WaterSMART: Planning and Project Design Grants for FY 2023 and 2024

NOFO No. R23AS00109

Mill Creek Managed Aquifer Recharge: Evolution of a Century of Stewardship

San Bernardino Valley Water Conservation District

San Bernardino Valley Water Conservation District

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1.0 Technical Proposal & Evaluation Criteria

Executive Summary

Date: 05/23/2024

Applicant: San Bernardino Valley Water Conservation District

City, County, State: Redlands, San Bernardino County, California

Task Area/Category: Task B: Project Design Grants / Category A Applicant: The San Bernardino Valley Water Conservation District (Conservation District) operates under Division 21 of the California Water Code, authorized to undertake water conservation and management activities. As per Section 74522, the district can engage in various water-related projects, including water storage, distribution, and groundwater management. Specifically, it can construct infrastructure like dams, reservoirs, canals, and wells, as well as operate pumping systems for water distribution and sale. These activities align with Category A eligibility criteria for funding, recognizing the district's public status and authority in water delivery.

Project Summary: The San Bernardino Valley Water Conservation District (Conservation District) has been a leader in sustainable groundwater management since 1909, providing water for over a million people in the region. However, despite the District's commitment to stewardship, challenges like climate change, equity, and habitat conservation demand innovative solutions. In response, the Conservation District has initiated the Program for Expansion of Recharge Capacity (PERC) to address these issues. One of the eight PERC projects is the expansion and optimization of the Mill Creek Groundwater Recharge Facility. This project aims to increase the existing facility's capacity and operational flexibility to enhance water supply reliability and quality, particularly during droughts. By adding 5,000 to 6,100 acre-feet per year (AFY) to the current peak capacity of 30,000 AFY, the project seeks to bolster the region's water security. The project prioritizes habitat preservation, aligning with the Conservation District's commitment to environmental stewardship. It will be designed to support the persistence and expansion of endangered species listed under the Endangered Species Act, guided by a near-final Safe Harbor Agreement from the US Fish and Wildlife Service. Grant funding is sought to develop an optimal design approach that minimizes environmental impact while achieving project goals. The project is supported by various regional planning documents, including the East Valley Water District Drought Contingency Plan and the Upper Santa Ana River Watershed Integrated Regional Urban Water Management Plan. Completion of the proposed work will position the Conservation District to transition into the construction phase, delivering significant benefits in water supply reliability, environmental conservation, and community resilience.

Project Timeline: The Project began in March 2022 and is scheduled for completion by December 2025. The total duration of the project is scheduled for 45 months. To align with invoicing cycles, the Conservation District is requesting funds for eligible Project costs incurred from September 1, 2023, through the end of the Project.

Federal Facility: The proposed planning efforts do not involve a Federal facility or Federal land. The Project will provide an indirect benefit to Federal water supplies as detailed in Evaluation Criterion E.

Project Location

The Project is situated in the San Bernardino Valley region of western San Bernardino County, California, within the upper Santa Ana River watershed. It overlies the San Bernardino Basin, with an aquifer storage capacity of 5,690,000 acre-feet. Formerly known as the Bunker Hill Subbasin, it was renamed the San Bernardino Basin (Basin) in 2018 when the boundary was modified to coincide with the Western San Bernardino in the 1969 groundwater adjudication boundary more closely. The Mill Creek Groundwater Recharge Facility is in the City of Redlands. Regionally, the project is adjacent to the San Bernardino National Forest and southwest of Big Bear Lake. The Project is approximately five miles south of Seven Oaks Dam along Mill Creek at the junction of Mill Creek and the Santa Ana River. The project latitude is 37.079681°N and longitude is -117.112916° W (**Figure 1**).

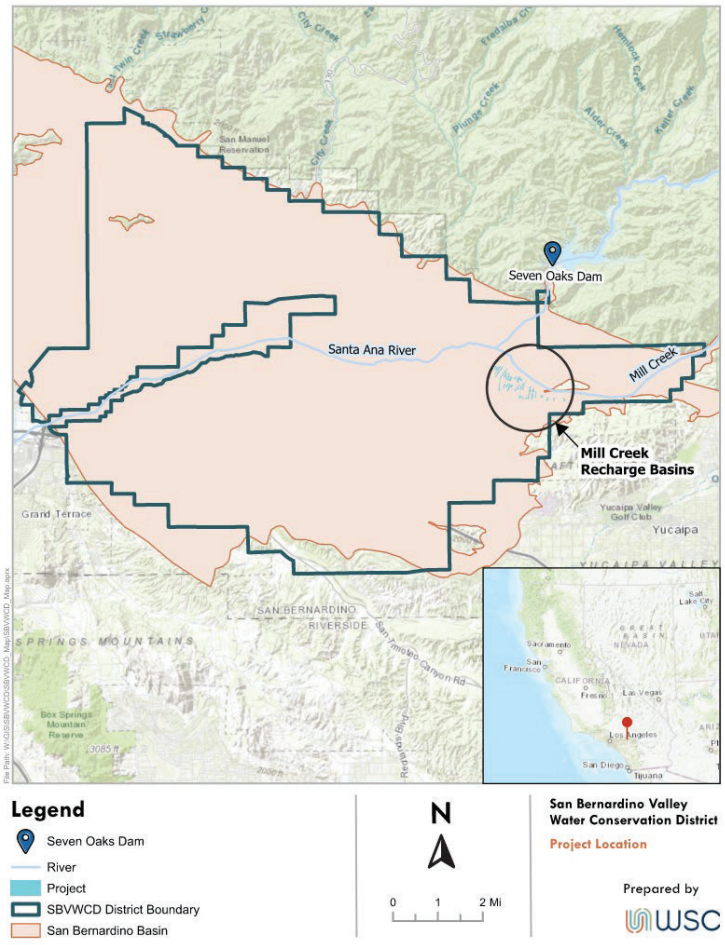

Figure 1 - Project Area Map

Technical Project Description

The Mill Creek Groundwater Recharge Facility (Recharge Facility or Facility), operated by the Conservation District since 1935, spans 414 acres and includes a diversion, canal, and fifty-three recharge basins, and is crucial for San Bernardino Valley's water supply. Situated at the base of the San Bernardino Mountains, it borders private development, residential areas, and agriculture. Recent land purchases aim to expand the facility. The Project will increase wetted area from 54.4 to 70 acres and retention volume from 215 to 550 acre-feet by optimizing conveyance routes and enlarging basins as shown in **Figure 2**. Q3 Consulting won the contract for design engineering services at the Mill Creek Facility and one other recharge site. Only the scope and cost related to the Mill Creek Facility are included in this application. **Table 7** in **Section 2.0** Project Budget outlines the project tasks and their associated eligibility status, including an alternatives analysis, concept design, and 65% design plans. The technical tasks are detailed below and align with the task numbers in the Q3 contract and the Project Budget.

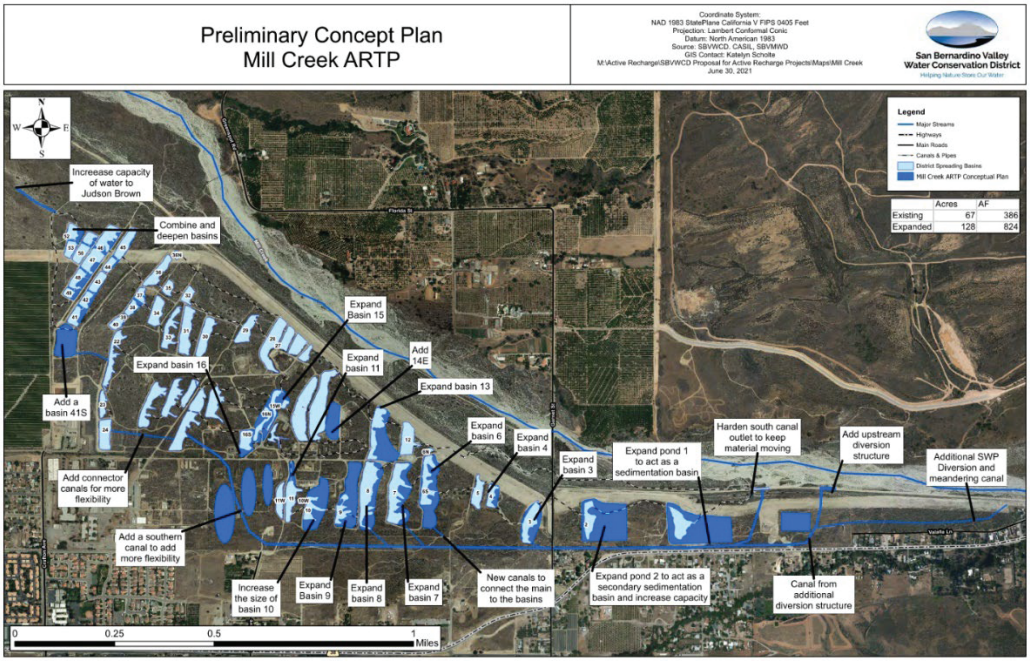

Figure 2 - Preliminary Concept Plan

Task 2 - Hydrology

The initial phase of the facility expansion planning involves determining the optimal project diversion flow rate from Mill Creek. The Q3 team will conduct a unit hydrograph hydrology study, following the San Bernardino County Flood Control District (SBCFCD) Hydrology Manual guidelines. This study will utilize historical rainfall and runoff gage data to estimate the frequency, recurrence, and duration of storm event flow rates between the 50th and 90th percentile exceedance levels. These calculations will guide assessments of the potential storm volume capture and enable comparison with the maximum diversion rate capacity at the point of diversion.

Task 3 - Hydraulics

The Mill Creek diversion analysis will assess in-stream and in-line diversions using HEC-RAS 2D and SWMM5 for hydraulic calculations. Structural diversions will be examined for maximum flows and stages, with proposed modifications for levee integrity. LiDAR-generated maps will inform basin design constraints. The hydraulic basins model will optimize configuration, weir structures, and diverted flow for storage and recharge during average annual storms. Up to three alternative canal configurations will be evaluated.

Task 4 – Drain Time & Recharge Analysis

Hydraulic drain time will be calculated to assess the duration needed to drain basins. Recharge calculations will use a refined reservoir model. Drain time analysis for each basin alternative will be done using HEC-RAS 2D or SWMM5.

Task 5 – Sediment Transport Analysis

Sediment transport modeling will evaluate channel bed dynamics, aiding in design and cost-effective solutions. Simulations will address scour, sedimentation, and maintenance needs, considering extreme events and flood impacts. Stream gradation data will inform criteria for the preferred alternative.

Task 6 – Field Survey and Topographic Mapping

To inform both the modeling efforts performed in Task 3, 4 and 5, a new topographic survey will be prepared for the Project site. Topography will be prepared in AutoCAD Civil 3D and will include a DTM surface, and Digital Orthographic Photo.

Task 7 – Geotechnical Site Investigation

Geotechnical input will guide project aspects like infiltration rates, sediment transport, foundation design, canal configuration, and levee stability. Historical data will be reviewed alongside field exploration and lab tests. Standpipe infiltration tests (SITs) will inform clogging factors for long-term infiltration rates. Seepage and slope stability assessments will complement the geotechnical analysis.

Task 9 - Preliminary Design Plans

Three concept design alternatives for the Recharge Facility will be developed first to a 30% and then to a 65% level of detail based on prior tasks. The Conservation District's experienced field operations team will review the alternatives to ensure that on-the-ground knowledge informs the proposed project. Alternatives will include:

- A new distribution canal system for efficient basin operation and maintenance to support higher recharge efficiency and improved longevity of the basins.
- Expansion of existing and addition of new recharge basins for maximum recharge.

Task 10 - Evaluation of Preliminary Design Results (Basis of Design)

As a companion to the final 65% design plans, a Final Technical Memorandum (TM) including a detailed description of the recommended alternative and support for the final design will be prepared to serve as the Basis of Design. The TM will include a summary of all tasks, quantities, and a preliminary engineer's cost estimate.

Evaluation Criteria

Evaluation Criterion A – Project Benefits

Identify the threats to water supply, water quality, and river-based ecosystem or watershed health within the geographic area of the design project.

The Santa Ana River (SAR) Watershed region confronts multifaceted challenges. Threats imperil water supplies drawn from groundwater, local surface water, State Water Project imports, and recycled water, necessitating adaptive measures to safeguard water resources.

Climate Change, Prolonged Drought Conditions, and Intense Storm Events

The 2020 IRUWMP highlights vulnerabilities of the SAR Watershed based on recent climate change assessments, which particularly impact the San Bernardino Valley and the San Bernardino Basin:

- Existing groundwater capture facilities may be less effective during less frequent but more intense storm events.
- Uncertainty in the Sacramento-San Joaquin Bay Delta threatens the reliability of imported water, vital for the Region's water supply.
- Wildfires and storms can degrade surface water quality, making it temporarily unusable for treatment and recharge.
- Managing intense winter storms complicates holding water for recharge.
- Rising temperatures increase water demand for agriculture and landscaping.
- More frequent and severe droughts reduce runoff and subsurface flows, leading to aridification and decreased soil moisture, thus reducing runoff and natural groundwater recharge.

Over the last two decades, San Bernardino County Region has faced extreme drought, severe drought, moderate drought, or abnormally dry conditions, as indicated by U.S. Drought Monitor data **(Figure 3).** Historical droughts are expected to worsen in duration and severity, heightening the demand for a reliable water supply (Department of Water Resources, 2008). The Water Reliability in the West - 2021 SECURE Water Act Report warns of challenges posed by changing temperature, precipitation patterns, and snowpack runoff, with projections indicating increased drought duration, severity, and unpredictability over the next century (Bureau of Reclamation, 2021). The Conservation District collaborates with the Basin Technical Advisory Committee (BTAC), a group of sixteen local water agencies who work together to collaboratively manage regional water resources by tracking regional water supply conditions. Since 1999, chronic dry conditions, depicted by the Precipitation Index in **Figure 4** , have led to decreased surface water availability and groundwater recharge, despite extensive managed recharge efforts by the District and the Region. Despite adherence to safe extraction levels since 2012, the Basin reached a record low of over one million acre-feet below capacity in 2022 due to prolonged drought. (State of California Natrual Resources Agency Department of Water Resources, 2014).

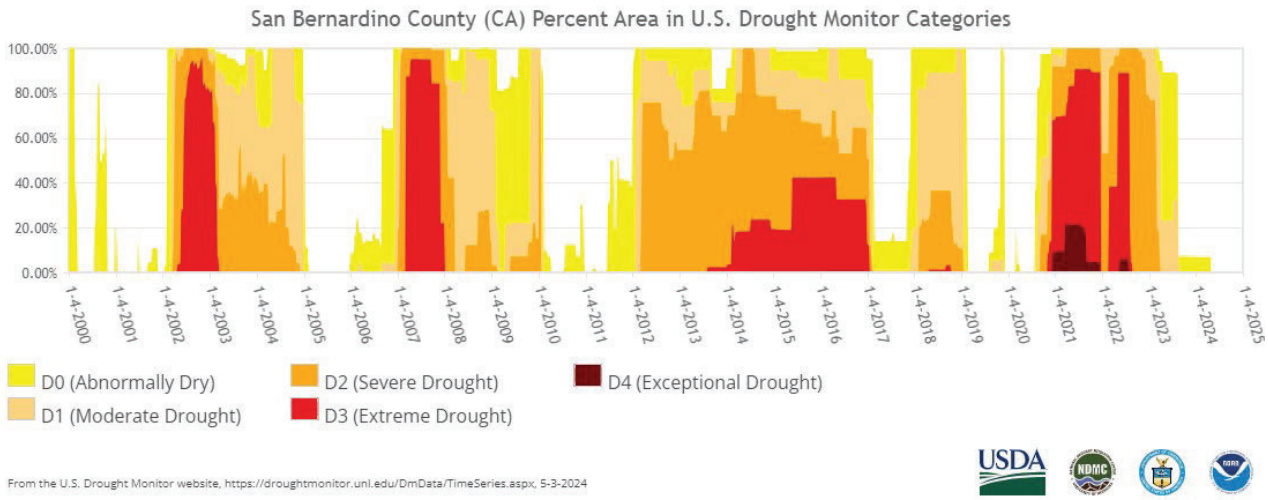

Figure 3 - San Bernardino County % Area In US Drought Monitor Categories

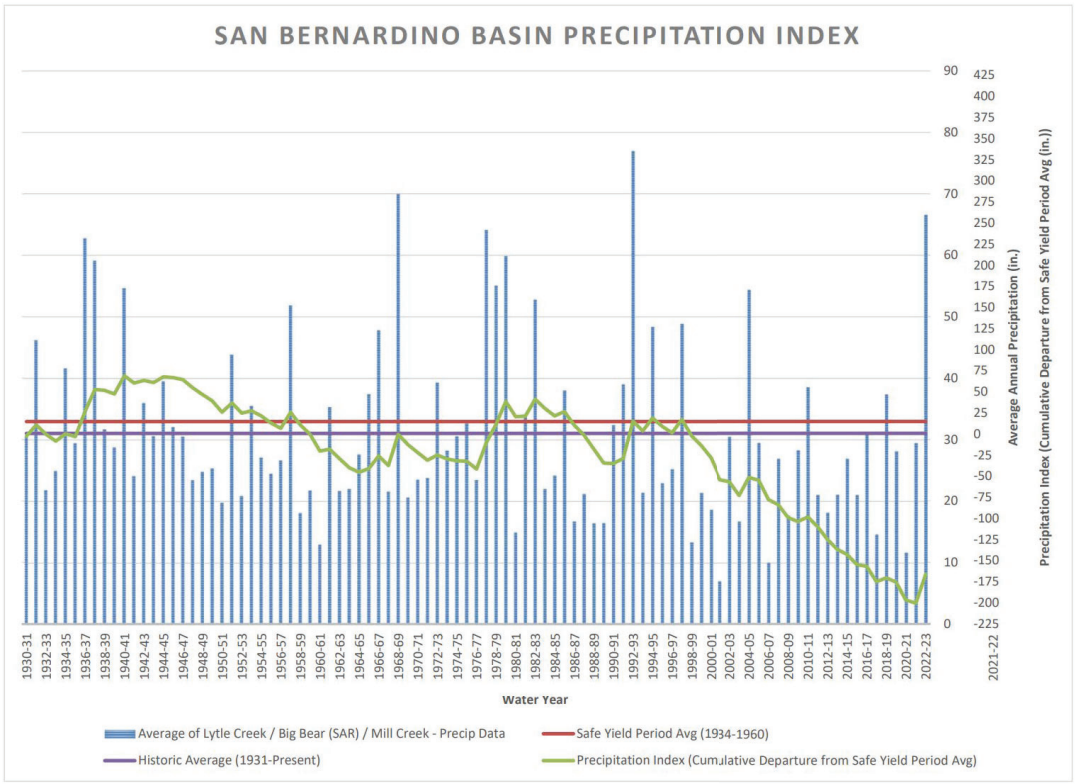

Figure 4 - San Bernardino Basin Precipitation Index

The Conservation District faces challenges from the State Water Project (SWP) due to statewide drought and constraints in the Bay-Delta ecosystem. In 2022, SWP allocations were reduced to five percent, reflecting diminished Sierra snowpack. However, in 2023, with 100% SWP allocation and high local rainfall, the District achieved record-breaking recharge of 87,914 acre-

feet. This success underscores the importance of SWP flows to regional recharge efforts. Despite capacity constraints, the District's operations effectively capitalized on available water resources. These experiences inform the PERC projects, notably the Mill Creek Managed Aquifer Recharge Project, prioritized for its progress potential, established percolation rates, and compatibility with habitat preservation. Permitting for this project is slated for completion by October 2025.

Groundwater Quality and Emerging Regulations

During droughts, when surface water and imported water are scarce, reliance on groundwater increases along with the threat of related water quality issues. Groundwater quality varies across the Basin due to geological factors, recharge patterns, and human activities. Moreover, there are several groundwater contaminant plumes, including those from industrial sites like Norton Air Force Base and Superfund sites like Crafton-Redlands and Muscoy-Newmark, which require effective management to prevent exacerbating water supply threats. A regional collaboration group assesses ambient water quality every three years, focusing on total dissolved solids (TDS) and nitrate levels. The most recent assessment indicates TDS levels within the Project area below the Water Quality Objective (WQO). Additionally, a Salt and Nutrient Management (SNMP) workgroup evaluates TDS impacts of planned recycled water recharge projects, highlighting the importance of local surface water recharge to offset these impacts and enhance groundwater quality.

Changes to River-Dependent Ecosystems & Habitat Health

The Santa Ana River watershed harbors numerous rare, threatened, and endangered species dependent on remnant natural habitats like Riversidean Alluvial Fan Sage Scrub and Riversidean Upland Sage Scrub. These habitat fragments are often isolated from natural fluvial processes such as flooding due to infrastructure like roads and flood control facilities. Recent mapping efforts following United States National Vegetation Classification methods revealed diverse vegetation types and unique alliances such as Heterotheca sessiliflora Association and the Juniperus californica Forest & Woodland Alliance that underscores their critical coevolution with the species they support and their risks from development, fragmentation, edge effects, and a changing climate. The Conservation District is honored to conserve and manage several of these species in the Project vicinity, including the federally threatened California gnatcatcher (CAGN) and the federally listed endangered San Bernardino kangaroo rat (SBKR).

The CAGN is a federally threatened bird whose range is restricted to sage scrub vegetation along the southern California coast, where it faces threats from habitat loss due to development, wildfires, and nest predation brood parasitism by brown-headed cowbirds (Atwood, 1993). While Critical Habitat was not designated within the Project footprint, successful nesting territories were recorded in the Project vicinity since surveys began in 2007.

The SBKR is a federally listed endangered and State-listed endangered rodent whose range is encompassed by the three southern California counties of Los Angeles, Riverside and San Bernardino, where it is threatened by habitat loss, fragmentation, invasive grasses, and indirect long-term threats from the removal of natural fluvial processes (Wildlife, 2019). The entire

Project area is within Service-designated Critical Habitat for this species, and the species has been recorded in the Project vicinity since surveys began in 2009.

How do the threats identified in your response to the preceding bullet impact specific water uses or sectors in the geographic area of the planning or design project?

Climate Change, Prolonged Drought Conditions, and Intense Storm Events

Between July 1, 2024, and June 30, 2025, approximately 90,000 AF of Basin water is needed to meet critical regional needs for agricultural, economic, and domestic uses. In addition to cities and counties, the Mountainview Power Generating Station, Loma Linda University Medical Center, University of California Riverside, and The San Manuel Band of Mission Indians, whose water needs are served by East Valley Water District, all rely on the Basin for their water needs. However, declining water levels could lead to potential well abandonment and costly redrilling for over five hundred wells at risk of losing water production capacity as Basin levels decline. Following 2023's record recharge year, the Conservation District identified over $2.5 million in maintenance needs from storm events, emphasizing the necessity for PERC projects to enhance aquifer recharge management flexibility.

Groundwater Quality and Emerging Regulations

Municipal and agricultural wells in the Basin are affected by regulated water quality constituents like nitrate, TCE, PCE, DBCP, 1,2-DCE, perchlorate, fluoride, uranium, and VOCs, requiring costly treatment or well shutdowns. Evolving regulations, including newly adopted PFAS limits, may demand additional treatment systems. Moreover, aging infrastructure requires replacement, with rising construction costs exacerbated by pandemic-related inflation. Consequently, retail water agencies are considering significant rate hikes, affecting all customers, notably the twenty-eight census tracts classified as disadvantaged communities in the Region.

River-based Ecosystem & Watershed Health

The rare, threatened, and endangered species that have survived development of the Region now persist on small, often isolated refugia of conserved or undeveloped lands. Climate change and its attendant drought, intense storm events, wildfires, aridification, and temperature extremes will push these remaining species to the brink. The Mill Creek Managed Aquifer Recharge Project builds on the proven model of Conservation District recharge compatibility with local endangered species and their habitats by incorporating environmental considerations into project design under the near-final Safe Harbor Agreement. The risks to these species from climate change is well documented: For example, when over 50,000 acres of conserved lands in San Diego County burned twice in 2003 and 2007, California gnatcatcher occupancy was reduced to less than five percent, with over a decade needed for species to rebound to over 20% occupancy (Kus, Preston, & Houston, 2017) .

How will the planning or design project help address the threats to water supplies and water uses identified in your response to the preceding bullets?

The Mill Creek Managed Aquifer Recharge Project will increase capacity and operational flexibility of the existing Mill Creek Groundwater Recharge Facility by improving water

conveyance and distribution mechanisms. For example, certain alternatives under consideration would augment the current basin-to-basin spill system that uses interties and check structures by constructing bypass channels for flows to directly reach downstream recharge basins. The addition of these features would decrease the cost and water loss associated with maintenance to remove fine-grained sediment that clogs the floors and sides of the groundwater recharge basins. Other aspects of the Mill Creek Managed Aquifer Recharge Project would increase the volume of available water retention as well as the groundwater recharge flowrate by enlarging the footprint and volume of existing recharge basins while adding new recharge basins as well. The Project will increase average annual recharge by up to 6,100 AFY and at an additional peak rate of 420 acre-feet per day (AFD).

Climate Change, Prolonged Drought Conditions, and Intense Storm Events

The Basin, which can store over 5.6 million AF of water, is the Region's most valuable asset to support climate-change adaptation. Expanding recharge capacity in the Region is critical to enable the capture of more water during increasingly wet years for storage in the Basin to sustain the Region's water supply during ever-increasing periods of drought. The Project will directly enhance the Conservation District's ability to capture native water when available in wet years to recharge the Basin, which will increase the volume of water in storage that all users of the Basin can access to maintain reliable water supply during drought periods when SWP and local surface water supplies are reduced. In this way, the Project will reduce the Region's reliance on SWP to recharge the Basin in numerous ways, such as increasing the availability of groundwater to meet agricultural irrigation demands, which increase during hotter, drier periods.

The Project strategy is a proven, elegant, and low-cost solution: the water source is local, with water under the Conservation District's rights available at no cost to pumpers, and gravity-fed existing and proposed facilities are carbon-friendly because no electricity is required for operation. As a result, the Conservation District's efficiency operations provide water at the exceptionally low rate of $16.95 per acre-foot pumped from the Basin.

Groundwater Quality and Emerging Regulations

The Project will also contribute to improved water quality in the Basin with respect to TDS because native stormwater has a significantly lower TDS than SWP and RW. Native stormwater is the lowest TDS water source in the Region, averaging only 178 mg/l TDS, compared to imported water that averages 244 mg/l TDS and recycled water, which is over 500 mg/l TDS. The additional low-TDS recharge from the Project will help offset TDS contributions from recycled water recharge, which will extend the period that the Region can use recycled water for recharge without exceeding the water quality limits or constructing a costly desalter. As a result, the Project will contribute to increased water supply reliability by supporting the continued use of recycled water as a local drought-resilient source, which also helps address climate change's impacts.

River-based Ecosystem & Watershed Health

The planning and design efforts proposed under this application will contribute to ecosystem resilience in a variety of ways. These include proposed new construction in unoccupied or low-

quality habitat, as well as maintenance conducted in a manner to mimic natural disturbance regimes such as flooding that no longer occurs following development of upstream dams and levees. For example, existing and proposed basins will allow for planned, periodic flooding of low-quality habitat areas using water released from the Conservation District's facilities to mimic natural fluvial process that reset flooded areas to the habitat characteristics associated with high SBKR abundance. The compatibility of existing and proposed features of the Mill Creek Groundwater Recharge Facility and their associated maintenance with ESA-listed species is being recognized by USFWS through the preparation of a Safe Harbor Agreement, rather than a Habitat Conservation Plan, at this site.

The Mill Creek Managed Aquifer Recharge Project will reduce the likelihood of wildfire in areas occupied by gnatcatcher through addition of recharge basins which serve as firebreaks in the vicinity of suitable habitat, while limiting direct and indirect impacts to suitable habitat through project siting and design features. The recharge basins also significantly increase groundwater levels in nearby locations, which supports native vegetation – and the insects they support that serve as food resources to larger species – through times of severe drought. This win-win pathway allows for species to flourish on landscapes that are working hard to ensure local water reliability.

The Conservation District takes pride in providing refuge for native species on working lands amidst extensive development. Our groundwater recharge operations have demonstrated compatibility with the long-term persistence of these populations, underscoring our commitment to environmental stewardship.

Is the planning or design effort for the purpose of providing domestic water supplies to a Tribe, insular area, or disadvantaged communities that do not have reliable access to water supplies?

The San Manuel Band of Mission Indians, a federally recognized American Indian tribe located in the San Bernardino Valley and receives all its water supply from East Valley Water District, a retail water agency that obtains over 80% of its supply from the Basin.

Within the region served by the basin, twenty-eight census tracts with a total population of over 150,000 people are classified as disadvantaged communities by the US Council on Environmental Quality's Climate and Economic Justice Screening Tool. **Figure 5** shows the tribes and disadvantaged communities located in the region served by the Project.

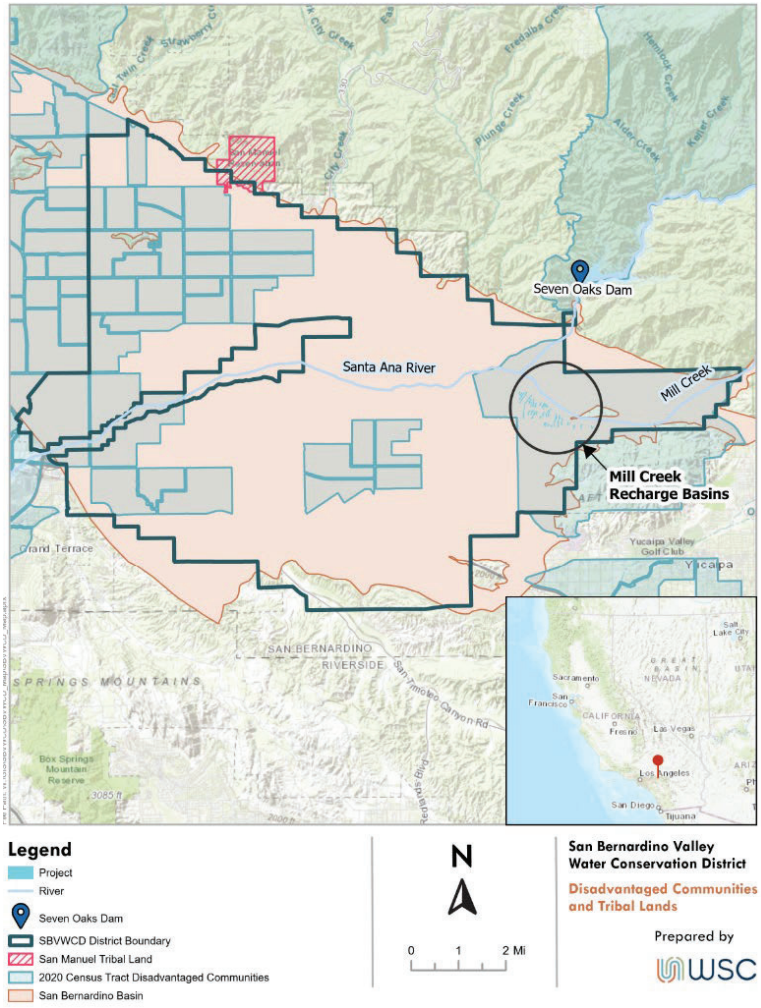

Figure 5 - Disadvantaged Communities Impacted by the Basin

Due to over a century of responsible water stewardship by the Conservation District and other local water agencies, communities across the Region have reliable access to their domestic water supply. However, the Project is needed to ensure this reliable access is maintained in our uncertain future. Without this project and similar efforts, continued declines in groundwater levels will require significant capital expenditures to deepen private and municipal wells, as well as increased reliance on imported water supplies, which together will significantly increase the cost of water and locally produced agricultural products for over a million residents, including the San Manuel Band of Mission Indians and disadvantaged communities. Please see the response to Evaluation Criterion D "Presidential and Department of Interior Priorities" for additional details regarding the benefits to Tribes.

Does the planning or design effort involve the improvement of nature-based features?

The Project will employ strategies to minimize direct habitat impacts and incorporate nature-based design elements to support the persistence and expansion of rare, threatened, and endangered species. For instance, recharge basin berms will have gentle slopes to facilitate movement by species like the SBKR, while sediment from basin cleaning will be redistributed to

enhance habitat quality. Additionally, design options will explore controlled flooding events to restore habitat. Further details are available in Evaluation Criteria A, #2, focusing on nature-based construction of basin canals.

Is the project for the purpose of meeting existing environmental mitigation or compliance obligations under Federal or State law?

No, the project does not meet existing environmental mitigation or compliance obligations under Federal or State law.

Evaluation Criterion B – Inclusion of Stakeholders, Stakeholder Support, and Previous Planning Efforts

Subcriterion B2: Task B – Project Design

If the project is supported by an existing water planning effort, please describe that effort.

Previous and ongoing related planning efforts which support the Project include the 2020 Upper Santa Ana Watershed Integrated Regional Urban Water Management Plan, East Valley Water District Drought Contingency Plan, Santa Ana Watershed Project Authority One Water One Watershed Plan, Wash Plan, and the Upper Santa Ana River HCP.

The Upper Santa Ana River Integrated Regional Urban Water Management Plan (IRUWMP) aims to ensure long-term water supply availability. The Project is part of 'Active Recharge Transfer Projects' (PERC), supporting goals directly aligned with the IRUWMP like increased water supply diversification, groundwater management, water quality protection, flood management with recharge benefits, habitat preservation, disaster prevention, and climate change resiliency.

The East Valley Water District's (EVWD) Drought Contingency Plan, developed in partnership with the United States Bureau of Reclamation (USBR) addresses water resource reliability with a goal of proactively addressing cyclical droughts challenging water supply. The Project is explicitly identified in this Plan as a Priority 1 initiative mitigating high risk vulnerabilities such as prolonged drought, climate change variabilities, infrastructure decline, and water quality decline.

The One Water One Watershed (OWOW) Plan was developed by the Santa Ana Watershed Project Authority (SAWPA), comprising five invested water agencies interested in the beneficial management of the entire SAR watershed. The OWOW outlines a broad water management planning framework for the watershed. While the Project is not explicitly mentioned, the OWOW planning process fosters collaboration between water resource managers and land use planners to ensure adequate water supplies and quality, supporting future population and economic growth within the County. This aligns with a fundamental goal of Mill Creek Managed Aquifer Recharge Project.

The Upper Santa Ana River Wash Habitat Conservation Plan (Wash Plan HCP) and Upper Santa Ana River Habitat Conservation Plan (River HCP) ensure species and habitat protection through the balance of natural resource protection and water supply management. Though the Project seeks a Safe Harbor Agreement independent of the HCPs, its environmental goals include habitat protection, enhancement, and restoration as well as natural water resource

infrastructure improvement that not only coincide with but in many cases are patterned after these plans.

In addition, the Project aligns with several California State planning efforts as noted below.

- California's Water Resilience Portfolio - a blueprint for equipping California to cope with more extreme droughts, floods, and rising temperatures, while addressing long-standing challenges that include declining fish populations, over-reliance on groundwater, and lack of safe drinking water in many communities.
- California Water Code Section 85021 - advocating reduced reliance on the Bay-Delta for water needs. This statewide strategy involves investing in enhanced regional supplies, conservation, water use efficiency, water recycling, advanced technologies, and improved coordination among local and regional water supply efforts, promoting water supply self-reliance in regions dependent on the Bay-Delta watershed.
- State of California's goals and the Governor's May 2019 Executive Order - achieve water resiliency through a multi-benefit portfolio of water management solutions that benefit the environment, strengthen in- and cross-sector partnerships, and utilize the best technology – including proven, elegant solutions like gravity-fed, climate-free groundwater recharge for improved climate-resiliency.
- Department of Water Resources California Groundwater Bulletin 118 and Groundwater Update 2020 – The Project specifically supports implementation of Recommendation 4.2, Identify optimal areas for enhanced recharge and critical connections in aquifer systems to enable local governments to maximize opportunities for managed aquifer recharge; and Recommendation 6, promote and support groundwater projects that achieve multiple benefits to reduce statewide overdraft, replenish groundwater basins, reduce drought risks, and secure ecosystem benefits.

Describe any planned efforts for public outreach and stakeholder engagement during the design process.

The PERC Policy Committee (Committee) provides a quarterly public forum for information and discussion on the Project and related PERC projects. The Committee, which was formed as part of the Partnership Agreement for Active Recharge Project (now PERC) Development, is made of up five members from regional water agencies and groups and has voted in support of this grant application.

The Conservation District will also continue to engage regularly with a broader group of regional partners and interested parties through the BTAC and its member agencies: Bear Valley Mutual Water Company, City of Colton, City of Loma Linda, City of Redlands Municipal Utilities and Engineering Department, City of Rialto, City of Riverside Public Utilities Department, East Valley Water District, Elsinore Valley Municipal Water District, Fontana Water Company, San Bernardino County Flood Control District, San Bernardino Municipal Water Department, San Bernardino Valley Municipal Water District, San Bernardino Valley Water Conservation District, West Valley Water District, Western Municipal Water District, and Yucaipa Valley Water District.

The Conservation District Board meetings, which follow Brown Act rules for transparency and public engagement, offer monthly online/remote and in-person opportunities for public and partner input on the Project and related PERC projects. Specifically, a written Engineering Update is provided with each Board agenda materials (which is posted to the Conservation Districting website at least 72 hours in advance of each meeting) along with a verbal Engineering Update during each meeting, both of which provide details of Project status and the opportunity for District technical staff to answer questions.

For Tribal strategies or plans that were developed collaboratively with multiple Tribal interests, but did not include collaboration with external entities, provide explanation as to why collaboration with entities external to the Tribe were not involved in the development of the strategy or plan.

The District collaborates with local tribal contacts to address potential impacts on Native American cultural resources during project design and implementation. For instance, a Memorandum of Agreement between the San Manuel Band of Serrano Mission Indians and the District ensures tribal access to culturally significant plants.

Describe stakeholder support for the proposed project.

The Project was developed with extensive input from regional agencies, including groups such as the BTAC and the San Bernardino Basin Groundwater Sustainability Council, and have been vetted through the comprehensive public input process conducted for the 2020 IRUWMP. Letters of support for the project, which are included as attachments to this application, show strong engagement and positive feedback from the region for this Project. Letters were provided from a range of supporters which include Congressmen, Cities, Special Districts, and Conservation Organizations.

Is there opposition to the proposed project?

There is no known opposition to the proposed project.

Evaluation Criterion C – Ability to Meet Program Requirements

Describe how the project will address the program specific requirements described in the appropriate program-specific appendix.

As described in the Technical Project Description, the Conservation District has contracted with a consulting firm, Q3, to provide engineering services for the Project at Mill Creek. The scope of the contract for the Mill Creek Groundwater Recharge Facility design includes a basis of design, site-specific 65% design plans, construction cost estimate, and schedule. To support development of these work products, the team will perform several preliminary design tasks which include mapping, investigations, analyses, and modeling. The main products anticipated from this work are listed below in **Table 1**.

Table 3 in Question 2 Evaluation Criterion C shows the subtasks within each task as well as their associated milestones and deliverable dates. This table outlines how each task's various goals will be organized to aid the team in progressing the project along the proposed schedule and budget.

Table 1 - Anticipated Work Products

Product	Description
30% Design Drawings	Drawings for the three alternatives will include grading contours, structure callouts, slopes, depths, inverts, flooded extents, accompanied by tables showing annual average flows and volumes for each basin.
65% Design Drawings	The preferred design will progress to 65% detail level, including demolition, grading, and canal plans, with sufficient detail for cost estimation.
Basis of Design	After the alternatives analysis and 65% design plan sets, a Technical Memorandum (TM) will serve as the Basis of Design. It will outline project goals, criteria, safety considerations, habitat data, and preliminary cost estimates as a final summary of findings and associated design.
Construction Cost Estimate and Schedule	The TM will include construction cost estimates, scheduling, and permitting budgets. It will detail facility quantities, grading quantities for all basins, and options for fill placement.

The District acknowledges Reclamation's focus on the Build America Buy America Act (BABA) objectives and will consider them during project construction.

Describe the approach that will be undertaken to meet the applicable program components and requirements.

Table 2 presents the preliminary project schedule, including task durations, milestone dates, and overall project duration. **Table 3** outlines Project tasks and subtasks, milestones, dates, with additional detail provided in the Technical Project Description. Q3 will be the responsible party for all tasks. Furthermore, a detailed project budget and budget narrative outline costs and funds requested as part of the application. This information can be found in Section 2 of the document.

Table 2 - Overall Project Schedule

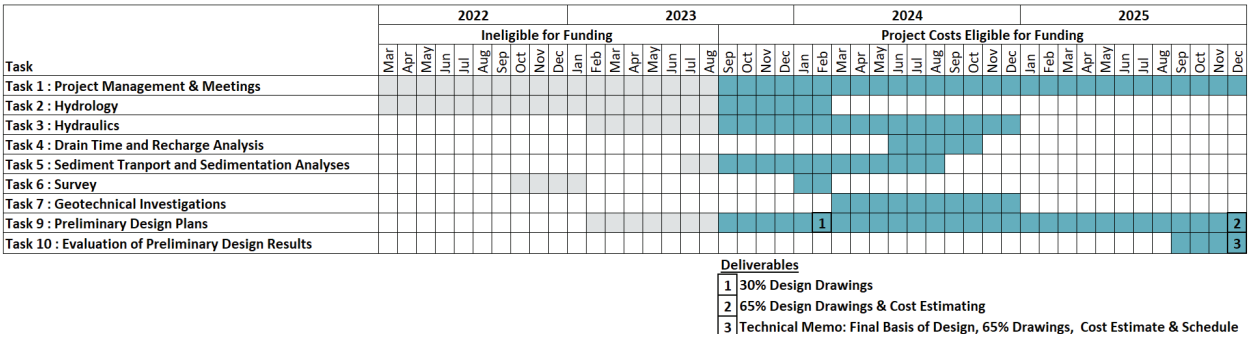

Table 3 - Major Tasks and Deliverables Summary

TASK/SUBTASK	DELIVERABLES	DELIVERABLE DATE
Task 2 - Hydrology		
Hydrology/Hydraulics Data Research & Review	**Summary: Hydrology Maps & Calculations**	**2/20/2024**
Mill Creek Hydrology (Q100, Annual Average)		
Rain on Grid Local Hydrology (2D)	**2D Maximum Depth Maps for Rain-On-Grid Model**	
Task 3 - Hydraulics		
Mill Creek Diversions Hydraulics	**Exhibits: Diversion Calculations and Proposed Alts.**	**8/30/2024**
Mill Creek Basins and Canal Hydraulics (3 Alternatives)	**Summary: Basin Analyses for Three (3) Alternatives**	**12/31/2024**
Task 4 - Drain Time & Recharge Analysis		
Mill Creek Basins Drain Time and Recharge Analyses	**Exhibit: Basin Drain Time Results for Alternatives**	**10/30/2024**
Task 5 - Sediment Transport and Sedimentation Analyses		
Mill Creek Baseline Event Long Term Model, Sensitivity Analyses	**Summary: Sediment Transport Model Results**	**8/15/2024**
Mill Creek Sediment Transport Alternative Analyses		
Sediment Grab Samples & Cobble Counts (Mill Creek)	**Summary: Stream Bed Profiles Results**	
Task 6 - Survey		
Aerial Topography	**AutoCAD Civil 3D dwg**	**1/15/2023**
Ground Survey for Basins and Diversions	**Field Sketches of Basin and Diversion Structures**	**2/15/2024**
Task 7 - Geotechnical Investigations		
Pre-Field Services	**Geotechnical Study Report**	**12/30/2024**
Sediment Transport Sampling		
Test Pits		
Infiltration Testing		
Levee Evaluation		
Engineering Analysis for Basins, Canals and Diversion Structure		
Reporting		
Task 9 - Concept Design Plans		
Concept Design Plans (30%)	**Deliverable 1: 30% Concept Plans for 3 Basin Alternatives**	**2/24/2025**
Alternatives Summary Presentation	**Deliverable 2: Technical Memorandum and Presentation of Findings**	**5/15/2025**
Recommended Preliminary Plans (65%)	**Deliverable 3: 65% Plans for Recommended Alternative**	**12/31/2025**
Task 10 - Evaluation of Preliminary Design Results		
Final Report Detailing Designed Alternative	**Deliverable 4: Final Project Report:** **- Hydrology and Hydraulics for Recommended Alternative** **- Final Quantities and Prelim. Engineer's Cost Estimate** **- Final Project Plans to 65% LOD**	**12/31/2025**

Describe the availability and quality of existing data and models applicable to the design.

The exceptionally high-quality Mill Creek hydrologic dataset, collected from 1920 to 1986 at USGS Gage 11054001, informs diversion and canal sizing. The Integrated Upper Santa Ana River Model, using historic monthly data, guides planning and design, including percolation rates and design enhancements, through telescopic-mesh-refinement within the existing model mesh.

Identify staff with appropriate technical expertise and describe their qualifications.

Ms. Betsy Miller, General Manager of the San Bernardino Valley Water Conservation District, brings over 20 years of experience in habitat and water conservation. She currently oversees regional aquifer recharge operations and key projects for groundwater sustainability. Prior to this, she led the Multiple Species Conservation Program habitat conservation plan for the City of San Diego. Ms. Miller holds a degree in Biology from Whitman College and a Master of Arts in Geography, specializing in Natural Resources Management, from San Diego State University.

Mr. John Lambie, Consulting Chief Engineer and Groundwater Hydrologist at the San Bernardino Valley Water Conservation District, brings 16 years of expertise in groundwater recharge project design. Specializing in basin designs and water spreading characteristics, he aids growers in bolstering water supply resilience during droughts. A licensed civil engineer,

certified engineering geologist, and professional geologist, Lambie holds degrees from MIT in Earth Sciences and civil engineering, with a focus on sediment mechanics.

Describe any new policies or administrative actions required to implement the project being designed.

No new policies or administrative actions are required to implement the Mill Creek Recharge Facility project.

Evaluation Criterion D – Presidential and Department of the Interior Priorities

Climate Change: *Please provide specific details and examples on how the project will address the impacts of climate change and help combat the climate crisis.*

Climate change has and is predicted to continue to have extreme impacts to the region, as discussed in Evaluation Criteria A.

Mill Creek Managed Aquifer Recharge Project employs several strategies to mitigate the impacts of climate change. Firstly, it enhances operational flexibility by upgrading the basin-to-basin spill system, leading to lower maintenance costs and increased recharge rates. Second, it expands existing retention basins and constructs new ones in environmentally suitable areas to augment water retention and recharge flowrate. These strategies aim to achieve specific benefits which address the impacts of climate change include:

- Increased average recharge rates, enhancing water quality during and after wildfires and heavy storm events.
- Reduced reliance on imported water, stabilizing water supply and cost for local agencies.
- Enhanced reliability of clean, affordable water for irrigation during hotter, drier periods, supporting local food production.
- Improved resilience to unpredictable weather patterns.
- Facilitation of persistence and population expansion of Endangered Species Act listed species on-site.

Further details on these benefits can be found in Evaluation Criteria A.

Does this proposed project strengthen water supply sustainability to increase resilience to climate change? Does the proposed project contribute to climate change resiliency in other ways not described above?

The Mill Creek Managed Aquifer Recharge Project will strengthen water supply sustainability to increase resilience to climate change by increasing the volume of water that can be captured during wet periods for storage in the Basin and use during dry years. As a result, the Project will increase diversification of water supplies, improve groundwater management, and protect water quality.

In addition to water supply sustainability, the Mill Creek Managed Aquifer Recharge Project will safeguard nature to improve ecosystem resiliency to climate change through habitat restoration, invasive species control, pollinator protection, increased biodiversity, and limited carbon inputs.

Disadvantaged or Underserved Communities: *Will the proposed project serve or benefit a disadvantaged or historically underserved community?*

The Project will support expanded groundwater recharge in the Basin, which provides up to 70% of the region's annual water supply, which directly benefitting 150,000 people within classified disadvantaged communities. The Project will expand local stormwater capture and groundwater storage to improve the region's water reliability, improves the quality of stored groundwater, and benefits local water rates by providing a clean, low cost, climate friendly source of groundwater recharge.

Tribal Benefits: *Does the proposed project directly serve and/or benefit a Tribe?*

The proposed Project offers improved water supply reliability and quality, crucial for meeting the San Manuel Band of Mission Indian tribe's needs, including residential, business, and fire protection requirements to support over 4,000 jobs and critical economic ventures such as the San Manuel Casino. Project planning will adhere to Reclamation principles, including conducting a Cultural Resources Assessment and tribal notification process in compliance with AB 52. Local tribal contacts will be engaged to ensure proper consideration and mitigation of potential impacts on Native American cultural resources.

Evaluation Criterion E – Nexus to Reclamation

Reclamation recently awarded funds to the Conservation District for the Knowledge Systems Development Through Integrated Santa Ana River Model Enhancements to Quantify a Century of Managed Aquifer Recharge and Build Forecasting Capacity for the San Bernardino Basin project. This initiative aims to enhance regional groundwater management by quantifying the benefits of historic and current recharge activities, building forecasting capacity, and prioritizing proposed recharge projects. The Mill Creek Managed Aquifer Recharge Project will be integrated into this model, leveraging Reclamation's funding to support improved management within the Upper Santa Ana River Watershed.

Additionally, the Project indirectly benefits Reclamation by reducing the San Bernardino Valley's reliance on imported water from the State Water Project, alleviating pressure on the over-allocated Sacramento-San Joaquin Delta system. This reduction in reliance positively impacts Federal Water Projects like the Central Valley Project (CVP), overseen by USBR. The CVP's agreements to supply not only 5 million AF of water for farms and 600,000 AF of water for municipal and industrial uses, but also as well as water for wildlife refuges would be strained as the alternative source of recharge water if this Project were not implemented. (United States Bureau of Reclamation, 2023). By offsetting SWP water use, the Project contributes to improved habitat, in-stream flows, and water quality in the Bay-Delta and Central Valley Basin, benefiting both listed and non-listed species as well.

3.0 Environmental & Cultural Resources Compliance

Environmental and cultural resources compliance is not required for the planning and design activities proposed for the grant; however, geotechnical borings completed to inform the project design were permitted. The Project will not complete CEQA-plus environmental documentation as part of the grant funded work. If an EIR were to be prepared, it would be prepared as a "CEQA-Plus" document to satisfy National Environmental Protection Act (NEPA) requirements to be considered for federal funding. Because the EIR would be prepared to include sections required under NEPA, federal agencies could use this EIR and other NEPA-required supporting documents as a basis for decision making for the proposed action.

While environmental and cultural resource permits are not required for the planning and design activities proposed for the grant, a Biological Baseline Report for the Mill Creek Operations Study Area was completed on March 31, 2022, and a Cultural Resources Survey Report for the Mill Creek Groundwater Recharge Facility was completed on May 7, 2023. Both documents have been used to inform development of alternatives throughout project planning and design and will continue to be used to evaluate and select project alternatives for implementation.

4.0 Required Permits or Approvals

An analysis of required permits for the site-specific geotechnical borings completed to inform project design determined the following:

1) A Clean Water Act Section 401 permit was not required due to an Army Corps of Engineers determination, dated March 17, 2023, that the project site does not contain waters of the United States pursuant to 33 CFR Part 325.9 following review of a request for an Approved Jurisdictional Determination for Isolated Waters submitted by THE CONSERVATION DISTRICT on February 10, 2023.

2) A Notification of Lake or Streambed Alteration (EPIMS Notification No. SBR-36295 R6, Mill Creek Geotechnical Investigations) was submitted to the California Department of Fish and Wildlife (CDFW) on January 31, 2023. On May 5, 2023, CDFW informed THE CONSERVATION DISTRICT that an Agreement was not required, and the project could proceed under an "operation of law" because CDFW had not responded to the application within the statutory timeframe.

3) Following review of the Biological Baseline Report for the Mill Creek Operations Study Area and the Cultural Resources Survey Report for the Mill Creek Groundwater Recharge Facility, geotechnical work was sited in disturbed areas (i.e. existing basins and dirt roadways) away from mapped resources in order to ensure that no impacts to listed species or cultural sites. Therefore, State and Federal Endangered Species Act permits were not needed for the geotechnical work.

Ultimate construction of the Project will require additional permitting, including impacts to species listed under the Endangered Species Act. To ensure that both maintenance and planned projects are maximally compatible with the listed species that occur on-site, THE

CONSERVATION DISTRICT has worked with U.S. Fish and Wildlife Service to prepare an application for a Safe Harbor Agreement for the project site. The initial Safe Harbor Agreement application was submitted on July 21, 2023, with a revised submittal including responses to USFWS comments submitted on March 5, 2024.

5.0 Statements

Overlap or Duplication of Effort Statement

The proposal submitted for consideration under this program does not in any way duplicate any proposal or project that has been submitted for funding consideration to any other potential funding source—whether it be Federal or non-Federal.

Conflict of Interest Disclosure Statement

In accordance with 2 CFR §1402.112, the District is providing a statement that no actual or potential conflict of interest exists at the time of this application submission.

Uniform Audit Reporting Statement

The Conservation District was not required to complete a Single Audit for the most recently closed fiscal year (ending June 30, 2023). The Conservation District's EIN is 95-3532750.

Disclosure of Lobbying Activities

As this application requests more than $100,000 in Federal funding, the applicant certifies the statements in 43 CFR Part 18, Appendix A. Standard Form-LLL, "Disclosure Form to Report Lobbying" was submitted with this application.

6.0 References

Atwood, J. (1993). *California gnatcatchers and coastal sage scrub: the biological basis for endangered species listing.* Los Angeles: Southern Calif. Acad. Sci.

Bureau of Reclamation. (2021). *Water Reliability in the West - 2021 SECURE Water Act Report.*

Department of Water Resources. (2008). Climate Change Impacts on California's Water. *Special Edition*.

Federal Register. (2010, February 24). *Federal Register - The Daily Journal of the United States Government*. Retrieved from Bunker Hill Groundwater Basin, Riverside-Corona Feeder Project, San Bernardino and Riverside Counties, CA: https://www.federalregister.gov/documents/2010/02/24/2010-3644/bunker-hill-groundwater-basin-riverside-corona-feeder-project-san-bernardino-and-riverside-counties

GEOSCIENCE. (2020). *Usable Groundwater in Storage Estimation for the San Bernardino, Rialto-Colton, Riverside and Arlington Groundwater Basins.* San Bernardino .

Kus, B., Preston, K., & Houston, A. (2017). *Regional Occupancy and Post-Fire Recovery of California Gnatcatcher in Southern California.* San Diego: USGS.

San Bernardino Valley Water Conservation District. (2022). *Final Engineering Investigation of the Bunker Hill Basin 2020-2021.*

State of California Natrual Resources Agency Department of Water Resources. (2014). *The State Water Project Final Delivery Reliability Report 2013.*

Wildlife, C. D. (2019). *EVALUATION OF A PETITION FROM THE ENDANGERED HABITATS LEAGUE TO LIST THE SAN BERNARDINO KAGAROO RAT AS ENDANGERED.* San Bernardino: Fish and Game Commission.

Official Resolution

Resolution 623 was approved by the Conservation District Board on May 15, 2024, which authorizes the General Manager as the authorized representative to prepare, review, approve and file an application and execute agreement(s) for the U.S Department of Interior Bureau of Reclamation WaterSMART: Planning and Project Design Grants for FY23 and 24 Funding Opportunity and approves use of proposed matching funds.

RESOLUTION NO. 623
A RESOLUTION AUTHORIZING
THE GENERAL MANAGER OF THE SAN BERNARDINO VALLEY WATER CONSERVATION DISTRICT
TO FILE AN APPLICATION FOR A UNITED STATES BUREAU OF RECLAMATION WATERSMART PLANNING AND DESIGN GRANT, INCLUDING PROVIDING NECESSARY ASSURANCES REQUIRED AS PART OF THE APPLICATION PROCESS, AND COMMITTING TO PROVIDE MATCHING FUNDS THEREFOR

WHEREAS, San Bernardino Valley Water Conservation District, hereinafter called "District," is a water conservation district duly organized and existing under the Water Conservation District Law of 1931, Sections 74000 et. seq. of the Water Code; and

WHEREAS, the District has received and reviewed a Notice of Funding Opportunity from the United States Bureau of Reclamation ("USBR") for a WaterSmart Planning and Design Grant program ("Grant"), through which USBR provides funding to non-Federal entities for the development of tools and information to support water management for multiple uses. Grant-eligible projects include the development of modeling and forecasting tools, hydrologic data platforms, and new data sets; and

WHEREAS, the District desires to pursue certain funding opportunities through the Grant to support the Mill Creek Program for Expansion of Recharge Capacity (PERC) project, including project management, hydrology, hydraulics, drain time and recharge analysis, sediment transport analysis, field survey, and topographic mapping, geotechnical site investigation, preliminary design plans, and evaluation of preliminary design results work completed after August 7, 2023; and

WHEREAS, the Grant application process requires a resolution from the District's governing body authorizing and supporting the filing of a Grant Application, identifying the District official with signature authority to enter into a Grant-related agreement, and committing to work with USBR to meet established deadlines for entering into a grant or cooperative agreement;

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the San Bernardino Valley Water Conservation District as follows:

Section 1. The Board hereby supports and authorizes the submission of an application for funding under the Grant, and affirms its commitment to provide all required matching funding thereunder in the event the Grant application is successful.

Section 2. The District's General Manager, Ms. Betsy Miller, is hereby authorized by the Board to file an application for the Grant, and is delegated the authority to sign all required Grant application materials needed for the consideration of Grant funding, including funding agreements, memoranda of understanding, and appropriate assurances concerning lobbying, compliance with federal laws and policies, and enter into, any required funding agreements as may be necessary to secure Grant funding; and

Section 3. The General Manager, and her designee(s), are hereby authorized and directed in the name of and on behalf of the District to take all actions and to make and execute any and all appropriate assurances, certificates, requisitions, agreements, notices, consents, warrants and other documents, which they, or any of them, might deem necessary or appropriate in order to accomplish the purposes of this Resolution, and otherwise to commit the District to the financial and legal obligations associated with receipt of a financial assistance award under the Grant.

Section 4. The undersigned, Betsy Miller, certifies that she is duly appointed General Manager/Secretary of this District, and that the above is a true and correct copy of the Resolution that was duly adopted at a meeting of the Board of Directors, which was held in accordance with State law.

Section 5. This Resolution shall take effect at the earliest date permitted by law.

PASSED AND ADOPTED by the San Bernardino Valley Water Conservation District Board of Directors at a regular meeting of said Board held on the 15th day of May 2024, by the following vote:

YES: McDonald, Stewart, Longville,Corneille
NO:
ABSTAIN:
ABSENT: Raley

Melody McDonald
President

ATTEST:

Betsy Miller
General Manager/Board Secretary

Letters of Support

No.	Letters of Support
1	Congressman 33rd District California – Pete Aguilar
2	Santa Ana Watershed Project Authority – General Manager, Jeff Mosher
3	City of Redlands – Municipal Utilities and Engineering Director, John Harris
4	East Valley Water District – General Manager / CEO, Michael Moore
5	Endangered Habitats League – Executive Director, Dan Silver
6	Inland Empire Resource Conservation District – District Manager, Mandy Parkes
7	San Bernardino Valley Municipal Water District – General Manager/CEO, Heather Dyer

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CHAIR OF THE
HOUSE DEMOCRATIC CAUCUS

PETE AGUILAR
CONGRESS OF THE UNITED STATES
33RD DISTRICT, CALIFORNIA

COMMITTEE ON APPROPRIATIONS

SUBCOMMITTEE ON DEFENSE

SUBCOMMITTEE ON TRANSPORTATION, HOUSING AND URBAN DEVELOPMENT, AND RELATED AGENCES

HOUSE DEMOCRATIC STEERING AND POLICY COMMITTEE

May 22, 2024

The Honorable Camille Touton,
Commissioner
Bureau of Reclamation
Department of the Interior
1849 C Street NW
Washington, DC 20240C

Subject: San Bernardino Valley Water Conservation District's Mill Creek Managed Aquifer Recharge Project

Dear Commissioner Touton,

I am writing to express my support for the San Bernardino Valley Water Conservation District's (District) Mill Creek Managed Aquifer Recharge: Evolution of a Century of Stewardship (Project), located in San Bernardino, California. If approved, the project will support the District's proposal to plan and design three (3) alternative Groundwater Recharge projects and determine the most optimal approach to increasing recharge capacity, while protecting endangered habitat at the Mill Creek site.

The District was created over 100 years ago with a mission to recharge the Bunker Hill Groundwater Basin with native water. The Basin would also be used to conserve water for future use by municipal, agricultural and industrial users in the San Bernardino Valley. The District later expanded its mission to improve the supply and quality of groundwater, protect land resources, and balance ecosystem responsibilities among resource users and caretakers.

The District currently operates the Mill Creek Groundwater Recharge Facility and diverts stormwater and normal runoff flow to a series of 53 groundwater recharge basins for percolation and storage. To adapt to changing weather patterns and more intense storms induced by climate change, it is essential for the District to increase the capacity and operational flexibility of the Mill Creek Groundwater Recharge Facility. When completed, the project will increase the amount of water that can be captured and recharged into the Basin by enlarging existing basins and adding new basins to improve water movement between the basins. This enhanced capacity will improve operations and allow most of the basins to remain in production while others are removed for maintenance.

Additionally, the Project will be designed, constructed, and maintained in a manner that enables species on the Mill Creek site to thrive and populate. Since many of the inhabitants are endangered, the District is working with the US Fish and Wildlife Service to obtain a Safe Harbor Agreement to recognize these species and benefits the project will provide. These planning and design efforts will provide a critical strategy to support the longevity of water resiliency for the San Bernardino Valley.

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CHAIR OF THE
HOUSE DEMOCRATIC CAUCUS

PETE AGUILAR
CONGRESS OF THE UNITED STATES
33RD DISTRICT, CALIFORNIA

COMMITTEE ON APPROPRIATIONS

SUBCOMMITTEE ON DEFENSE

SUBCOMMITTEE ON TRANSPORTATION,
HOUSING AND URBAN DEVELOPMENT, AND
RELATED AGENCES

HOUSE DEMOCRATIC STEERING
AND POLICY COMMITTEE

I encourage you to give full and fair consideration to the San Bernardino Valley Water Conservation District's Project, consistent with applicable law and regulations. If you have any questions, please contact my Grant Program Director, Curt Lewis: Curt.Lewis@mail.house.gov.

Sincerely,

Pete Aguilar
Member of Congress

Santa Ana Watershed Project Authority
Over 50 Years of Innovation, Vision, and Watershed Leadership

May 20, 2024

Bureau of Reclamation
Water Resources and Planning Office
Attn: Ms. Sheri Looper
2800 Cottage Way
Sacramento, CA 95825

Subject: **Support for San Bernardino Valley Water Conservation District's Bureau of Reclamation WaterSMART Planning and Project Design Grant Application**

Dear Ms. Looper,

I write this letter on behalf of the Santa Ana Watershed Project Authority (SAWPA) in strong support of the San Bernardino Valley Water Conservation District (District) and its grant application for federal funding to advance the design of the Mill Creek Groundwater Recharge Facility Improvements Project (Project) in response to Funding Opportunity Announcement R23AS00109 WaterSMART Planning and Project Design Grants for Fiscal Year 2024.

The District, established over a century ago, has a core mission to recharge the Bunker Hill Groundwater Basin (Basin) with native water, thereby conserving this vital resource for the numerous municipal, agricultural, and industrial users in the San Bernardino Valley who rely on the Basin for their water supply. Over time, the District has expanded its goals to enhance the sustainable supply and quality of groundwater, protect land resources, and balance ecosystem responsibilities with public access and aggregate resource uses.

Currently, the District operates the Mill Creek Groundwater Recharge Facility, diverting storm water and runoff to 53 recharge basins. To address climate change and intense storms, the District is increasing the facility's capacity and flexibility by enlarging and adding basins and optimizing water movement. This ensures continuous operation and supports Endangered Species Act-listed species, in collaboration with the US Fish and Wildlife Service for a Safe Harbor Agreement.

The District's grant request seeks funding to determine the most optimal design approach to increase recharge capacity and operational flexibility while protecting habitats, progressing the Project to 65% design completion. Successful execution of the proposed work in the District's grant application will prepare the District for the construction phase, thus actualizing the Project's benefits.

As a key stakeholder in the San Bernardino Valley, SAWPA shares the District's commitment to sustainability. We recognize the significant value this Project will bring to the region by enhancing water resource management, supply reliability, climate change resilience, and habitat protection. SAWPA wholeheartedly supports this Project and the District's request for funding.

Sincerely,

Jeff Mosher
General Manager
Santa Ana Watershed Project Authority (SAWPA)

City of
REDLANDS
Incorporated 1888
Municipal Utilities & Engineering Department
35 Cajon Street, Suite 15A
Redlands, CA 92373
909-798-7698

JOHN R. HARRIS
Director

May 20, 2024

Bureau of Reclamation
Water Resources and Planning Office
Attn: Ms. Sheri Looper
2800 Cottage Way
Sacramento, CA 95825

Subject: Support for San Bernardino Valley Water Conservation District's Bureau of Reclamation WaterSMART Planning and Project Design Grant Application

Dear Ms. Looper,

I write this letter in support of the San Bernardino Valley Water Conservation District (District) in its grant application for federal funding to advance the design of the Mill Creek Groundwater Recharge Facility Improvements Project (Project) in response to Funding Opportunity Announcement R23AS00109 WaterSMART Planning and Project Design Grants for Fiscal Year 2024.

The District was created over 100 years ago with a mission to recharge the Bunker Hill Groundwater Basin (Basin) with native water in order to conserve that water for future use by many municipal, agricultural and industrial users in the San Bernardino Valley who rely on the Basin for water supply. The District's goals were later expanded to improve the sustainable supply and quality of groundwater, protect land resources, and balance ecosystem responsibilities with public access and aggregate resource uses.

The District currently operates the Mill Creek Groundwater Recharge Facility, where it diverts storm water and normal runoff from Mill Creek and routes the flows to a series of 53 groundwater recharge basins for percolation. In order to adapt to changing weather patterns and more intense storms induced by climate change, the District is implementing the Project to increase both the capacity and the operational flexibility of the Mill Creek Groundwater Recharge Facility. These improvements will increase the amount of water that can be captured and recharged into the Basin by enlarging existing basins, adding new basins, and improving the way water moves between basins so that most of the basins can remain in operation while other basins are taken out of service to be cleaned. The Project will also be designed, constructed and maintained in a manner that will enable persistence and population expansion

of Endangered Species Act listed species that occur on the site and the District is working with the US Fish and Wildlife Service to obtain a Safe Harbor Agreement to recognize these benefits.

The District's grant request will provide funding to determine the most optimal design approach to increase recharge capacity and operational flexibility and protect habitat, then advance the Project to 65% design. Completion of the work proposed in the District's grant application will position the District to move into the construction phase and bring the Project benefits to reality.

As a San Bernardino Valley stakeholder who shares the District's commitment to increase sustainability, the City of Redlands recognizes the value this Project will bring to the region by improving water resource management, supply reliability, climate change resiliency and habitat protection. The City of Redlands strongly supports this Project and the District's request for funding.

Sincerely,

John R. Harris
City of Redlands
Municipal Utilities and Engineering Director
jharris@cityofredlands.org

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Highland, CA 92346

(909) 889-9501
www.eastvalley.org

May 20, 2024

Bureau of Reclamation
Water Resources and Planning Office
Attn: Ms. Sheri Looper
2800 Cottage Way
Sacramento, CA 95825

Subject: Support for San Bernardino Valley Water Conservation District's Bureau of Reclamation WaterSMART Planning and Project Design Grant Application

Dear Ms. Looper,

I write this letter in support of the San Bernardino Valley Water Conservation District (Conservation District) in its grant application for federal funding to advance the design of the Mill Creek Groundwater Recharge Facility Improvements Project (Project) in response to Funding Opportunity Announcement R23AS00109 WaterSMART Planning and Project Design Grants for Fiscal Year 2024.

East Valley Water District is a water retailer within the Conservation District's boundary. Our District relies on groundwater to serve a population of 105,000 people clean drinking water every day. The groundwater is significantly supplied from the Mill Creek recharge facilities owned and operated by the Conservation District.

The Conservation District operates the Mill Creek Groundwater Recharge Facility, where it diverts storm water and normal runoff from Mill Creek and routes the flows to a series of 53 groundwater recharge basins for percolation. Over the past two decades, we have seen climate change intensify stormwater runoff and extend dry periods. In order to adapt to climate change, the Conservation District is implementing the Project to increase both the capacity and the operational flexibility of the Mill Creek Groundwater Recharge Facility. These improvements will increase the amount of water that can be captured, recharged, and put into beneficial use in the drinking water system. The East Valley Water District and Conservation District collaborate to enhance recharge and protect the habitat that reside in the watershed. This project will continue habitat conservation by working with the US Fish and Wildlife Service to obtain a Safe Harbor Agreement to recognize these benefits.

As a San Bernardino Valley stakeholder who shares the Conservation District's commitment to increase sustainability, the East Valley Water District values this Project that will improve water resource management, supply reliability, climate change resiliency and habitat protection. East Valley Water District supports this Project and the Conservation District's request for funding.

Sincerely,

Michael Moore
General Manager/CEO

ENDANGERED HABITATS LEAGUE
DEDICATED TO ECOSYSTEM PROTECTION AND SUSTAINABLE LAND USE

May 18, 2024

Bureau of Reclamation
Water Resources and Planning Office
ATTN: Ms. Sheri Looper
2800 Cottage Way
Sacramento, CA 95825

RE: Support for San Bernardino Valley Water Conservation District's Bureau of Reclamation WaterSMART Planning and Project Design Grant Application

Dear Ms. Looper:

Endangered Habitats League (EHL) writes in ***support*** of the San Bernardino Valley Water Conservation District (District) in its grant application for federal funding to advance the design of the Mill Creek Groundwater Recharge Facility Improvements Project (Project) in response to Funding Opportunity Announcement R23AS00109 WaterSMART Planning and Project Design Grants for Fiscal Year 2024.

For your reference, EHL is a Southern California regional organization founded in 1991 and dedicated to ecosystem conservation and sustainable land use. We have worked with the District on habitat restoration and conjunctive use recharge projects in the Santa Ana River watershed, and are impressed by the agency's environmental stewardship. We supported its "Wash Plan" Habitat Conservation Plan for endangered species along the river.

As background, the District was created over 100 years ago with a mission to recharge the Bunker Hill Groundwater Basin (Basin) with native water in order to conserve that water for future use by many municipal, agricultural and industrial users in the San Bernardino Valley who rely on the Basin for water supply. The District's goals were later expanded to improve the sustainable supply and quality of groundwater, protect land resources, and balance ecosystem responsibilities with public access and aggregate resource uses.

The District currently operates the Mill Creek Groundwater Recharge Facility, where it diverts storm water and normal runoff from Mill Creek and routes the flows to a series of 53 groundwater recharge basins for percolation. In order to adapt to changing weather patterns and more intense storms induced by climate change, the District is implementing the Project to increase both the capacity and the operational flexibility of the Mill Creek Groundwater Recharge Facility. These improvements will increase the amount of water that can be captured and recharged into the Basin by enlarging existing basins, adding new basins, and improving the way water moves between basins so that

most of the basins can remain in operation while other basins are taken out of service to be cleaned. The Project will also be designed, constructed and maintained in a manner that will enable persistence and population expansion of Endangered Species Act listed species that occur on the site and the District is working with the US Fish and Wildlife Service to obtain a Safe Harbor Agreement to recognize these benefits.

The District's grant request will provide funding to determine the most optimal design approach to increase recharge capacity and operational flexibility and protect habitat, then advance the Project to 65% design. Completion of the work proposed in the District's grant application will position the District to move into the construction phase and bring the Project benefits to reality.

As a San Bernardino Valley stakeholder who shares the District's commitment to increase sustainability, EHL recognizes the value this Project will bring to the region by improving water resource management, supply reliability, climate change resiliency and habitat protection. Endangered Habitats League therefore supports this Project and the District's request for funding. Please let me know of questions at dsilverla@me.com or 213-804-2750.

Yours truly,

Dan Silver
Executive Director

INLAND EMPIRE RESOURCE CONSERVATION DISTRICT

Phone | (909) 799-7407
Fax | (909) 478-5501
25864-K Business Center Drive, Redlands, CA 92374
www.iercd.org

May 20th, 2024

Re: Letter of Support for DPR Alliance Grants Program

Bureau of Reclamation
Water Resources and Planning Office
Attn: Ms. Sheri Looper
2800 Cottage Way
Sacramento, CA 95825

Subject: Support for San Bernardino Valley Water Conservation District's Bureau of Reclamation WaterSMART Planning and Project Design Grant Application

Dear Ms. Looper,

I write this letter in support of the San Bernardino Valley Water Conservation District (District) in its grant application for federal funding to advance the design of the Mill Creek Groundwater Recharge Facility Improvements Project (Project) in response to Funding Opportunity Announcement R23AS00109 WaterSMART Planning and Project Design Grants for Fiscal Year 2024.

The District was created over 100 years ago with a mission to recharge the Bunker Hill Groundwater Basin (Basin) with native water in order to conserve that water for future use by many municipal, agricultural and industrial users in the San Bernardino Valley who rely on the Basin for water supply. The District's goals were later expanded to improve the sustainable supply and quality of groundwater, protect land resources, and balance ecosystem responsibilities with public access and aggregate resource uses.

The District currently operates the Mill Creek Groundwater Recharge Facility, where it diverts storm water and normal runoff from Mill Creek and routes the flows to a series of 53 groundwater recharge basins for percolation. In order to adapt to changing weather patterns and more intense storms induced by climate change, the District is implementing the Project to increase both the capacity and the operational flexibility of the Mill Creek Groundwater Recharge Facility. These improvements will increase the amount of water that can be captured and recharged into the Basin by enlarging existing basins, adding new basins, and improving the way water moves between basins so that most of the basins can remain in operation while other basins are taken out of service to be cleaned. The Project will also be designed, constructed and maintained in a manner that will enable persistence and population expansion of Endangered Species Act listed species that occur on the site and the District is working with the US Fish and Wildlife Service to obtain a Safe Harbor Agreement to recognize these benefits.

The District's grant request will provide funding to determine the most optimal design approach to increase recharge capacity and operational flexibility and protect habitat, then advance the Project to 65% design. Completion of the work proposed in the District's grant application will position the District to move into the construction phase and bring the Project benefits to reality.

As a San Bernardino Valley stakeholder who shares the District's commitment to increase sustainability, the Inland Empire Resource Conservation District recognizes the value this Project will bring to the region by improving water resource management, climate change resiliency and habitat protection. The Inland Empire Resource Conservation District strongly supports this Project and the District's request for funding.

INLAND EMPIRE RESOURCE CONSERVATION DISTRICT

Phone | (909) 799-7407
Fax | (909) 478-5501
25864-K Business Center Drive, Redlands, CA 92374
www.iercd.org

Thank you for your consideration. Very sincerely,

DocuSigned by:
Mandy Parkes
BDADCE328C8743F...

Mandy Parkes, District Manager
Inland Empire Resource Conservation District
mparkes@iercd.org
909-855-6473

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SAN BERNARDINO VALLEY
MUNICIPAL WATER DISTRICT
380 East Vanderbilt Way
San Bernardino, CA 92408
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EMAIL TRANSMISSION

May 21, 2024

Bureau of Reclamation
Water Resources and Planning Office
Attn: Ms. Sheri Looper
2800 Cottage Way
Sacramento, CA 95825

RE: Support for San Bernardino Valley Water Conservation District's Bureau of Reclamation WaterSMART Planning and Project Design Grant Application

Dear Ms. Looper:

San Bernardino Valley Municipal Water District (San Bernardino Valley) is committed to working collaboratively to provide a reliable and sustainable water supply to support the changing needs of our region's people and the environment. On behalf of San Bernardino Valley, I am writing to express our support of the San Bernardino Valley Water Conservation District (District) in its grant application for federal funding to advance the design of the Mill Creek Groundwater Recharge Facility Improvements Project (Project) in response to Funding Opportunity Announcement R23AS00109 WaterSMART Planning and Project Design Grants for Fiscal Year 2024.

San Bernardino Valley Municipal Water District is a regional, wholesale water agency that covers 353 square miles in southwestern San Bernardino County and a population of approximately 714,000. With a dedicated team of experts and partnerships across the region, San Bernardino Valley is committed to building a resilient and sustainable water future for the community.

The District currently operates the Mill Creek Groundwater Recharge Facility, where it diverts storm water and normal runoff from Mill Creek to a series of 53 groundwater recharge basins for percolation. In order to adapt to changing weather patterns and more intense storms induced by climate change, the District is implementing the Project to increase both the capacity and the operational flexibility of the Mill Creek Groundwater Recharge Facility. The Project will be designed, constructed and maintained in a manner that will enable persistence and population expansion of Endangered Species Act listed species that occur on the site and the District is working with the US Fish and Wildlife Service to obtain a Safe Harbor Agreement to recognize these benefits.

The District's grant request will provide funding to determine the most optimal design approach to increase recharge capacity and operational flexibility and protect habitat, then advance the Project to 65% design. Our region continues to achieve projects that enhance the environment and water supply beyond individual service area boundaries through collaboration and innovation. This Project will create, enhance, and conserve aquatic and riparian ecosystems that benefit the

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entire region, including the Upper Santa Ana River Watershed, community stakeholders, and federally threatened species that depend on the Santa Ana River.

San Bernardino Valley fully supports this Project and the District's efforts to improve water resource management, supply reliability, climate change resiliency and habitat protection. If you have questions regarding our support of this project, please contact Kelly Malloy, our Strategic Communications Manager, by email at kellym@sbvmwd.com.

Thank you for your consideration.

Respectfully,

Heather Dyer
Chief Executive Officer/General Manager

2.0 Project Budget

Funding Plan

The Conservation District is a California special district funded through a groundwater charge collected under California Water Code, Division 21, Part 9. The Mill Creek Managed Aquifer Recharge Project is one of the Conservation District's Program for Expansion of Recharge Capacity (PERC) projects that are funded by sale of conservation easements on lands owned by the Conservation District. Matching contributions for this project will be provided by the Conservation District through direct costs paid to consultants. No non-Federal funding will be provided by a source other than the applicant, so no letters of commitment are required.

Budget Proposal

Initial work for tasks under the Q3 Mill Creek Project contract in the amount of $496,502 were completed prior to the eligible cost period for this NOFO and therefore are not included in the Project Budget eligible for reimbursement. The Groundwater Analysis (Task 8) under this contract is also excluded from the budget because it was included in a recently awarded Applied Science grant from Reclamation. Refer to OBJ OBJ for a breakdown of the overall project costs as it relates to specific tasks and eligible requests for funding.

Table 4 - Summary of Non-Federal and Federal Funding Sources

Funding Sources	Amount
Non-Federal Entities	
Conservation District	$438,221
Non-Federal Subtotal	**$438,221**
Requested Reclamation Funding	**$400,000**

Table 5 - Total Project Costs Summary

Source	Amount
Cost to be reimbursed with the requested Federal funding	**$400,000**
Cost to be paid by the applicant	**$438,221**
Value of third-party contributions	**$0**
Total Project Cost	**$838,221**

Table 6. Total Project Budget Proposal

Budget Item Description	$/Unit	Quantity	Quantity Type	Total Cost
Personnel				
None				
Fringe Benefits				
None				
Travel				
None				
Construction				
None				
Contractual				
Q3				**$838,221**
Indirect				
None				
Total Estimated Project Costs				**$838,221**

Budget Narrative

All costs included in this proposal are directly related to the project and necessary for its implementation. The non-federal contribution is 52 percent (at least 50 percent required) and the requested federal contribution is 48 percent. In accordance with the NOFO, a separate Budget Detail and Narrative spreadsheet has been submitted via grants.gov in support of the information provided here.

Personnel: None. While no Conservation District personnel time is proposed for matching funds or requested for reimbursement, $11,358.20 in direct staff costs have been spent on the proposed project since September 2023, not including fringe benefits. An additional $50,000 in direct staff costs is estimated to be expended throughout the course of the project.

Fringe Benefits: None. While no Conservation District personnel fringe benefits are proposed for matching funds or requested for reimbursement, $4,713 in fringe benefit costs have been spent on the proposed project since September 2023. An additional $20,750 in fringe benefit costs are estimated to be expended throughout the course of the project.

Travel: None.

Equipment: None.

Supplies: None.

Contractual: Q3 Consulting has been contracted to complete modeling, technical investigations, and the deliverables including 30% Design Plans, 65% Design Plans, Basis of Design Narrative and Cost Estimate & Schedule. Prior to September 1st, 2023, Q3 billed $496,502 to the project which is not eligible for funding. Project costs billed after Sept. 1 2023, and the remaining budget requested for funding for all associated tasks is outlined in the table below.

Table 7 - Budget Summary by Task

Task	Description	Total Budget	Project Costs Billed Prior to 9/1/2023 (ineligible)	Project Costs Billed After 9/1/2023 (eligible)	Remaining Budget (eligible)	Total Costs Eligible for Funding
1	Project Management and Meetings	$ 119,739	$ 67,456	$ 9,588	$ 42,695	$ 52,284
2	Hydrology	$ 33,928	$ 29,290	$ 608	$ 4,030	$ 4,638
3	Hydraulics	$ 193,340	$ 165,474	$ 23,181	$ 4,685	$ 27,866
4	Drain Time and Recharge Analysis	$ 6,016	$ -	$ -	$ 6,016	$ 6,016
5	Sediment Tranport and Sedimentation Analyses	$ 70,296	$ 44,738	$ 1,248	$ 24,310	$ 25,558
6	Survey	$ 124,973	$ 61,795	$ -	$ 63,178	$ 63,178
7	Geotechnical Investigations	$ 465,139	$ 85,594	$ 77,775	$ 301,771	$ 379,545
8	Groundwater Modeling	Excluded From Eligibile Project Costs				$ -
9	Concept Design Plans	$ 241,815	$ 27,984	$ 2,496	$ 211,335	$ 213,831
9a	Diversion Structure Analysis	$ 10,800	$ 10,372	$ -	$ 428	$ 428
9b	Diversion Alternatives	$ 3,800	$ 3,800	$ -	$ -	$ -
10	Evaluation of Preliminary Design Results	$ 64,877	$ -	$ -	$ 64,877	$ 64,877
	Totals	$ 1,334,723	$ 496,502	$ 114,896	$ 723,325	$ 838,221

Funding Source

Total Costs Eligible for Funding	**$ 838,221**
Cost to be reimbursed with the Requested Federal Funding	**$ 400,000**
Cost to be paid by the applicant	**$ 438,221**
Value of third-party contributions	**$ -**

Third-Party In-Kind Contributions: Not applicable to the proposed project.

Environmental and Regulatory Compliance Costs: Please review responses in the Environmental and Cultural Resources section. The Conservation District does not anticipate additional costs associated with environmental compliance.

Construction: None.

Other Direct Expenses: None.

Total Direct Costs: Federal assistance is requested for $400,000 in direct costs. The Conservation District will provide a match of $438,221.

Indirect Costs: None.