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North Kern Water Storage District

October 2021

2022 Return Capacity Improvements

Funding Group I

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

NOFO No. R22AS00020

2022 Return Capacity Improvements

(Funding Group I)

Applicant

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1. Technical Proposal

1.1 Executive Summary

Date	October 5, 2021
Applicant Name	North Kern Water Storage District
City, County, State	Bakersfield, Kern, California
Category	Category A

North Kern Water Storage District (North Kern, District, NKWSD, Applicant) proposes to construct the *2022 Return Capacity Improvements Project* (Project), consisting of drilling a replacement well to add to its existing network of recovery wells in order to improve return and conveyance capacity to neighboring Districts. The Project will be constructed in their service area in Bakersfield, Kern County, California, which is categorized as an extreme drought area (level 4) by the National Drought Mitigation Center. Despite the success of North Kern's conjunctive use program and other regional water management practices by districts in the Poso Creek Integrated Regional Water Management Group (Poso Creek), regional groundwater availability and drought conditions remain concerns. As part of a coordinated effort with Poso Creek members, North Kern is in agreements with Central Valley Project (CVP) contractors to recharge and bank wet period surface water. These CVP contractors include Shafter-Wasco Irrigation District (SWID), Southern San Joaquin Municipal Utility District (SSJMUD), Delano-Earlimart Irrigation District (DEID), and Kern Tulare Water District (KTWD). Return of banked CVP supply will be delivered via the Friant Kern Canal (FKC) and the District's existing interties with other CVP neighbors. North Kern recognizes the need to improve recovery and return capacity so that banked surface water in their recharge facilities is available to partnering districts while also alleviating return capacity constraints so North Kern can meet in-District needs while simultaneously returning banked supply. This Project enhances the Poso Creek region's resiliency to drought by making banked water more available to Districts in the region. The Project will augment the District's existing conveyance mechanism for returning approximately **1,845 acre feet per year (AFY)** of previously banked water to the CVP contractors with Poso Creek IRWM Group during critically dry years. This Project is identified as "Return Capacity Improvements of Banked Water" in the *Poso Creek Drought Contingency Plan,* which is currently under review by the Bureau of Reclamation (Reclamation) and will be adopted by the Poso Creek Group this year, as well as in District's Management Area Plan prepared in accordance with the Kern County Subbasin's Sustainable Groundwater Management Act (SGMA) plan. Assuming a grant funding agreement date of April 1, 2022, the construction of the project is anticipated to begin on June 1st, 2023 and is expected to be completed within 20 to 24 months from the signing of the grant funding agreement. The Project is estimated to provide the following annual and 10-year average benefits.

Table 1-1. Estimated Benefits

	Estimate Annual Benefits (AFY)	10-Year Benefits (AF)
Est. Additional Water to NKWSD	615	2,048
Est. Additional Water to CVP Contractors	1,230	4,095
Total Additional Water Available	**1,845**	**6,143**

1.2 Project Location

The Project will be in the District's service area in Bakersfield, which is in Kern County, California. North Kern's service area, shown in Figure 1, is on the east side of the San Joaquin Valley between the City of Bakersfield to the south, the city of Delano to the north, Highway 99 to the east, and the cities of Shafter and Wasco to the west. The location of the well is shown in Figure 2.

1.3 Technical Project Description

Construction of the Project will include drilling and equipping one well and connecting it to the District's internal canal system and existing recovery network. North Kern is well-positioned to conduct exchanges involving CVP supplies as the Friant Kern Canal (FKC) and the Lerdo Canal, the canals by which banked water will be returned, run through the District. The replacement well will be connected to the FKC via manifold piping, a system in which smaller pipelines are connected to a larger pipeline. Water can then be pumped via the replacement wells and returned to partners via the FKC. The third well will discharge into the bi-directional Lerdo Canal. This water will be returned to a neighboring district via an intertie pipeline funded by Reclamation and being constructed by SSJMUD, the *SSJMUD-NKWSD Intertie Pipeline for Regional Drought Resiliency* (Reclamation Agreement Number R21AP10462). The new wells will also add flexibility to return water via another intertie with SWID that was also funded by Reclamation in 2012.

The Project alleviates the need for direct pipeline connections between North Kern and each partner to whom North Kern needs to return water by expanding the network of wells that are connected to the canal system, thus greatly increasing operational flexibility and reliability in the region during drought times. All necessary banking and exchange agreements are already in place and participating agencies have been conducing similar operations successfully for years.

The Project is anticipated to return previously stored water into the FKC and District's conveyance system at a rate of approximately 5 cfs. This equates to a total estimated average of 307 acre-feet per month, of which 102 is reserved for in-district use and 205 is for CVP Contractors, which equates to an annual capacity of 1,845 acre-feet per year for the seasonal use of the well (six months in a year) to improve the return capacity for the Poso Creek IRWM CVP Contractors to meet irrigation demands during a critically dry year.

1.4 Performance Measures

All deliveries of water pumped from the wells will be measured at output points using propeller flowmeters. These meters are equipped with totalizers, a flow accumulation measurement device, periodically checked for measurement accuracy as part of the District's routine maintenance program. When properly calibrated, the meters with totalizers provide an accurate method of measuring both the flow rate and the volume of water delivered from the well through the pipeline and into the canal. As part of an agreement with the water partner, North Kern will typically retain 25% to 50% of the water which augments the groundwater. By measuring the volume of water input to North Kern and the volume of return to banking partners, it will determine the total amount of water supply made available to the districts and can report the measured volume that is of benefit. The volume of water retained by North Kern and its banking partners will be reflected on the reduced annual groundwater pumping rates.

1.5 Evaluation Criteria

1.5.1 Evaluation Criterion A – Project Benefits

How will the project build long-term resilience to drought? How many years will the project continue to provide benefits?

The water savings benefit of the Project stems from its ability to return banked water from the North Kern. North Kern operates water recharge ponds over part of the subbasin favorable for recharge. Because North Kern has a direct conveyance connection with CVP water supplies, it often recharges surface water on behalf of neighboring districts with CVP contract water supplies (as referenced in Section 1.2.3, North Kern has numerous turnouts leading from FKC to its spreading grounds) and typically retains a portion of the recharged supply (25% to 50%). The CVP contractors often have a right to surplus CVP flows in addition to their CVP Class 1 and Class 2 supplies, which in wet years need absorptive capacity outside of their own district to increase the reliability of their supply, which benefits the region. North Kern has experienced constraints on the existing in-District facilities to return the banked (previously stored) water back to the neighboring districts during the shoulder months (January through March and October through December) in a dry year when they need the banked supply the most. As elaborated in Section 1, North Kern identified the need to add recovery and return conveyance capacity to provide dry period water to both their landowners and their neighboring districts. Improving the recovery and return capacity will reduce the constraints on returning the stored water to their neighboring districts, which enables the CVP contractors' opportunities to capitalize on wet period storage of CVP supplies. The proposed Project provides an opportunity to improve the capacity for the retrieval of banked water from North Kern. The Poso Creek IRWM Group developed a Banking, Transfer, and Exchange Agreement Environmental Assessment (EA 09-121) to be able to partner with their neighbors who have substantial recharge facilities. This Project is identified to help solve a constraint to increase drought resiliency for North Kern and the Poso Creek IRWM districts.

The Project ensures neighboring districts will continue to deliver wet period water to North Kern that adds supply to the subbasin, increases reliability, and adds drought resiliency. Improvements to the recovery and return conveyance of the system improves the mechanism to return water to the CVP contractors from North Kern. CVP contractors can deliver surplus CVP supply to North Kern and be assured a conveyance mechanism to recover and return previously banked water, increasing its resiliency to drought. The diverted floodwater would have otherwise been destined outside of the region and possibly for the ocean. For the purposes of this application, the 'life' of the project is estimated as 30-years for pump, control mechanisms, and outlet pipe operational life. This timeframe for life cycle analysis has been used in prior grant applications.

Will the project make additional water supplies available?

A major benefit of this Project is the return of the banked water to the neighboring districts during the critically dry years. North Kern's capability to recover banked water supplies is directly related to their neighboring district's resiliency during drought years. The addition of more wells to their recovery network facilitates the District to recharge more water on behalf of its neighbors. Table 1-2 lists the estimated capacity of the recovery wells that are to be connected to the District's conveyance canal and FKC by the return conveyance pipelines.

The daily flow of 5 cfs yields a volume of 9.9 AFD or approximately 307 AF/month, of which, 102 AF/month would be reserved for in-district use to meet in-District demand during a critically dry year. This allocates the remaining 205 AF/month to CVP Contractors. When used over a six-month period in a critically dry year, this roughly translates to **1,230 AFY.** The 1,230 AFY is an additional supply available to North Kern's neighboring districts. Assuming a 'leave behind' of 33% on an average, which will be utilized by North Kern to replenish its underlying groundwater, the **additional water** available for North Kern, when calculated numerically, amounts to **615 AFY** (0.33/0.66 * 1,230 AFY). However, the additional water brought into the groundwater subbasin is equal to about **1,845 AFY** (1,230 AFY + 615 AFY). According to the San Joaquin River Index, dry years occur approximately 3.33 out of 10 years. At this rate, the 10-year benefit would be approximately **6,143 AF** with **2,048 AF** in additional water for North Kern and **4,095 AF** in returned water to CVP Contractors.

The benefit amount to NKWSD alone represents about **1.34 percent** of their groundwater pumping (615 AFY / 45,880 AFY of average groundwater pumping), not to forget the additional water brought into the groundwater basin through this Project (total of 1,845 AFY). Flood capture projects are instrumental to increasing regional flexibility and drought resiliency. By replacing the wells in the district, the recovery rate will significantly improve by 3.4 cfs, which is crucial for returning water during critically dry years as this optimizes the recovery network.

Table 1-2. Details of the Existing and New Wells

PROPOSED WELLS TO BE CONNECTED TO THE RECOVERY NETWORK							
WELL #	Type	Discharge Canal	Casing Size (Inches)	Depth (ft)	Blank Casing (ft)	Perforation (ft)	Average Flow (cfs)
88-29-039	Replacement	FKC	16.25	982	383	587	5.0
						Total	**5.0**

Environmental constraints on delivery of surface supplies from the CVP into the District and the recent exceptional drought in California have caused growers to meet shortfalls in surface supplies by pumping groundwater. As the volume of pumped water in Kern County often exceeds the volume replenishing the aquifers, a number of undesirable results (as defined by recent legislation and the Department of Water Resources) may occur. These results include reduced groundwater storage, subsidence, and increased pumping lifts due to lower groundwater tables. Flood capture infrastructure such as the proposed Project work to mitigate each of these effects by direct recharge, or by delivering surface supplies in-lieu of pumping groundwater.

By providing flexibility to deliver supply to the District, the Project helps to offset reliance on other, environmentally sensitive supply sources. Note that CVP Other Water supplies are only released as floodwater (Section 215) after all environmental and contract supplies (Class 1 or 2) have been met at the time of release. Constructing the Project gives the District a tool to offset the effects of drought and increase drought resiliency, each time floodwater is available for capture.

Will the project improve the management of water supplies? For example, will the project increase efficiency, increase operational flexibility, or facilitate water marketing (e.g., improve the ability to deliver water during drought or access other sources of supply)?

Drilling and equipping this well to the recovery and return facilities is expected to increase the operational flexibility of the District to meet both in-District and neighboring district's critically dry year needs by providing more reliable return of previously banked supplies. Increasing the District's operational flexibility improves water supply management for the District's groundwater management and conjunctive use program; specifically, the *Recovery* and *Return* elements of the program while still fulfilling in-District landowner needs. Increasing their delivery system's return capacity by 5.0 cfs will improve the District's ability to return banked water or add by 2.68% (1,230 AFY/45,880AFY of average groundwater pumping). However, the addition of recovery wells to its network facilitates the District to bank a total of 1,845 AFY (1,230 AFY of return capacity + 615 AFY of leave behind) of water on behalf of its neighbors. Therefore, total water better managed by implementing this Project is equal to 4.02% (1,845 AFY/45,880 AFY).

Will the project make new information available to water managers? If so, what is that information and how will it improve water management?

The Project will add return capacity for the District and neighboring districts. Water managers affiliated with the Poso Creek IRWM Group will benefit from greater return water supply in times of drought or shortage. Increased return capacity will allow for greater flexibility in meeting the in-district needs of landowners and at the same time the ability for the District to meet the needs of neighboring districts. The Project will help neighboring water managers complete their agreements with North Kern within the Poso Creek IRWM Group due to the increased return capacity. Data collected pertaining to extraction volume will be made available to water managers. Letter of Support has been included as part of Appendix A.

Wells

Please refer to Table 1-2 for estimated flow capacity, sizes, depth, diameter, and casing of the new replacement and existing wells. The flow capacity of these wells will be calculated accurately by the District's ongoing efforts to install flowmeters on each of the District owned wells. The wells will be used to provide the District and its neighboring districts with supplemental supply by returning banked supply when there is a lack of surface water during dry years and drought conditions. The water management Program utilizes excess and available surface water supplies for recharge during wet years, effectively recharging the aquifer underlying the District. Water supplies previously recharged by neighboring districts and the District are then pumped out of the ground during dry years and drought conditions during a time where surface water deliveries are lower than normal allocations.

Please provide information documenting that proposed well(s) will not adversely impact the aquifer it/they are pumping from (overdraft or land subsidence).

The proposed Project is designed to bring in additional water supply to North Kern's underlying groundwater basin during the wet years. As calculated earlier, the wells will be used to return 66% of the banked water, which was recharged during wet years. This Project will not impact the aquifer adversely, instead, it is water management program designed to replenish the groundwater supplies by augmenting the basin groundwater and retaining a minimum of 33% of the wet year water delivered to North Kern by its neighboring districts. The District anticipates that the environmental analysis is expected to be minimal as the District will confer with Reclamation for the required level of environmental analysis under NEPA. The environmental analyses and documentation will contain information regarding well impacts on the aquifer, and their potential frequent use. According to a third CAWSC study (Proceedings of the Eighth International Symposium on Land Subsidence, 2010), Kern County may experience an extreme amount of land subsidence due to the increased demand on groundwater.

The average depth to groundwater in the District has been around 200 feet at the end of a "wet" period and around 270 feet at the end of a "dry" period. Over the last 20 years, the annual (average) spring water levels have fluctuated within a band of about 50 feet. Seasonal

fluctuations can be significant and are a function of the amount of groundwater pumping in a given year and the location within the District. In general, seasonal fluctuations are greatest in the northern portion of the District and are less pronounced in the south. Please refer to Section 1.2.3 for capacity of existing recharge sites and Figure 2 for the location of the recharge sites. Figure 2 provides the locations of the proposed well and the existing wells that are proposed to be a part of this Project. Table 1-2 provides the depth, diameter, casing, and screen intervals of all the four wells. Table 1-3 provides the sizes, capacities and other pertinent details of the wells that are in close proximity to the location of the proposed well. Subsidence Monitoring Points provides adequate details of subsidence at various points across the District. The detailed subsidence report is provided as Appendix B.

Table 1-3. Details of Nearby Wells

NEARBY WELLS					
WELL #	Casing Size (Inches)	Depth (ft)	Blank Casing (ft)	Perforation (ft)	Average Flow (cfs)
88-29-035	16	800	336	464	1.4

Please describe the groundwater monitoring plan that will be undertaken and the associated monitoring triggers for mitigation actions.

Long-term water-level data in selected wells representing the unconfined to semi-confined aquifers are used to evaluate groundwater movement, storage conditions, and pumping costs. Historically, water levels in supply wells have been measured twice a year, in both the "spring" and "fall", with the timing of these measurements intended to coincide with the annual water level high and low, respectively. These data have been made available to the KCWA and the DWR for the District-owned wells.

However, due to the recent contracts awarded to North Kern by the State and Federal agencies (refer Section 1.2.5), measurement of water levels will be monitored real-time due to the ongoing implementation of well telemetry and SCADA systems at each District well (including the wells part of this Project). This data will enable the District to monitor triggers instantaneously. Additionally, the District has determined a 'safe yield' number for the Kern County Groundwater Subbasin ((DWR basin number 5-22-14) using guidelines from the Sustainable Groundwater Management Act (SGMA 2014) and will use the District's state of the art monitoring system to mitigate adverse impacts instantaneously.

Describe how the mitigation actions will respond to or help avoid any significant adverse impacts to third parties that occur due to groundwater pumping.

As discussed previously, the 'safe yield' number established for the Kern County subbasin as part of SGMA 2014 is designed to mitigate any adverse impacts caused due to increased

groundwater pumping. To stay in compliance, the District's state of the art remote monitoring system will provide real-time values for depth to groundwater, and water drawdown during pumping. The access to these values will enable the District to maintain groundwater pumping operations well within the established limits.

1.5.2 Evaluation Criterion B – Sustainability and Supplemental Benefits

Climate Change; Disadvantaged or Underserved Communities; Ecological Value; Other Benefits

The climate of the District is typical of the San Joaquin Valley, being semiarid and characterized by mild winters and hot, dry summers. Regarding the anticipated changing climate, several investigations have been conducted by the USGS California Water Science Center (CAWSC) regarding hydrological effects of typical climate change scenarios. Each of these investigations predict that California's climate will become warmer (+2 to +4° C) and drier (10 to 15 percent) during the mid- to late-21st century, relative to historical conditions. If these predictions materialize, the level of runoff from the Sierra Nevada Mountains, and thus the Kern River Watershed, is expected to be much less reliable with quantities presumably declining over time limiting Kern River supplies.

Reduced surface water deliveries to the District, as well as for other regional districts and agencies, which can be dedicated for agricultural uses, combined with increased demands for irrigation water due to the increasingly warmer, drier climate, will result in increased use of groundwater resources, the impacts of which could include the following:

- Reduced base flow in streams;
- Reduced groundwater outflows;
- Increased depths to groundwater, and
- Increased land subsidence.

Local communities, rural residences, and businesses also rely on groundwater from the Kern County Subbasin (Subbasin) as their main supply. Should climate change result in a reduction in water available from traditional surface supplies, the increased frequency of groundwater pumping, from agricultural water districts and other users, will lead to a decrease in groundwater storage without the necessary means of replenishing the depleted storage. Climate change concerns, such as those listed above, set a high-priority for exploring and importing any other available surface water supplies, such as CVP wet period water.

Additionally, through this Project, North Kern will continue to foster relationships with other water districts and disadvantaged communities in the region through the Poso Creek IRWM Group. Along with the other active members, North Kern has worked to improve drought resiliency and act in the best interest of the districts within the region. As previously stated, the Poso Creek IRWM Group is a collaborative group that works toward regional water management and implementation activities, which are focused on drought preparedness and

supply reliability as well as improving operational flexibility to maintain economic viability for the communities and industries in the region. North Kern's participation in this group has helped to improve water management and supply issues in the region as well as build greater relationships with the participating water districts and disadvantaged communities.

The proposed Project is a continuation of North Kern's efforts to improve recovery and return capacity of their groundwater recharge facilities to allow surface water recharged and banked in North Kern's groundwater basin to be available to the Poso IRWM Group districts. Not only will North Kern benefit from this project, but water districts affiliated with the Poso Creek IRWM Group will also be able to benefit from greater return water supply in times of drought or shortage.

1.5.3 Evaluation Criterion C – Drought Planning and Preparedness

Explain how the applicable plan addresses drought. Describe how your proposed drought resiliency project is supported by an existing drought plan.

While North Kern and other members of the Poso Creek IRWM Group (Group) fall under the purview of the Central Valley Project and State Water Project 2020 Drought Contingency Plan, they have decided to collaborate to develop a drought plan specific to the Poso Creek Region. The Group has developed a Drought Contingency Plan (DCP) with Reclamation to prepare for and manage during drought or dry periods, which will be adopted by end of 2021. The draft DCP has been submitted and is currently under review by Reclamation. In support of this effort, each member district has been tasked to develop a memo to highlight the critical drought vulnerabilities in their district as well as proposed projects and response actions for long-term drought planning, which has been included in the final draft DCP. North Kern has identified potential vulnerabilities including climate change and hydrologic variability as well as allocation shortages of Kern River due to hydrologic variability or institutional constraints. To mitigate these impacts, North Kern proposes various projects and response actions, of which, includes the proposed Project. A draft of the Poso Creek DCP is included as Appendix C.

As part of this planning effort, the Group has developed a task force, which North Kern is an active participant, consisting of the member districts and various stakeholders to gather input and assess the needs of the region. Together, members of the task force will reflect the environmental, agricultural, and municipal stakeholders affected by local and statewide water management.

In addition to stakeholder input, the Group will build off previous drought planning work that was included in the Poso Creek IRWM 2019 Plan Update and their management area plan developed in compliance with SGMA. Each of these plans include a climate change assessment based on the best available science that evaluates vulnerabilities including drought, lack of supply reliability, and groundwater conditions. Like the DCP, these plans also include projects and actions to respond to critical conditions in the region to maintain and enhance supply

reliability as well as improve operational efficiency and flexibility. The proposed project is prioritized in both the 2019 Plan Update and North Kern's plan developed under SGMA and has been included in the DCP for the Poso Creek Region.

Implementation of this project will assist in North Kern's goals of both SGMA and IRWM as well as support the long-term drought planning efforts under the Group's DCP. This is achieved by providing North Kern and its neighboring districts recovery and return capacity for delivery of banked supply in a dry year. In turn, this improves drought resiliency to meet existing irrigation demand by adding to the recovery and return capacity to be used in dry years for returning surplus CVP water recharged and banked during wet years.

1.5.4 *Evaluation Criterion D – Severity of Actual or Potential Drought Impacts to be Addressed by the Project*

Describe the severity of the impacts that will be addressed by the project.

The National Drought mitigation center recognized this Project Area as undergoing some intensity of drought for nearly the entirety of the previous decade. The near constant state of drought has recently been punctuated by exceptional drought (category 4) or extreme drought (category D3) over the previous few years. In times of drought, irrigation and municipal agencies often meet shortfalls in surface supplies by pumping groundwater. The sustained need to pump has contributed to many drought indicators within the NKWSD, including:

- Up to approximately 8.3 inches of subsidence along the section of FKC in NKWSD between 2012 and 2017 (NKWSD-SWID Management Area Plan- SGMA, land subsidence).
- Decrease in groundwater elevation ranging from an average of 60 to 100 feet throughout the District between 2006 and 2016 (NKWSD-SWID Management Area Plan- SGMA, groundwater elevations).
- Loss of labor, income, profits, taxes, and output (Economic Analysis of the 2015 Drought for California Agriculture, UC Davis, 2016).

These affects are not only experienced by North Kern, but in neighboring districts in the Poso Creek Region as well. Without further improvements in water management infrastructure, these trends are likely to continue. Overall, the District noted its vulnerability to drought and climate change as 'high', since each year the groundwater elevation lowers, the existing groundwater supply decreases, along with its resiliency. To mitigate drought impacts, implementation of this project will allow stored wet year water to be delivered in dry years, so that any groundwater level decrease and subsidence will be offset in North Kern. Benefits of this project will also be experienced throughout the region as the ability to return banked wet year supplies during dry years will be able to meet irrigation demand, which not only increases supply reliability, but protects the economic viability of the region.

Describe existing or potential drought conditions in the project area.

This has been assessed using a 40-year drought projection under SGMA planning efforts to evaluate groundwater conditions and supply vulnerabilities to achieve groundwater sustainability by 2040. Further, this project has also been prioritized in the Poso Creek 2019 IRWM Plan Update to mitigate the effects of drought. These two planning efforts have been evaluated and included in the Poso Creek DCP as referenced previously. For further information on how North Kern has contributed to this draft DCP, refer to Appendix C.

1.5.5 Evaluation Criterion E – Project Implementation

Describe the implementation plan of the proposed project. Please include an estimated project schedule that shows the stages and duration of the proposed work, including major tasks, milestones, and dates. Milestones may include, but are not limited to, the following: design, environmental and cultural resources compliance, permitting, construction/installation; Describe any permits that will be required, along with the process for obtaining such permits; Identify and describe any engineering or design work performed specifically in support of the proposed project.

The following milestones are presented to demonstrate the how the Project will be implemented. To implement the Project, North Kern will engage an engineering consultant or consultants to assist throughout the project and contract the construction. A schedule is presented below.

- **Administration.** Administration will consist of coordination of Project activities including budgeting, scheduling, communication with consultants and contractors, grant agreement administration, and project cost administration. Administration will occur for the entirety of the project schedule.

- **Grant Reporting.** Grant Reporting will consist of completing required semi-annual progress and financial reports, a final report, and any other reporting requirements specified in the grant agreement. Grant Reporting will occur according to the timeline specified in the grant agreement.

- **Design.** Preliminary design in support of cost estimating has been completed. Remaining design work is expected to be minimal as, the piping for the well is of very minimal length, as the well will discharge into the nearby District operated canal through existing discharge pipes, resulting in minimal design effort. Second, the proposed replacement wells will be of similar design to existing wells that the District and consultants are familiar with design for. Plans and specifications will be completed for use in construction contracting.
- **Environmental Documentation.** Environmental documentation that meets the requirements of the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) will be completed. North Kern will coordinate with Reclamation NEPA staff for environmental clearance and a Notice to Proceed. Further, as

necessary, a pre-activity biological survey will be conducted by a qualified biologist in the required timeframe and a Worker Environmental Awareness Program will be presented to construction staff as necessary.

- **Permits and Approvals.** The manifold pipeline and the wells are located exclusively within maintained rights-of-way owned and operated by the District. Because the manifold pipeline will discharge into the FKC, the District will consult with Reclamation regarding the requirement of SF 299 encroachment permit form: SF299- Application for Transportation and Utility Systems and Facilities on Federal Lands, prior to connecting the return pipeline to the FKC. The District is committed to obtaining all required permits and approvals. The contractor will likewise be required to obtain all required permits and approvals, which may include NPDES permits and preparation of a Stormwater Pollution Prevention Plan. The District is not subject to the County's or City's jurisdiction regarding building and grading permits relative to water resource projects. Accordingly, no city or County-issued permits will be required.

- **Construction.** A "furnish and install" contract will be awarded. Procurement is discussed in the Budget Narrative. Construction will involve furnishing and installing all Project works.

- **Contract Administration and Construction Management.** Construction Management involves everything from the advertisement for bids from qualified construction firms to filing a Notice of Completion for the Project works and preparation of "As-Builts" drawings. Construction management activities can generally be categorized as field observation and contract administration, where the latter includes items such as the Notice to Proceed, pre-construction conference, correspondence with the Contractor, submittal review, progress payments, periodic meetings with the Contractor, Contract Change Orders, etc.

Describe any permits that will be required, along with the process for obtaining such permits.

The well is located exclusively within maintained rights-of-way owned and operated by NKWSD. In addition to and accordance with the permitting and approval concerns stated in Task 5 of the Project Work (Section 1.3.2), the following paragraphs detail specific points of the District's commitment to obtaining all relevant permits and approvals.

a) "The Contractor is an independent contractor and shall, at his sole cost and expense, comply with all laws, rules, ordinances and regulations of all governing bodies having jurisdiction over the work, obtain all necessary permits and licenses therefore…" This would include, but is not limited to, any required NPDES permitting and the preparation of a Stormwater Pollution Prevention Plan.

b) A pre-activity survey will be ordered and conducted by a qualified biologist shortly before the start of construction; this would include, but is not limited to, protocol-level surveys for the San Joaquin Kit Fox and the Western Burrowing Owl (or other local endangered species).

c) Note that the District is not subject to the County's or City's jurisdiction regarding building and grading permits relative to water resource projects. Accordingly, no city or County-issued permits will be required.

Identify and describe any engineering or design work performed specifically in support of the proposed project.

The district completed a preliminary design to estimate the cost required and since one of the wells as part of this proposed Project will connect to manifold pipelines designed as part of the recently awarded R18AP00088 and R20AP00114 grants, the District anticipates minimal design work as part of the proposed project since a preliminary design was completed for this cost estimate. Additionally, the District anticipates the proposed replacement wells to be of similar design to existing wells.

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

The District does not anticipate the need for any policies or administrative actions in order to implement the Project.

Schedule

The estimated project schedule is presented below. For the purposes of the estimate schedule, a grant award (fully executed agreement) date of April 1, 2022 was assumed.

Table 1-4. Schedule

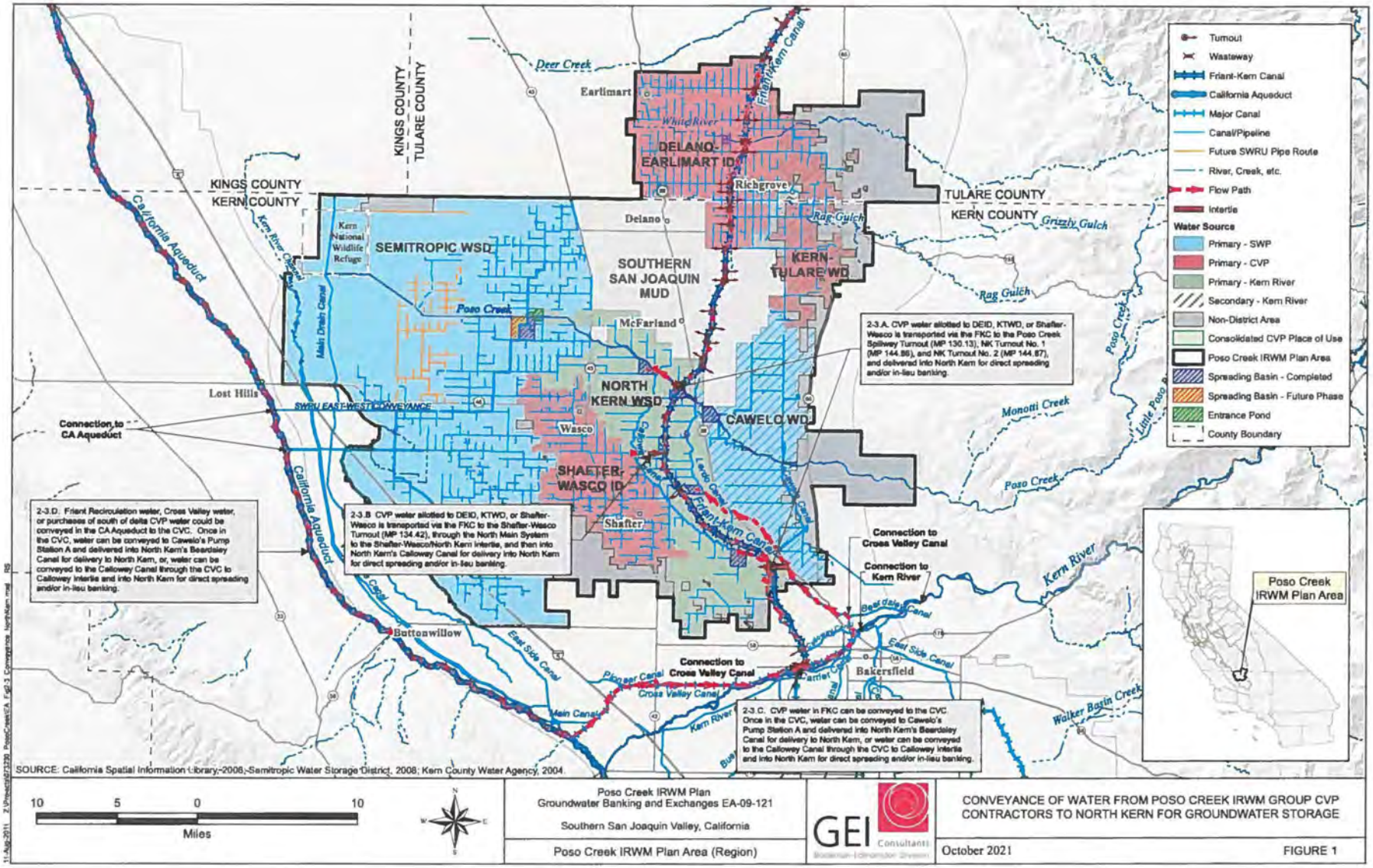
Milestone	Estimated Start Date	Estimated Completion Date
Administration	4/1/2022	12/31/2023
Grant Reporting	4/1/2022	12/31/2023
Design	1/1/2023	4/31/2023
Environmental Documentation	4/1/2022	1/1/2023
Permits and Approvals	1/1/2023	3/1/2023
Construction	6/1/2023	8/31/2023
Construction Management	5/1/2023	10/31/2023

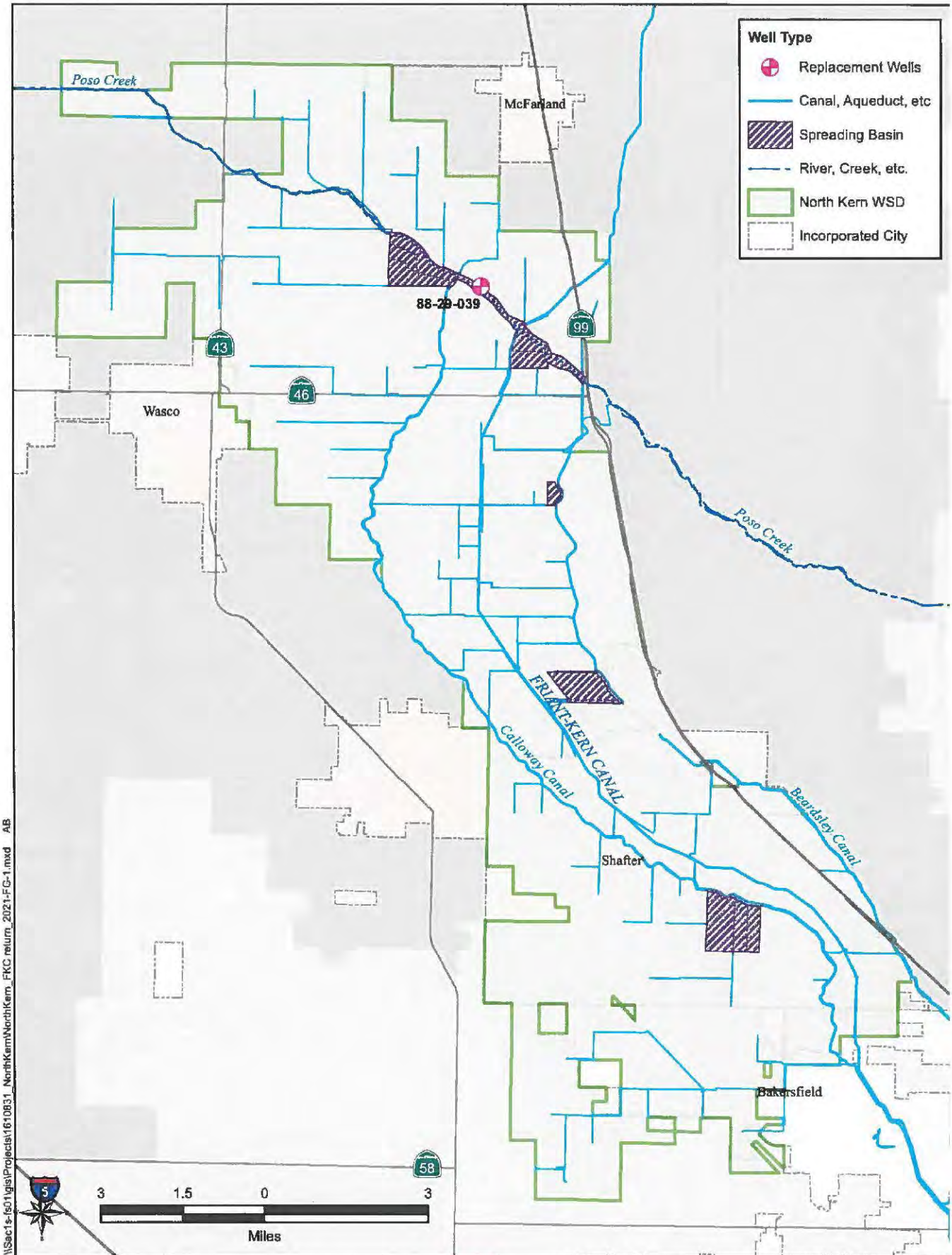
1.5.6 *Evaluation Criterion F – Nexus to Reclamation*

Describe the nexus between the proposed project and a Reclamation project or Reclamation activity. Please consider the following: Does the applicant have a water service, repayment, or O&M contract with Reclamation? If the applicant is not a Reclamation contractor, does the applicant receive Reclamation water through a Reclamation contractor or by any other contractual means? Will the proposed work benefit a Reclamation project area or activity? Is the applicant a Tribe?

The proposed Project is located in the Tulare Lake Basin, which also includes Reclamation's Friant-Kern Canal (FKC). The Project lands do not meet trust responsibilities to Tribes. Although North Kern is not a registered CVP contractor, it has a direct conveyance connection with CVP water supplies, it often receives delivery of surface water on behalf of neighboring districts with CVP contract water supplies, through turnouts located along the FKC, and typically retains a portion of the stored supply (25% to 50%). The CVP contractors often have a right to surplus CVP flows in addition to their CVP Class 1 and Class 2 supplies, which in wet years need to utilize banking faculties for groundwater recharge and storage to increase the reliability of their supply. The proposed project will add recovery and return capacity to return banked supply to the District and neighboring districts by establishing a connection to the Friant-Kern Canal. The proposed well to be drilled is not on Reclamation project lands, and the well will discharge into a District owned and operated canal. However, the District will still consult with Reclamation to obtain the necessary permits.

North Kern will effectively utilize its absorptive capacity to recharge excess water during wet years on behalf of its Poso Creek IRWM group partners, bank the supply, and deliver back to them during the dry years when the demand for water is at its peak. This Project increases operational flexibility, improves effective utilization of their surface water sources, and promotes regional co-operation in conjunctive water use, which is a crucial nexus to mitigate drought.


KINGS COUNTY
KERN COUNTY
TULARE COUNTY
Deer Creek
Earlimart
Friant-Kern Canal
White River
DELANO-EARLIMART ID
Richgrove
Delano
Rag Gulch
Grizzly Gulch
SEMITROPIC WSD
Kern National Wildlife Refuge
SOUTHERN SAN JOAQUIN MUD
KERN-TULARE WD
California Aqueduct
Kern River Channel
Main Drain Canal
Poso Creek
McFarland
NORTH KERN WSD
CAWELO WD
Lost Hills
SWRU EAST-WEST CONVEYANCE
Connection to CA Aqueduct
Wasco
Cawelo Canal
Lerdo Canal
Friant-Kern Canal
SHAFTER-WASCO ID
Shafter
Monotti Creek
Little Poso Creek
Connection to Cross Valley Canal
Connection to Kern River
Kern River
Buttonwillow
East Side Canal
Pioneer Canal
Cross Valley Canal
Main Canal
Bakersfield
Walker Basin Creek
Turnout
Wasteway
Friant-Kern Canal
California Aqueduct
Major Canal
Canal/Pipeline
Future SWRU Pipe Route
River, Creek, etc.
Flow Path
Intertie
Water Source
Primary - SWP
Primary - CVP
Primary - Kern River
Secondary - Kern River
Non-District Area
Consolidated CVP Place of Use
Poso Creek IRWM Plan Area
Spreading Basin - Completed
Spreading Basin - Future Phase
Entrance Pond
County Boundary
2-3.A. CVP water allotted to DEID, KTWD, or Shafter-Wasco is transported via the FKC to the Poso Creek Spillway Turnout (MP 130.13), NK Turnout No. 1 (MP 144.86), and NK Turnout No. 2 (MP 144.87), and delivered into North Kern for direct spreading and/or in-lieu banking.
2-3.B CVP water allotted to DEID, KTWD, or Shafter-Wasco is transported via the FKC to the Shafter-Wasco Turnout (MP 134.42), through the North Main System to the Shafter-Wasco/North Kern intertie, and then into North Kern's Calloway Canal for delivery into North Kern for direct spreading and/or in-lieu banking.
2-3.C. CVP water in FKC can be conveyed to the CVC. Once in the CVC, water can be conveyed to Cawelo's Pump Station A and delivered into North Kern's Beardsley Canal for delivery to North Kern, or water can be conveyed to the Calloway Canal through the CVC to Calloway intertie and into North Kern for direct spreading and/or in-lieu banking.
2-3.D. Friant Recirculation water, Cross Valley water, or purchases of south of delta CVP water could be conveyed in the CA Aqueduct to the CVC. Once in the CVC, water can be conveyed to Cawelo's Pump Station A and delivered into North Kern's Beardsley Canal for delivery to North Kern, or, water can be conveyed to the Calloway Canal through the CVC to Calloway intertie and into North Kern for direct spreading and/or in-lieu banking.
Poso Creek IRWM Plan Area
SOURCE: California Spatial Information Library-2006; Semitropic Water Storage District, 2008; Kern County Water Agency, 2004
10 5 0 10
Miles
N
W
E
S
Poso Creek IRWM Plan
Groundwater Banking and Exchanges EA-09-121
Southern San Joaquin Valley, California
Poso Creek IRWM Plan Area (Region)
GEI Consultants
CONVEYANCE OF WATER FROM POSO CREEK IRWM GROUP CVP CONTRACTORS TO NORTH KERN FOR GROUNDWATER STORAGE
October 2021
FIGURE 1



Expanded Recharge Recovery Program

North Kern Water Storage District
Kern County, California

GEI Consultants

Friant-Kern Canal Proposed Wells to be part of the Recovery Program

OCTOBER 2021

FIGURE 2

2. Project Budget

2.1 Funding Plan and Letters of Commitment

The non-Federal share of Project costs will be provided by the District from their construction capital account, which is a District revenue account. The District adopts an annual budget each Fall and evaluates the budget again mid-year for any required adjustments. Aside from requested Federal funding and District cost share, no other funding sources are anticipated; therefore, no Letters of Commitment have been included and no third-party contributions are discussed herein.

Monetary contributions by the applicant towards the cost-share requirement and source of funds (e.g., reserve account, tax revenue, and/or assessments)

The cost-share requirement will be provided by the applicant from a District construction capital account.

Any costs that will be contributed by the applicant.

Costs in excess of the Federal award will be provided by the applicant from the District's construction capital account.

Any third-party in-kind costs (i.e., goods and services provided by a third party).

None.

Any cash requested or received from other non-federal entities.

None.

Any pending funding requests (i.e., grants or loans) that have not yet been approved and explain how the project will be affected if such funding is denied.

None.

Identify whether the budget proposal includes any project costs that have been or may be incurred prior to award.

At this time, no pre-award costs are anticipated.

2.2 Budget Proposal

The estimated total Project cost is **$1,035,711.56,** $500,000 of which is requested Federal funding and $535,711.56 of which is Applicant cost share. The following tables present a summary of the total project cost (Table 2-1), a summary of funding sources (Table 2-2), and the Budget Proposal (Table 2-3) by budget category. Further, budget tables for each task identified in the Project Implementation section are included following the Budget Narrative (Tables 2-4 through 2-11).

Table 2-1. Total Project Cost Summary

Source	Amount
Costs to be reimbursed with the requested Federal funding	$ 500,000.00
Costs to be paid by the applicant	$ 535,711.56
Value of third-party contributions	$ -
Total Project Cost	**$ 1,035,711.56**

Table 2-2. Non-Federal and Federal Funding Sources Summary

Funding Sources	Amount
Non-Federal Entities	
1. Applicant	$ 535,711.56
2. N/A	$ -
Non-Federal Subtotal	
Requested Reclamation Funding	**$ 500,000.00**

Table 2-3. Budget Proposal

BUDGET ITEM DESCRIPTION	COMPUTATION		QUANTITY TYPE	TOTAL COST
	$/Unit	Quantity		
SALARIES/WAGES				
Deputy General Manager	$81.70	142	HR	**$11,601.40**
FRINGE BENEFITS				
Deputy General Manager	$42.48	142	HR	**$6,032.16**
TRAVEL				
				$0.00
EQUIPMENT				
				$0.00
SUPPLIES AND MATERIALS				
				$0.00
CONTRACTUAL				
Contract 1 - Engineering Consultant				
Grade 8	$307.00	58	HR	$17,806.00
Grade 7	$274.00	76	HR	$20,824.00
Grade 6	$231.00	110	HR	$25,410.00
Grade 5	$203.00	48	HR	$9,744.00
Grade 4	$172.00	167	HR	$28,724.00
Grade 3	$153.00	59	HR	$9,027.00
Grade 2	$140.00	98	HR	$13,720.00
Senior CAAD Drafter	$153.00	40	HR	$6,120.00
Admin	$114.00	84	HR	$9,576.00
Subtotal				**$140,951.00**
Contract 2 - Construction	$876,127.00	1	LS	**$876,127.00**
OTHER				
Cultural Resources Records Search Fee	$1,000.00	1	LS	**$1,000.00**
TOTAL DIRECT COSTS				**$1,035,711.56**
INDIRECT COSTS				
No Indirect Cost				$0.00
TOTAL ESTIMATED COSTS				**$1,035,711.56**

2.3 Budget Narrative

2.3.1 Salaries and Wages

Ram Venkatesan, Deputy General Manager for the District, will serve as the Project Manager. Mr. Venkatesan is a licensed Civil Engineer in the state of California and is the representative for the Applicant. Salary and estimated hours for Mr. Venkatesan are presented in tables 2-3 through 2-11 for tasks identified in the Project Implementation section. Mr. Venkatesan's time was estimated based on past and ongoing projects of similar nature; however, him time will on the Project will be tracked separately from time spent on other projects and will be reported accordingly.

2.3.2 Fringe Benefits

District staff rates have been identified separately from Fringe Benefits. Fringe Benefits account for approximately 52% of the fully burdened hourly rate.

2.3.3 Travel

There are no Travel costs included in the Budget Proposal.

2.3.4 Equipment

There are no Equipment costs included in the Budget Proposal. It is anticipated that the awarded contractor will supply any necessary equipment.

2.3.5 Materials and Supplies

There are no Materials and Supplies costs included in the Budget Proposal. It is anticipated that the awarded contractor will supply any necessary materials and supplies.

2.3.6 Contractual

It is anticipated that two contracts will be executed to implement the Project. The District operates with minimal staff and expects to contract with a professional services provider for support with grant administration and reporting, design, environmental compliance, permitting, and construction administration and management, as described in the Project Implementation section. Procurement will be in accordance with the District's Purchasing Policy. Rates and estimated hours are provided in tables 2-3 through 2-11. Costs were estimated based on the level of effort from recent and ongoing projects. The rate sheet used to estimate consultant costs is provided in Appendix D-1. It is noted that consultant rates may increase each year.

The second anticipated contract will be a "furnish and install" contract for construction of the Project including project wide items, well drilling, well equipping, manifold pipelines, and

pipeline connections. It is anticipated that the contractor will be responsible for all equipment, materials, supplies, and required permits. The contract will be procured via a public bidding process with sealed bids and will be advertised accordingly. A contract will be awarded to the lowest responsible bidder as approved by the District's Board of Directors. Estimated costs are presented in the Budget Proposal, Table 2-9, and Table 2-10. Estimates are based on bids and quotes received for recent projects. Additional budget support is included in Appendix D-2 and D-3. It is noted that due to supply chain conditions and COVID-19 related pricing fluctuations at the time this application is being submitted, construction estimates, in particular, are highly volatile.

2.3.7 Third-Party In-Kind Contributions

There are no Third-Party In-Kind Contributions included in the Budget Proposal.

2.3.8 Environmental and Regulatory Compliance

The District understands that Reclamation my have to withhold a portion of the award in order to complete their environmental compliance process. While costs for Reclamation's environmental and regulatory compliance review are not included as a line item in the budget, costs for a consultant to complete environmental documentation have been included as contractual costs (Table 2-7).

2.3.9 Other Expenses

The estimated fee for a "Cultural Resources Records Search" is included as "Other Expenses" in Table 2-7. The estimate is based on receipts for the search from recent projects.

2.3.10 Indirect Costs

There are no Indirect Costs included in the Budget Proposal.

Table 2-4. Administration

Task 1. Administration

BUDGET ITEM DESCRIPTION	COMPUTATION		QUANTITY TYPE	TOTAL COST
	$/Unit	Quantity		
SALARIES/WAGES				
Deputy General Manager	$ 81.70	26	HR	**$2,124.20**
FRINGE BENEFITS				
Deputy General Manager	$ 42.48	26	HR	**$1,104.48**
TRAVEL				
				$0.00
EQUIPMENT				
				$0.00
SUPPLIES AND MATERIALS				
				$0.00
CONTRACTUAL/CONSTRUCTION				
Contract 1 - Engineering Consultant				
Grade 8	$307.00	0	HR	$0.00
Grade 7	$274.00	12	HR	$3,288.00
Grade 6	$231.00	0	HR	$0.00
Grade 5	$203.00	0	HR	$0.00
Grade 4	$172.00	24	HR	$4,128.00
Grade 3	$153.00	20	HR	$3,060.00
Grade 2	$140.00	0	HR	$0.00
Senior CAAD Drafter	$153.00	0	HR	$0.00
Admin	$114.00	36	HR	$4,104.00
Subtotal				**$14,580.00**
OTHER				
				$0.00
TOTAL DIRECT COSTS				**$17,808.68**
INDIRECT COSTS				
No Indirect Cost				$0.00
TOTAL ESTIMATED COSTS				**$17,808.68**

Table 2-5. Reporting

Task 2. Reporting

BUDGET ITEM DESCRIPTION	COMPUTATION		QUANTITY TYPE	TOTAL COST
	$/Unit	Quantity		
SALARIES/WAGES				
Deputy General Manager	$ 81.70	0	HR	**$0.00**
FRINGE BENEFITS				
Deputy General Manager	$ 42.48	0	HR	**$0.00**
TRAVEL				
				$0.00
EQUIPMENT				
				$0.00
SUPPLIES AND MATERIALS				
				$0.00
CONTRACTUAL/CONSTRUCTION				
Contract 1 - Engineering Consultant				
Grade 8	$307.00	0	HR	$0.00
Grade 7	$274.00	12	HR	$3,288.00
Grade 6	$231.00	0	HR	$0.00
Grade 5	$203.00	0	HR	$0.00
Grade 4	$172.00	36	HR	$6,192.00
Grade 3	$153.00	24	HR	$3,672.00
Grade 2	$140.00	0	HR	$0.00
Senior CAAD Drafter	$153.00	0	HR	$0.00
Admin	$114.00	32	HR	$3,648.00
Subtotal				**$16,800.00**
OTHER				
				$0.00
TOTAL DIRECT COSTS				**$16,800.00**
INDIRECT COSTS				
No Indirect Cost				$0.00
TOTAL ESTIMATED COSTS				**$16,800.00**

Table 2-6. Design

Task 3. Design

BUDGET ITEM DESCRIPTION	COMPUTATION		QUANTITY TYPE	TOTAL COST
	$/Unit	Quantity		
SALARIES/WAGES				
Deputy General Manager	$ 81.70	60	HR	**$4,902.00**
FRINGE BENEFITS				
Deputy General Manager	$ 42.48	60	HR	**$2,548.80**
TRAVEL				
				$0.00
EQUIPMENT				
				$0.00
SUPPLIES AND MATERIALS				
				$0.00
CONTRACTUAL/CONSTRUCTION				
Contract 1 - Engineering Consultant				
Grade 8	$307.00	16	HR	$4,912.00
Grade 7	$274.00	32	HR	$8,768.00
Grace 6	$231.00	0	HR	$0.00
Grade 5	$203.00	40	HR	$8,120.00
Grade 4	$172.00	0	HR	$0.00
Grade 3	$153.00	0	HR	$0.00
Grade 2	$140.00	0	HR	$0.00
Senior CAAD Drafter	$153.00	24	HR	$3,672.00
Admin	$114.00	0	HR	$0.00
Subtotal				**$25,472.00**
OTHER				
				$0.00
TOTAL DIRECT COSTS				**$32,922.80**
INDIRECT COSTS				
No Indirect Cost				$0.00
TOTAL ESTIMATED COSTS				**$32,922.80**

Table 2-7. Environmental

Task 4. Environmental

BUDGET ITEM DESCRIPTION	COMPUTATION		QUANTITY TYPE	TOTAL COST
	$/Unit	Quantity		
SALARIES/WAGES				
Deputy General Manager	$ 81.70	6	HR	**$490.20**
FRINGE BENEFITS				
Deputy General Manager	$ 42.48	6	HR	**$254.88**
TRAVEL				
				$0.00
EQUIPMENT				
				$0.00
SUPPLIES AND MATERIALS				
				$0.00
CONTRACTUAL/CONSTRUCTION				
Contract 1 - Engineering Consultant				
Grade 8	$307.00	22	HR	$6,754.00
Grade 7	$274.00	0	HR	$0.00
Grade 6	$231.00	70	HR	$16,170.00
Grade 5	$203.00	0	HR	$0.00
Grade 4	$172.00	15	HR	$2,580.00
Grade 3	$153.00	15	HR	$2,295.00
Grade 2	$140.00	34	HR	$4,760.00
Senior CAAD Drafter	$153.00	16	HR	$2,448.00
Admin	$114.00	16	HR	$1,824.00
Subtotal				**$36,831.00**
OTHER				
Cultural Resources Records Search Fee	$1,000.00	1	LS	**$1,000.00**
TOTAL DIRECT COSTS				**$38,576.08**
INDIRECT COSTS				
No Indirect Cost				$0.00
TOTAL ESTIMATED COSTS				**$38,576.08**

Table 2-8. Permits and Approvals

Task 5. Permits and Approvals

BUDGET ITEM DESCRIPTION	COMPUTATION		QUANTITY TYPE	TOTAL COST
	$/Unit	Quantity		
SALARIES/WAGES				
Deputy General Manager	$ 81.70	0	HR	**$0.00**
FRINGE BENEFITS				
Deputy General Manager	$ 42.48	0	HR	**$0.00**
TRAVEL				
				$0.00
EQUIPMENT				
				$0.00
SUPPLIES AND MATERIALS				
				$0.00
CONTRACTUAL/CONSTRUCTION				
Contract 1 - Engineering Consultant				
Grade 8	$307.00	0	HR	$0.00
Grade 7	$274.00	0	HR	$0.00
Grade 6	$231.00	0	HR	$0.00
Grade 5	$203.00	0	HR	$0.00
Grade 4	$172.00	12	HR	$2,064.00
Grade 3	$153.00	0	HR	$0.00
Grade 2	$140.00	24	HR	$3,360.00
Senior CAAD Drafter	$153.00	0	HR	$0.00
Admin	$114.00	0	HR	$0.00
Subtotal				**$5,424.00**
OTHER				
				$0.00
TOTAL DIRECT COSTS				**$5,424.00**
INDIRECT COSTS				
No Indirect Cost				$0.00
TOTAL ESTIMATED COSTS				**$5,424.00**

Table 2-9. Construction

Task 6. Construction

BUDGET ITEM DESCRIPTION	COMPUTATION		QUANTITY TYPE	TOTAL COST
	$/Unit	Quantity		
SALARIES/WAGES				
Deputy General Manager	$ 81.70	0	HR	**$0.00**
FRINGE BENEFITS				
Deputy General Manager	$ 42.48	0	HR	**$0.00**
TRAVEL				
				$0.00
EQUIPMENT				
				$0.00
SUPPLIES AND MATERIALS				
				$0.00
CONTRACTUAL/CONSTRUCTION				
Contract 1 - Engineering Consultant				**$0.00**
Contract 2 - Construction	See Construction Support Table			**$876,127.00**
OTHER				
				$0.00
TOTAL DIRECT COSTS				**$876,127.00**
INDIRECT COSTS				
No Indirect Cost				$0.00
TOTAL ESTIMATED COSTS				**$876,127.00**

Table 2-10. Construction

Construction Support

BUDGET ITEM DESCRIPTION	COMPUTATION		QUANTITY TYPE	TOTAL COST	
	$/Unit	Quantity			
CONTRACTUAL/ CONSTRUCTION					
Contract 2 - Construction					
Well Drilling	$551,204.00	1	LS	$551,204.00	Appendix D-2
Well Equipping	$299,923.00	1	LS	$299,923.00	Appendix D-3
Pipeline Connections	$25,000.00	1	LS	$25,000.00	
TOTAL ESTIMATED COSTS				**$876,127.00**	

Table 2-11. Construction Mangement

Task 7. Construction Management

BUDGET ITEM DESCRIPTION	COMPUTATION		QUANTITY TYPE	TOTAL COST
	$/Unit	Quantity		
SALARIES/WAGES				
Deputy General Manager	$ 81.70	50	HR	**$4,085.00**
FRINGE BENEFITS				
Deputy General Manager	$ 42.48	50	HR	**$2,124.00**
TRAVEL				
				$0.00
EQUIPMENT				
				$0.00
SUPPLIES AND MATERIALS				
				$0.00
CONTRACTUAL/CONSTRUCTION				
Contract 1 - Engineering Consultant				
Grade 8	$307.00	20	HR	$6,140.00
Grade 7	$274.00	20	HR	$5,480.00
Grade 6	$231.00	40	HR	$9,240.00
Grade 5	$203.00	8	HR	$1,624.00
Grade 4	$172.00	80	HR	$13,760.00
Grade 3	$153.00	0	HR	$0.00
Grade 2	$140.00	40	HR	$5,600.00
Senior CAAD Drafter	$153.00	0	HR	$0.00
Admin	$114.00	0	HR	$0.00
Subtotal				**$41,844.00**
OTHER				
				$0.00
TOTAL DIRECT COSTS				**$48,053.00**
INDIRECT COSTS				
No Indirect Cost				$0.00
TOTAL ESTIMATED COSTS				**$48,053.00**

3. Environmental and Cultural Resources Compliance

The following section summarizes the District's approach to avoid, minimize, and mitigate any potential environmental impacts related to construction of the proposed Project. The Project will be constructed in compliance with California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) requirements. The following paragraphs address the specific questions posted in the Environmental and Cultural Resources Compliance Section of the NOFO.

Will the project impact the surrounding environment (e.g., soil [dust], air [quality and quantity], animal habitat?

The extent of construction activities (footprint) for the Project is relatively small and located within property owned and operated by North Kern and the Friant-Kern Canal (SF-299 permit will be obtained in this regard). The Project's area of potential affect is located within a canal easement or is on agriculturally disturbed soil. At this time, the District is not aware of any part of this project that will have a significant impact on soil, air, water, or animal habitat quality. Regardless, all applicable environmental compliance measures will be followed, at a minimum, to ensure no improper disturbances are made to the environment and animal life. Such environmental measures include executing the PM-10 Dust Control Plan, Stormwater Pollution Prevention Plan, and all necessary biological site surveys.

The Project requires limited earth-disturbing activities. Excavation and installation of the pipeline are not extensive movements of quantities of material. The Contractor will be required to obtain a PM-10 Dust control permit from the San Joaquin Valley Air Pollution Control District prior to any earth-disturbing activities. The District will engage a qualified biologist to conduct a pre-construction survey shortly before the start of construction to ensure that the construction area remains unoccupied by special-status plant and wildlife species. In addition, standard avoidance and minimization protocols and best management practices will be included in the Project specifications and will be followed during construction. Moreover, the duration of the construction activity is expected be relatively short.

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?

North Kern is aware that threatened and endangered species exist in the Southern San Joaquin Valley. The USFWS Endangered Species Database lists several threatened and endangered species within Kern County; however, based on aerial imagery of the Project, recent experience with SWID projects, the Kern Council of Governments Habitat Conservation map, and federally listed species mapping, no endangered species habitats are known to occur within the pipeline rights-of-way. However, if potential impacts are identified during the reconnaissance-

level survey, the District will follow recommendations by the biologist and measures identified by the USFWS during ESA consultation to avoid or reduce those impacts.

Are there wetlands or other surface waters inside the project boundaries that potentially fall under CWA jurisdiction as "Waters of the United States"?

There are no wetlands or other surface waters inside the Project boundaries that fall under CWA jurisdiction as "waters of the United States".

When was the water delivery system constructed?

North Kern's canal and pipeline distribution system and related works were originally completed in the 1950s, with additional features and enlargements (e.g., pumping stations, discharge pipelines, and reservoir systems) constructed with the expansion of the District's service area (i.e., increased water demand). Kern County Land and Water Company, who subsequently lengthened its current 30-mile length, originally constructed the Calloway Canal between 1875 and 1877 by O.P. Calloway. Over time, the canal's prism (i.e., trapezoidal shape), head gates, weirs, and other features have been replaced, repaired, or improved to allow for greater capacity and flow delivery to water users (Districts). As of late, modifications have been made to accommodate commercial, housing, and road development as the City of Bakersfield has slowly been expanding to the north. It is worth noting that the proposed Project will not result in any modifications or effects to individual irrigation system features (e.g., headgates, canals, or flumes).

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

There will be no modifications to the existing irrigation distribution system.

Are any buildings, structures, or features in the irrigation district listed or eligible for listing on the National Register of Historic Places? A cultural resources specialist at your local Reclamation office of State Historic Preservation Office can assist in answering this question.

No. North Kern will contract with a private cultural resources management consultant and arrange for Reclamation staff to coordinate to determine what, if any previous cultural resources surveys have been conducted in the Project area. The District currently does not expect to encounter any obstacles in receiving clearance.

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

No. Since the Project area has been disturbed previously for the construction of farm roads and fields, it is expected that there will be no obstacles to receipt of clearance with respect to archeological sites. In addition, the District is prepared to implement any necessary mitigation measures should cultural resources be identified.

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

No. Construction of the Project will support the important agricultural-based economy in the Southern San Joaquin Valley and should have only positive impacts on low income or minority populations in the region.

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

No. There are no tribal lands or sacred sites located within, or near, the project site.

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 project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native invasive species.

4. Required Permits and Approvals

As summarized in Section 1.5.5, the following permits and approvals will be required for the implementation of the proposed Project.

The well is located exclusively within maintained rights-of-way owned and operated by NKWSD. In addition to and accordance with the permitting and approval concerns stated in Task 5 of the Project Work (Section 1.3.2), the following paragraphs detail specific points of the District's commitment to obtaining all relevant permits and approvals.

a) "The Contractor is an independent contractor and shall, at his sole cost and expense, comply with all laws, rules, ordinances and regulations of all governing bodies having jurisdiction over the work, obtain all necessary permits and licenses therefore…" This would include, but is not limited to, any required NPDES permitting and the preparation of a Stormwater Pollution Prevention Plan.

b) A pre-activity survey will be ordered and conducted by a qualified biologist shortly before the start of construction; this would include, but is not limited to, protocol-level surveys for the San Joaquin Kit Fox and the Western Burrowing Owl (or other local endangered species).

c) Note that the District is not subject to the County's or City's jurisdiction regarding building and grading permits relative to water resource projects. Accordingly, no city or County-issued permits will be required.

5. Existing Drought Contingency Plan

As previously discussed in Section 1.5.3, North Kern has developed a Drought Contingency plan (DCP) in partnership with other members of the Poso Creek IRWM Group as well as USBR. The draft DCP has been submitted and is currently under review by USBR (see Appendix C).

6. Official Resolution

A draft Official Resolution is included as follows. The Official Resolution will be adopted at the District's October Board meeting and will be submitted to Reclamation following adoption.

BEFORE THE BOARD OF DIRECTORS
OF THE NORTH KERN WATER STORAGE DISTRICT

ON BEHALF OF ITSELF AND ROSEDALE RANCH IMPROVEMENT DISTRICT

IN THE MATTER OF: RESOLUTION NO._____

RESOLUTION OF INTENTION OF NORTH KERN WATER STORAGE DISTRICT TO FILE AN APPLICATION WITH THE BUREAU OF RECLAMATION FOR A GRANT UNDER THE *WATERSMART DROUGHT RESPONSE PROGRAM: DROUGHT RESILIENCY PROJECTS FOR FISCAL YEARS 2022*

WHEREAS, North Kern Water Storage District partnered with several neighboring water districts and formulated the Poso Creek Integrated Regional Water Management Plan (Plan), adopted in July 2007, and updated in 2014 and 2019 by each of the districts for their collective area; and

WHEREAS, District staff, in conjunction with surrounding water districts, communities, and stakeholders, has formulated a plan of improvements; and

WHEREAS, the Plan identified regional projects that, once implemented, would improve the water management of the Region and the ability for North Kern to regulate water supplies available to the district; and

WHEREAS, the Plan promotes a regional recharge, reduction of overdraft, and operation changes in responding to reductions in water supply reliability to the region; and

WHEREAS, District staff has formulated a project improvement, referred to as *NKWSD 2022 Return Capacity Improvements for Regional Drought Resiliency*, which has the support of surrounding water districts and communities; and would be funded by a combination of North Kern Water Storage District funds, in-kind services, and grant funds; and

WHERAS, recovery and return capacity will be improved by drilling and equipping one well; and

WHEREAS, the United States Bureau of Reclamation is currently soliciting proposals for grant funding assistance under their *WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Years 2022* (NOFO NO. R22AS00020); and

WHEREAS, District staff has formulated a grant proposal to construct the *2022 Return Capacity Improvements for Regional Drought Resiliency Project.*

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the North Kern Water Storage District as follows:

a. The District's Board of Directors has reviewed and supports the submission of a grant application to Reclamation entitled *NKWSD 2022 Return Capacity Improvements for Regional Drought Resiliency Project*

b. The District's Manager, Richard Diamond, is hereby authorized and directed to submit the grant application and is authorized to enter into an agreement with Reclamation on behalf of North Kern Water Storage District for grant funding under Reclamation's *WaterSMART Drought Response Program: Drought Resiliency Projects Grant.*

c. The Applicant is capable of providing the amount of funding and in-kind contributions specified in the application; and

d. The Applicant will work with Reclamation to meet established deadlines for entering into a cooperative agreement

PASSED, APPROVED AND ADOPTED on this _____ day of _____, 20 ___ by the following roll-call vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

NORTH KERN WATER STORAGE DISTRICT

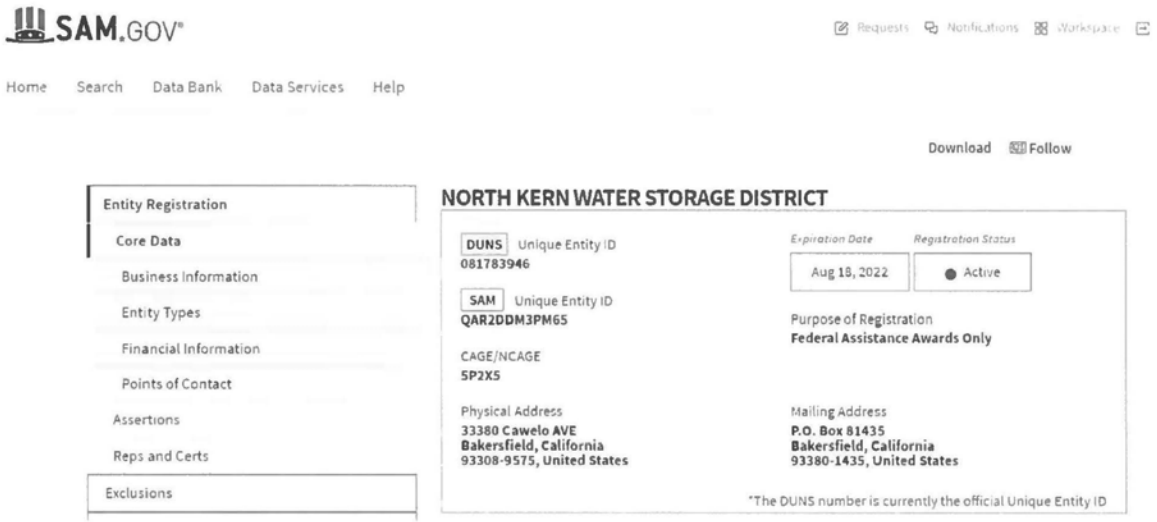
_____
President/Board of Directors

ATTEST:

_____
Board of Directors

7. Unique Entity Identifier and System of Award Management

North Kern is registered in the System for Award Management (SAM) and will maintain active registration while a Federal award is active or an application is under consideration. Further, North Kern is registered with the Automated Standard Application for Payments (ASAP).



Appendix A – Letter of Support