURS	**2630**	**COST**	**$ 135,160.70**

Fringe Benefits

A Fringe Benefits rate is applied to Total Salaries and Wages for employees of Rancho Water. A base hourly rate plus additional rates for fringe benefits is included in the budget. As per a provisional 21/22 Indirect Cost Negotiation Agreement (Appendix D), Fringe Benefits are charged at 97.75%. This rate is Federally-approved and is a provisional rate for billing purposes. Total Fringe Benefits is $132,119.58. Indirect Costs allowed in the Indirect Cost Negotiation Agreement are computed separately as discussed below.

Travel

There are no travel costs included in the Proposed Project budget.

Equipment
There are no equipment costs included in the Proposed Project budget

Materials and Supplies
There are no materials and supplies costs included in the Proposed Project budget

Contractual/Construction
Rancho Water contracts exceeding $10,000 in value are all procured using a competitive method consistent with CFR 200.320 *Methods of procurement to be followed.* A total of four contracts exceeding tis amount will be executed for implementation of the Proposed Project, all of which pertain to project design or construction. Two design contracts, one for Final Design-Well Drilling, and one for Final Design-Well Equipping will be executed in the near future, prior to the award date, and are now being prepared for procurement. Based Rancho Water staff's prior experience with Final Design contracts, the combined cost for the Final Design-Well Drilling and Final Design-Well Equipping contracts is anticipated to be $350,000, or approximately 8% of construction costs. The cost of the remaining two construction contracts, for Well Drilling Construction and Well Equipping Construction, are estimated to be $4,607,000. Work performed under the Proposed Project's four contracts will include:

<u>Final Well Drilling Design</u>

- Preparation of Technical Plans, Drawings and Specifications;
- Permitting and Bidding Assistance;
- Bidding Assistance;
- Construction Management & Inspection;
- Comprehensive Well Destruction / Completion Report; and
- Preparation of Drinking Water Source Assessment Documents

<u>Final Well Equipping Design</u>

- Preliminary well site layout alternatives;
- Utility verification (potholing), traffic control details, and encroachment permit
- Well site and well site access road grading plan and storm drainage improvements;
- Engineering design of the well discharge piping and connection to the existing system;
- Engineering design of the well pump-to-waste piping and discharge location
- Engineering design of conduit(s) for an electrical service from SCE's point of connection to the well site;
- Engineering design of the proposed well equipment;
- Traffic control details for construction
- Preparation of contract documents (bid documents, drawings, and specifications);
- Acquisition of all required construction encroachment permits;
- Preparation of engineer's estimates and construction schedules; and
- Bidding period support

The following tables show a breakdown of estimated costs for work that will be completed for fulfillment of the two construction contracts.

WELL DRILLING CONTRACT				
Item Description	**Quantity**	**Unit**	**Unit Price**	**Total Price**
General				***$111,000***
Mobilization/Demobilization	1	lump sum	$111,000	$111,000
Site Work				***$780,000***
Excavation and Clearing	1	lump sum	$50,000	$50,000
Access Road Grading/Prep	1	lump sum	$50,000	$50,000
SWPPP Compliance	1	lump sum	$10,000	$10,000
Engineering Support & Inspection	1	lump sum	$300,000	$300,000
Elevated Well Pad Construction	17500	cubic yard	$20	$350,000
Site Restoration Upon Completion	1	lump sum	$20,000	$20,000
Well Drilling and Construction				***$1,655,000***
Drill Pilot Hole and Isolation Zone Testing	1000	linear foot	$225	$225,000
Ream Pilot Hole and Drill Full Diameter Well	1000	linear foot	$150	$150,000
Install 316L SS Well Casing	1000	linear foot	$1,000	$1,000,000
Pump Testing and Development	1	lump sum	$200,000	$200,000
Well Disinfection and Clean Up	1	lump sum	$80,000	$80,000
TOTAL				**$2,546,000**

WELL EQUIPPING CONTRACT				
Item Description	**Quantity**	**Unit**	**Unit Price**	**Total Price**
General				***$110,000***
Mobilization/Demobilization	1	lump sum	$110,000	$110,000
Site Work				***$590,000***
Site Paving	60000	square foot	$7.50	$450,000
Site Drainage	1	lump sum	$70,000	$70,000
Switchgear, Transformer, and MCC Concrete Pads	1	lump sum	$30,000	$30,000
Concrete Well Block	1	lump sum	$30,000	$30,000
Discharge Piping Concrete Pad	1	lump sum	$10,000	$10,000
Mechanical				***$980,000***
250 HP Vertical Lineshaft Pump and Motor Equipment	1	each	$400,000	$400,000
250 ft of 12-Inch steel well pump column piping	500	linear foot	$250	$125,000
12-Inch Steel Discharge Head and Wellhead Piping	500	linear foot	$250	$125,000
12-Inch Steel Pump to Waste Piping and Discharge Structure	500	lump sum	$200	$100,000
Valves, Flow Meters, and Well Mechanical	1	lump sum	$200,000	$200,000
Miscellaneous Couplings, Taps etc	1	lump sum	$30,000	$30,000
Electrical				***$381,000***
Electric Utility Connection fee	1	lump sum	$6,000	$6,000
250HP 18-pulse VFD	1	each	$20,000	$20,000
MCC w/ 30 kVA TX, panelboard, and Manual transfer switch	1	each	$100,000	$100,000
480V Metered Switchboard	1	each	$80,000	$80,000
Conduit and Wire	1	lump sum	$80,000	$80,000
Lighting and Ground	1	lump sum	$15,000	$15,000
Instrumentation	1	lump sum	$20,000	$20,000
Control Panel, including PLC, UPS, etc.	1	each	$50,000	$50,000
PLC Programming	1	lump sum	$10,000	$10,000
TOTAL				**$2,061,000**

Third Part In-kind Contributions

There will be no contributions made by third-parties for implementation of the Proposed Project.

Environmental and Regulatory Compliance

The Proposed project budget contains line items for environmental and regulatory compliance with the California Environmental Quality Act, and local permitting requirements. In addition, the District understands that the introduction of federal funding will prompt a review under applicable Federal environmental laws. Therefore, also included in the budget is an estimated

line item cost of $10,000 for the potential Federal environmental compliance effort. This amount is based on recent input provided by compliance staff at Rancho Water's local Reclamation office.

Other Expenses
There are no costs categorized as "other" for the Proposed Project.

Indirect Costs
The Indirect Cost rate shown of 256.19% includes General and Administration Overhead and Engineering Overhead as a percentage of total Rancho Water labor cost. Fringe Benefits are included separately under "Fringe Benefits" using the rate of 97.75%. These rates are Federally-approved through an Indirect Cost Negotiation Agreement (Appendix D) and are provisional rates for billing purposes. Total estimated indirect costs for the Proposed Project are $346,268.20.

ENVIRONMENTAL AND CULTURAL RESOURCES COMPLIANCE

- **Will the Proposed Project impact the surrounding environment (e.g. soil (dust), air, water [quality and quantity], animal habitat)?** *(Describe all earth-disturbing work and any work that will affect air, water, or animal habitat in the project area. Explain the impacts of such work on the surrounding environment and any steps that could be taken to minimize the impacts* No, the Proposed Project will be performed on property that is considered already disturbed, and shouldn't pose significant environmental impacts. The Final Design phase of the project will include environmental studies, which examine potential impacts and make recommendations for any necessary mitigation measures.
- **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?** No species listed or proposed to be listed as a Federal endangered or threatened species, or designated critical habitats are known to reside within the Proposed Project area.
- **Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States"?** No, the Proposed Project will not affect riparian habitat, including federally protected wetlands, as there are none in the project area. No associated impacts will occur and no mitigation is required.
- **When was the water delivery system constructed?** The majority of the water delivery system was constructed by the late 1980s; however, some infrastructure continues to be constructed today as the service area is being built out.
- **Will the project result in any modification of or effects to individual features of an irrigation system e.g., head gates, canals, or flumes ?** No, the Proposed Project will not result in any modification of or effect to individual features, such as head gates, canals, or flumes, of an irrigation system.
- **Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places?** There are no buildings, structures, or features listed or eligible for listing on the National Register of Historic Places within the Proposed Project sites. There are, however, at least 10 buildings in the Old Town Historic District of the City of Temecula, which is within the Rancho Water service area. These buildings are in the well-developed Old Town area and the Project would not affect them.
- **Are there any known archeological sites in the Proposed Project area?** No, there are no known archeological sites in the Proposed Project area.
- **Will the project have a disproportionately high and adverse effect on low income or minority populations?** No, the Proposed Project will not have any adverse effects on low income or minority populations.
- **Will the project limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands?** No, the Proposed Project will not limit access to and ceremonial use of Indian sacred sites or result in other impacts on tribal lands.
- **Will the project contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area?** No, the Proposed Project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species known to occur in the area.

REQUIRED PERMITS / APPROVALS

When Final Design is complete, a contractor will be procured for well drilling. Upon issuance of the contract for the drilling of the well, the District and the contractor will jointly apply for a well drilling permit through the Riverside County Department of Environmental Health. This permit is typically issued within one to two weeks from time of submittal and its primary purpose is for the County to gather information about the proposed well for their database and ensure there are no public health concerns associated with the proposed placement of the well. In addition, the District maintains a water supply permit from the Regional Water Quality Control Board RWQCB), which requires the District request a permit amendment prior to a new well going into service. A permit amendment requires that the District complete an application package that includes a well construction details, a Drinking Water Source Protection Plan, documentation of Environmental Compliance (California Environmental Quality Act), well and disinfection data sheets, and an operations plan. Once the application package is approved, RWQCB completes the permit amendment and issues to the District any conditions for operation of the facility including water quality monitoring requirements and water quality thresholds.

EXISTING DROUGHT CONTINGENCY PLAN

The Rancho California Water District is the lead agency in the development and implementation of the Upper Santa Margarita Watershed USMW Region's Integrated Regional Water Management IRWM) Plan. The IRWM is consistent with the California Water Plan and Rancho Water's Urban and Agricultural Water Management Plans. The IRWM Plan includes a comprehensive Stakeholder Advisory Committee and Regional Water Management Group process to identify impacts and needs in the Region, and to seek and select key projects to be included on the IRWM Plan Project List. The Proposed Project is consistent with the IRWM Plan's goals and objectives, and is being added to the IRWM Plan Project List. The IRWM Plan is attached to this proposal as Appendix A.

LETTERS OF PROJECT SUPPORT

The following Letters of Support were provided by the Eastern and Western Municipal Water Districts, the water wholesalers through which Rancho Water purchases its expensive treated import water from Metropolitan Water District of Southern California.

Craig D. Miller
General Manager

Mike Gardner
Division 1

Gracie Torres
Division 2

Brenda Dennstedt
Division 3

Laura Roughton
Division 4

Fauzia Rizvi
Division 5

WESTERN MUNICIPAL WATER DISTRICT
Securing your water supply

September 27, 2021

Rancho California Water District
Robert Grantham, General Manager
42135 Winchester Rd.
Temecula, CA 92589

RE: Western Municipal Water District Expresses Strong Support for Implementation of Rancho California Water District's Upper VDC Optimization Project: Well 173

Dear Mr. Grantham:

On behalf of Western Municipal Water District (Western), I would like to express my strong support for Rancho California Water District's (RCWD) Upper VDC Optimization Project: Well 173 (Proposed Project), and the application for WaterSMART grant funding.

Western understands that the Proposed Project involves installing treatment equipment at an existing groundwater recharge facility and the construction of a well down-gradient. These installations improve the capability to recharge and recover more cost-effective untreated import water supplies, thereby reducing RCWD's dependence on treated import water provided through Metropolitan Water District, which is typically more expensive than local water supplies.

Western also understands that the Proposed Project improves the overall sustainability of RCWD's native groundwater supply, reduces the threat of drought impacts, and keeps water rates low for all of RCWD's customers. There are also benefits to the environment, including groundwater quality improvements within the Temecula Valley Groundwater Basin. Following the installation of the well, RCWD will be able to provide an additional 1,200 acre-feet per year of affordable, potable water to their customers.

Overall, the Proposed Project provides regional water supply benefits by improving water supply reliability, optimizing groundwater supplies, building long-term resilience to drought, and reducing the need for emergency response actions. Because of these regional benefits, Western is proud to support RCWD's WaterSMART application for the Proposed Project.

Very Respectfully,

CRAIG D. MILLER, P.E.
General Manager

September 28, 2021

Rancho California Water District
Robert Grantham, General Manager
42135 Winchester Rd.
Temecula, CA 92589

Subject: Eastern Municipal Water District Expresses Strong Support for Implementation of Rancho California Water District's Upper VDC Optimization Project – Well 173

Dear Robert Grantham:

On behalf of Eastern Municipal Water District (EMWD), I would like to express my strong support for Rancho California Water District's (RCWD) Upper VDC Optimization Project: Well 173 (Proposed Project), and the application for WaterSMART grant funding.

EMWD understands that the Proposed Project involves the installation of treatment equipment at an existing groundwater recharge facility and the construction of a well down gradient, which allows for improved capability to recharge and recover more cost-effective untreated import water supplies, thereby reducing the District's dependence on expensive treated import water provided through Metropolitan Water District.

EMWD also understands that the Proposed Project improves the overall sustainability of RCWD's native groundwater supply, reduces the threat of drought impacts, keeps water rates low for all of the District's customers, and provides benefits to the environment including groundwater quality improvements within the Temecula Valley Groundwater Basin. Following installation of the well, an additional 1,200-acre feet per year of affordable, potable water will be delivered to RCWD's customers.

Board of Directors
Philip E. Paule, President Randy A. Record, Vice President Jeff Armstrong Stephen J. Corona David J. Slawson

2270 Trumble Road • P.O. Box 8300 • Perris, CA 92572-8300
T 951.928.3777 • F 951.928.6177 www.emwd.org

Overall, the Proposed Project provides regional water supply benefits by improving water supply reliability, optimizing groundwater supplies, building long-term resilience to drought, and reducing the need for emergency response actions.

Sincerely,

Lanaya Voelz Alexander
Assistant General Manager of Planning, Construction and Engineering

LVA:ier

EASTERN MUNICIPAL WATER DISTRICT

OFFICIAL RESOLUTION

Rancho Water's Board of Directors has expressed support for this grant application, the capability of the District to provide the financial contributions specified in the Funding Plan, and the capability of the District to work cooperatively with Reclamation to meet established deadlines for entering into a cooperative agreement. The official resolution will verify the District's legal authority to enter into an agreement. An official resolution, meeting Reclamation requirements will be adopted by the Rancho Board of Directors on October 21, 2021, and provided to Reclamation before the November 4, 2021 deadline.

UNIQUE ENTITY IDENTIFIER AND SYSTEM FOR AWARD MANAGEMENT

Below is information regarding Rancho Water's active SAM status.

RANCHO CALIFORNIA WATER DISTRICT

This entity record is only available FOR OFFICIAL USE ONLY.

DUNS Unique Entity ID
053836235

SAM Unique Entity ID
NE1EAZF6GET5

CAGE/NCAGE
3ZVE4

Expiration Date
Feb 5, 2022

Registration Status
Active

Purpose of Registration
Federal Assistance Awards Only

Physical Address
42135 Winchester RD
Temecula, California
92590-4800, United States

Mailing Address
42135 Winchester RD.
Temecula, California
92589-9017, United States

*The DUNS number is currently the official Unique Entity ID

APPENDIX A

DROUGHT PLAN IN SUPPORT OF PROPOSED PROJECT

APPENDIX B

UPPER VDC CONJUNCTIVE USE OPTIMIZATION STUDY

APPENDIX C

RECOMMENDED GROUNDWATER PRODUCTION REPORT

APPENDIX D

INDIRECT COST NEGOTIATION AGREEMENT

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United States Department of the Interior

OFFICE OF THE SECRETARY
Washington, DC 20240

State and Local Governments
Indirect Cost Negotiation Agreement

EIN: 95-2415751

Date: 03/09/2021

Organization:

Rancho California Water District
P.O. Box 9017
Temecula, CA 92589-9017

Report Number: 2021-0087

Filing Ref.:
Last Negotiation Agreement
dated: 06/01/2020

The indirect cost rate contained herein is for use on grants, contracts, and other agreements with the Federal Government to which 2 CFR Part 200 applies subject to the limitations in Section II.A. of this agreement. The rate was negotiated by the U.S. Department of the Interior, Interior Business Center, and the subject organization in accordance with the authority contained in applicable regulations.

Section I: Rate

Start Date	End Date	Rate Type	Name	Rate	Base	Location	Applicable To
07/01/2019	06/30/2020	Final	Indirect	97.75%	A	All	Fringe Benefits
			Indirect	12.08%	B	All	V E Overhead
			Indirect	168.84%	B	All	G A Overhead
			Indirect	29.30%	C	All	O M Overhead
			Indirect	87.35%	D	All	Engineering Overhead
07/01/2021	06/30/2022	Provisional	**Name**	**Rate**	**Base**	**Location**	**Applicable To**
			Indirect	97.75%	A	All	Fringe Benefits
			Indirect	12.08%	B	All	V E Overhead
			Indirect	168.84%	B	All	G A Overhead
			Indirect	29.30%	C	All	O M Overhead
			Indirect	87.35%	D	All	Engineering Overhead

A Base: Total salaries and wages, excluding fringe benefits and standby labor.

B Base: Total direct salaries and wages, excluding fringe benefits and labor associated with vehicle and equipment V E , direct allocation, operations, standby, and support services.

C Base: Total direct salaries and wages of the operations and maintenance function, excluding fringe benefits and labor associated with standby, support, mechanics, capital, and other labor civic).

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Section I: Rate continued)

D Base: Total direct salaries and wages of capital and engineering fee-for-service functions, excluding fringe benefits.

Treatment of fringe benefits: Fringe benefits applicable to direct salaries and wages are treated as direct costs; fringe benefits applicable to indirect salaries and wages are treated as indirect costs

Treatment of paid absences: The costs of vacation, holiday, sick leave pay and other paid absences are included in the organization's fringe benefit rate and are not included in the direct cost of salaries and wages. Claims for direct salaries and wages must exclude those amounts paid or accrued to employees for periods when they are on vacation, holiday, sick leave or otherwise absent from work.

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Section II: General

A. **Limitations:** Use of the rate(s contained in this agreement is subject to any applicable statutory limitations. Acceptance of the rate(s agreed to herein is predicated upon these conditions: 1 no costs other than those incurred by the subject organization were included in its indirect cost rate proposal, 2 all such costs are the legal obligations of the grantee/contractor, 3 similar types of costs have been accorded consistent treatment, and 4 the same costs that have been treated as indirect costs have not been claimed as direct costs for example, supplies can be charged directly to a program or activity as long as these costs are not part of the supply costs included in the indirect cost pool for central administration).

B. **Audit:** All costs direct and indirect, federal and non-federal are subject to audit. Adjustments to amounts resulting from audit of the cost allocation plan or indirect cost rate proposal upon which the negotiation of this agreement was based will be compensated for in a subsequent negotiation.

C. **Changes:** The rate s contained in this agreement are based on the accounting system in effect at the time the proposal was submitted. Changes in the method of accounting for costs which affect the amount of reimbursement resulting from use of the rate s in this agreement may require the prior approval of the cognizant agency. Failure to obtain such approval may result in subsequent audit disallowance.

D. **Rate Type:**

1. Fixed Carryforward Rate: The fixed carryforward rate is based on an estimate of the costs that will be incurred during the period for which the rate applies. When the actual costs for such period have been determined, an adjustment will be made to the rate for a future period, if necessary, to compensate for the difference between the costs used to establish the fixed rate and the actual costs.

2. Provisional/Final Rate: Within six 6 months after year end, a final indirect cost rate proposal must be submitted based on actual costs. Billings and charges to contracts and grants must be adjusted if the final rate varies from the provisional rate. If the final rate is greater than the provisional rate and there are no funds available to cover the additional indirect costs, the organization may not recover all indirect costs. Conversely, if the final rate is less than the provisional rate, the organization will be required to pay back the difference to the funding agency.

3. Predetermined Rate: A predetermined rate is an indirect cost rate applicable to a specified current or future period, usually the organization s fiscal year. The rate is based on an estimate of the costs to be incurred during the period. A predetermined rate is not subject to adjustment.

E. **Rate Extension:** Only final and predetermined rates may be eligible for consideration of rate extensions. Requests for rate extensions of a current rate will be reviewed on a case-by-case basis. If an extension is granted, the non-Federal entity may not request a rate review until the extension period ends. In the last year of a rate extension period, the non-Federal entity must submit a new rate proposal for the next fiscal period.

F. **Agency Notification:** Copies of this document may be provided to other federal offices as a means of notifying them of the agreement contained herein.

G. **Record Keeping:** Organizations must maintain accounting records that demonstrate that each type of cost has been treated consistently either as a direct cost or an indirect cost. Records pertaining to the costs of program administration, such as salaries, travel, and related costs, should be kept on an annual basis.

H. **Reimbursement Ceilings:** Grantee/contractor program agreements providing for ceilings on indirect cost rates or reimbursement amounts are subject to the ceilings stipulated in the contract or grant agreements. If the ceiling rate is higher than the negotiated rate in Section I of this agreement, the negotiated rate will be used to determine the maximum allowable indirect cost.

I. **Use of Other Rates:** If any federal programs are reimbursing indirect costs to this grantee/contractor by a measure other than the approved rate s in this agreement, the grantee/contractor should credit such costs to the

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affected programs, and the approved rate s should be used to identify the maximum amount of indirect cost allocable to these programs.

J. **Central Service Costs:** If the proposed central service cost allocation plan for the same period has not been approved by that time, the indirect cost proposal may be prepared including an amount for central services that is based on the latest federally-approved central service cost allocation plan. The difference between these central service amounts and the amounts ultimately approved will be compensated for by an adjustment in a subsequent period.

K. **Other:**

1. The purpose of an indirect cost rate is to facilitate the allocation and billing of indirect costs. Approval of the indirect cost rate does not mean that an organization can recover more than the actual costs of a particular program or activity.

2. Programs received or initiated by the organization subsequent to the negotiation of this agreement are subject to the approved indirect cost rate s if the programs receive administrative support from the indirect cost pool. It should be noted that this could result in an adjustment to a future rate.

3. Indirect cost proposals must be developed and, when required, submitted) within six 6 months after the close of the governmental unit's fiscal year, unless an exception is approved by the cognizant agency for indirect costs

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Section III: Acceptance

Listed below are the signatures of acceptance for this agreement:

By the State and Local Governments	By the Cognizant Federal Government Agency
Rancho California Water District	US Department of the Interior - BOR
DocuSigned by: F95E885A6F9F43A...	DocuSigned by: Craig Wills B47DB1F4A5DB4BF...
Signature	Signature
Richard Aragon Name:	Craig Wills Name:
AGM-CFO/Treasurer Title:	Division Chief Indirect Cost Services Division Interior Business Center Title:
3/10/2021 Date	3/9/2021 Date

Negotiated by: Marilyn Elgar
Telephone: (916) 930-3811

Next Proposal Due Date: 12/31/2021