JANUARY 2016

BUENA VISTA WATER STORAGE DISTRICT

Northern Area Pipeline Southeast Extension Project

2016 WaterSMART: Water and Energy Efficiency Grant Application

Funding Opportunity Announcement No. R16-FOA-DO-004

Northern Area Pipeline
Southeast Extension Project
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Applicant

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Buttonwillow, CA 93206

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5.1 Executive Summary

Applicant Information:

January 19, 2016

Buena Vista Water Storage District
525 North Main Street
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Maurice Etchechury – Engineer-Manager
Tim Ashlock – Engineer, POC

The Northern Area Pipeline Southeast Extension Project (Project) is designed to improve overall water use efficiency within the Buena Vista Water Storage District (BVWSD, District) in three ways: 1) eliminate seepage from unlined canals, 2) allow year-round delivery of surface water in a pipeline distribution system, and 3) allow for conveyance of high quality water from the Kern River for distribution throughout area served by the Northern Area Pipeline. The water conserved by eliminating seepage would enable delivery of all of the surface water entering the conveyance system, thereby minimizing the need to augment surface water supplies by pumping groundwater.

Water conserved by the Project will serve: 1) district water users for agricultural use and wildlife enhancement, 2) the Kern Wildlife Refuge for wetlands benefits, 3) the Tule Elk State Natural Reserve for wetlands and groundwater recharge benefits, and 4) groundwater recharge to the benefit of users both within and outside the District. By conserving water, the Project will reduce the need to pump groundwater for agricultural and environmental purposes and will support water marketing by increasing the availability of groundwater for in-county and out-of-county markets.

This Project meets the objectives of Section I.B of Funding Opportunity Announcement No. R16-FOA-DO-004 by leveraging BVWSD resources through cost sharing with Reclamation to develop a project that saves water, improves water management, creates new supplies for agricultural irrigation and wildlife enhancement, reduces groundwater pumping, thereby improving energy efficiency, and benefits endangered species.

Average annual water supply delivered to District	158,000	AF/yr
Estimated water saved after Project is completed	6,100	AF /yr
Extent to which this project will enable on-farm water use efficiency and conservation improvements	3,340	AF/yr

It is expected that this Project will proceed immediately upon notification of grant funding and would be completed by February, 2018. The Project is not located on a Federal Facility.

Table 1. Funding Chart

Funding Source	Funding Amount
Non-Federal Entities:	
Buena Vista Water Storage District	**$5,413,000**
Other Federal Entities	**$0**
Requested Reclamation Funding	**$1,000,000**
Total Project Funding	**$6,413,000**

5.2 Background

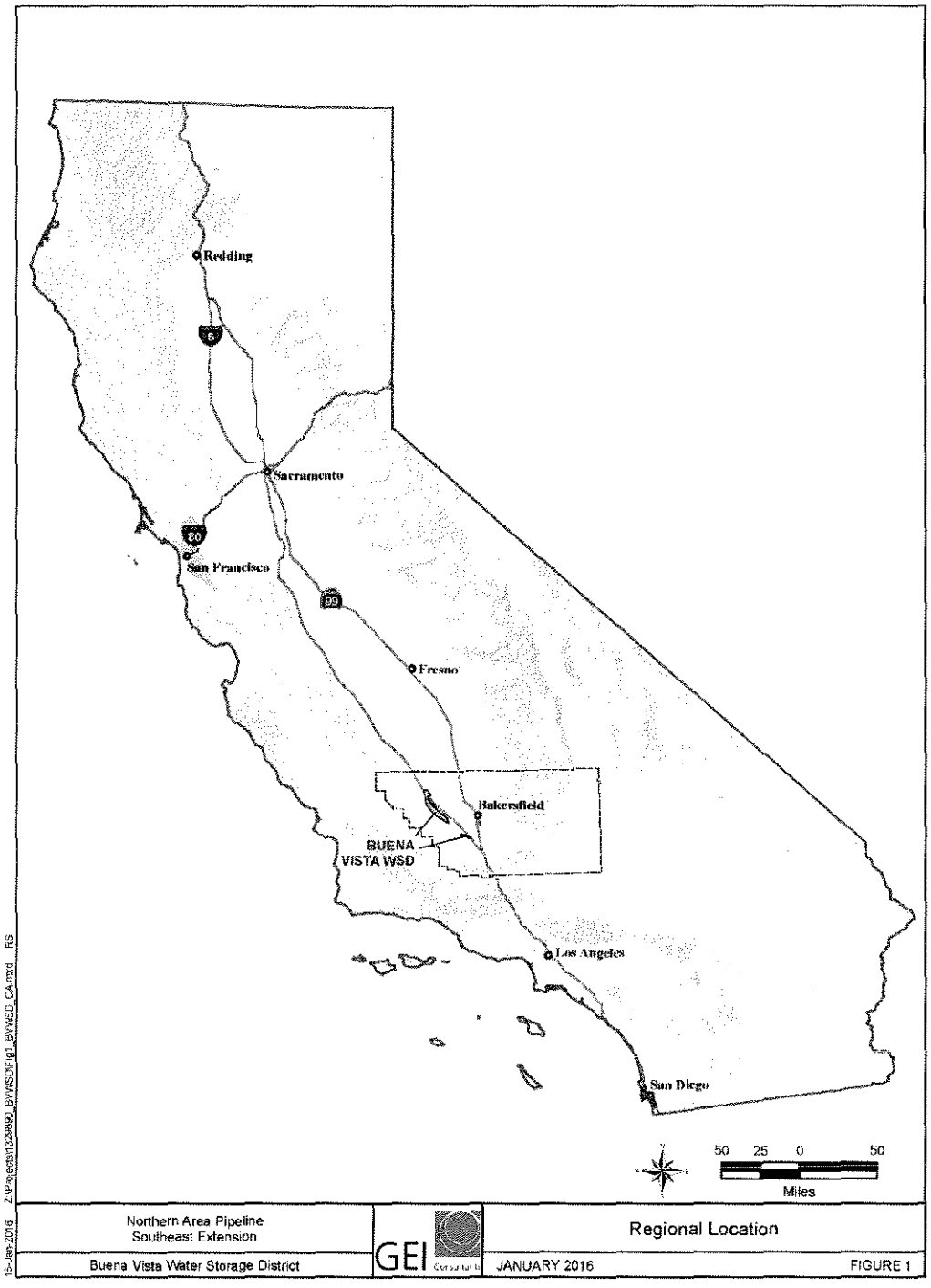
Buena Vista Water Storage District is located in the southern San Joaquin Valley, approximately 16 miles west of the City of Bakersfield and encompassing the town of Buttonwillow. The District has a gross area of approximately 49,000 acres (Figures 1 and 2) and lies within a portion of the lower Kern River Watershed characterized by heavy clay soils from former swamp and overflow lands.

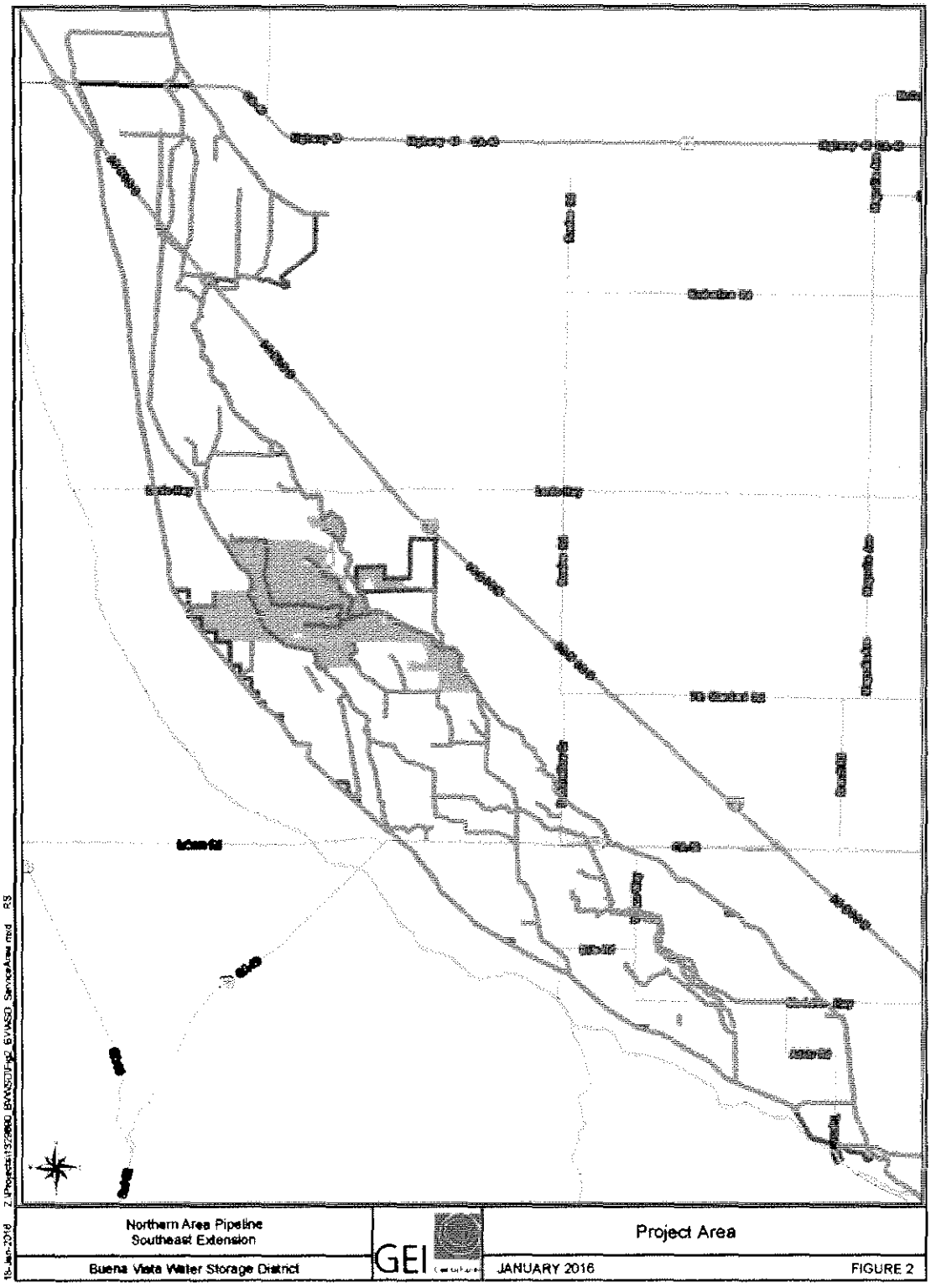
The service area is physically divided into two distinct locations. The principal area, known as the Buttonwillow Service Area, is situated north of Buena Vista Lake. The smaller area, lying east of Buena Vista Lake, is known as the Maples Service Area.

BVWSD was organized in July 1924 to manage the irrigation and tailwater recovery systems and water rights originally held by Henry Miller and Charles Lux of the Miller and Lux Land Company. The District controls an average entitlement of about 139,000 AF/year of surface water from the Kern River.

In 1973, BVWSD contracted with the California Department of Water Resources (DWR) via the Kern County Water Agency (KCWA) for an additional surface water supply from the State Water Project (SWP). The contract provided for an annual entitlement of 21,300 AF and a surplus entitlement of 3,750 AF. BVWSD currently has access to five turnouts from the California Aqueduct providing its system with about 850 cubic feet per second (cfs) of gravity inflow

capacity directly into BVWSD's distribution system. BVWSD's location with respect to the California Aqueduct and other KCWA member units provides the opportunity for exchanges of BVWSD's Kern River water for east side member units' SWP water. BVWSD has also been a historic user of surplus Friant-Kern Canal flows to serve irrigation demands and groundwater recharge programs.




Northern Area Pipeline
Southeast Extension
Buena Vista Water Storage District
GEI
Project Area
JANUARY 2016
FIGURE 2

Approximately 40,000 acres of the District are annually farmed with the primary crops being cotton, pistachios, alfalfa and grains. Cotton has historically been the dominate crop, but recent cropping trends mark a steady shift to permanent crops such as pistachios, pomegranates and dried-on-the-vine raisins with tree and vine crops occupying 48% of the District's irrigated area according to BVWSD's 2015 crop survey.

Typical irrigation efficiencies for BVWSD water-users run from 60 to 80% as reported by the Mobile Irrigation Lab operated by the Northwest Kern RCD. Almost 100% of the water used within the District is dedicated to agriculture with an average annual delivery of 80,000 AF/year. Even though BVWSD is fortunate to possess Kern River water rights and a contract for SWP water, the average supply meets only two-thirds of the crop demands due to current delivery methods using unlined canals that recharge the underlying aquifer. The remaining water demands are met by pumping groundwater from privately-owned wells.

BVWSD operates a surface water delivery system with more than 125 miles of earthen canals with average annual evaporation and seepage losses of about 37,000 AF (2015 Agricultural Water Management Plan, BVWSD). Of the BVWSD's canals, only portions of the Alejandro, East Side and BV2 canals are concrete lined for a total of just over 5 miles. The system also includes a district-wide central drainage system which collects operational spills, tailwater, and storm water runoff from lands within the District. The average annual flow in the Main Drain Canal is about 18,000 AF. Growing regulatory costs are driving the District towards considering alternatives to a central drainage system by making operational improvements, encouraging water users to manage all water on-farm and reducing and ultimately phasing out the drainage system. Progress has been made on this front by establishing water tolls so that a portion of the price users pay for water is based on the volume of water delivered. This pricing mechanism, introduced in 2013, encourages water users to control their water costs by reducing deliveries, and thereby, reducing tailwater.

Due to its Kern River water rights and proximity to the California Aqueduct, BVWSD has valuable surface water resources. Unfortunately these resources are susceptible to climatic, structural and environmental impacts beyond BVWSD's control. Drought conditions have drastically reduced the volume of Kern River water apportioned to BVWSD and directly impacted water management practices. In addition, concerns over the seismic stability of Lake Isabella Dam, located approximately 70 miles upstream on the Kern River, have caused the U.S. Army Corps of Engineers to reduce the lake's storage capacity by one-third, a reduction that impacts BVWSD's water storage capability. Lastly, the District's allocation of SWP water through the KCWA has been reduced by court rulings that have limited the volume of water exported from the Sacramento-San Joaquin Delta with these reductions having been compounded by the effects of the drought.

The BVWSD is continuously evaluating programs to increase water supply reliability to its users and enjoys partnerships with many different entities to help improve water management to meet

future water needs. The District has worked with Reclamation and the U.S. Fish and Wildlife Service to provide water to the Kern National Wildlife Refuge (KNWR) to the north of the District and to obtain water from the Central Valley Project (CVP). Below is a list of the various contracts involving BVWSD and Reclamation.

KNWR Purchase and Conveyance Agreements
- Year 1974
- Year 1981
- Year 1983
- Year 1994, No. 4-FC-20-11980 w/subsequent annual modifications
- Year 1999, No. 99-FC-20-0019 w/subsequent annual modifications
- Year 2004, No. 03-FC-20-3035

KNWR Construction Agreement
- Year 2004, No. 03-FC-20-3036

CVP Short-Term/Temporary Water Service Contracts (non-CVP Contractor)
- Year 1963, No. 14-06-200-886A
- Year 1968, No. 14-06-200-4128A
- Year 1974, No. 14-06-200-7665A
- Year 1986, No. 6-07-20-W0476
- Year 1993, No. 3-07-20-W1061
- Year 2002, No. 02-WC-20-2165
- Year 2003, No. 03-WC-30-2651
- Year 2005, No. 05-WC-20-3212
- Year 2006, No. 06-WC-20-3465

BVWSD also has a partnership with the California Department of Parks and Recreation to assist the Tule Elk State Natural Reserve to develop management programs to benefit wetlands, endangered species, and groundwater storage activities. The District has just completed installation of facilities which allow district water to be used on a greater portion of the Reserve, benefitting both the Reserve and the District.

5.3 Technical Project Description

The Northern Area Pipeline Southeast Extension Project (Project) is designed to improve overall District water-use efficiency in three ways: 1) reducing canal seepage by converting 4,348 acres of irrigated farmland from being served by unlined canals to being served by pipelines, 2) developing a year-round irrigation system, which would reduce groundwater pumping, and 3) enabling high quality water from the Kern River to be distributed throughout the Northern Area Pipeline service area to supplement water from the SWP that will be the sole source of surface water available for delivery through the pipeline prior to completion of the Southeast Extension.

Surface water conserved by the Project will be available to: 1) district water users for agricultural use and wildlife enhancement, thus reducing the need for groundwater pumping, 2) the Kern National Wildlife Refuge to support wetlands, 3) the Tule Elk State Natural Reserve to support wetlands and groundwater recharge, and 4) dedicated groundwater recharge facilities. Groundwater recharged and water conserved by the Project will serve groundwater users within the region and will increase the volume of water available for in-county and out-of-county markets.

This Project will leverage funding committed by BVWSD with federal funds made available if the grant application is successful to meet *each* of the objectives of Section I.B and *each* of the Tasks of Section III B. of Funding Opportunity Announcement No. R16-FOA-DO-004, specifically:

- Conserve and use water more efficiently,
- Increase the use of renewable energy and improve energy efficiency,
- Benefit endangered and threatened species,
- Facilitate water markets, and
- Carry out other activities to address climate-related impacts on water or prevent any water-related crisis or conflict.

Project Approach
Several tasks, listed below, are defined to accomplish the Project Work and are organized to track Budget and Schedule items presented in this application. If selected to receive a grant award, the NEPA and CEQA processes would commence immediately. A Grant Agreement is expected to be signed no later than September 30, 2016, bidding is scheduled to take place in April 2017 and completion of construction is planned by the end of February 2018. All project milestones assume completion of NEPA compliance prior to award of any construction contract. See Appendix C for the proposed Project Schedule.

Task 1: Administration. Activities include coordination of all Project activities, including budget, schedule, communication, and grant and cost-share administration (preparation of invoices and maintenance of financial records).
Deliverables: Preparation of invoices and other deliverables as required.

Task 2: Reporting. This task involves reporting on the financial status and project progress on a semi-annual basis. Significant development reports and a final project report will be prepared. In addition, the project will comply with any other reporting requirements specified in the Grant Agreement.
Deliverables: Submission of semi-annual and final reports as specified in the Grant Agreement.

Task 3: Design. Preliminary design of the Project has been completed, including Project sizing and preliminary cost estimates. Much of the preliminary design and cost estimating is based on final design and pricing information from Phase 1 of the Northern Area Pipeline, which is now under construction. Remaining work includes completion of design plans and specifications.
Deliverables: Design documents will be prepared and approved at the final level.

Task 4: Environmental Documentation. BVWSD will work closely with Reclamation environmental staff to support Reclamation in determining the level of NEPA documentation required for this Project. Under this task, support will be provided to Reclamation, as needed, regarding the preparation of the necessary NEPA compliance documents for and mitigation throughout the proposed Project. In addition to meeting NEPA requirements, the District would act to comply with CEQA in parallel with NEPA.
Deliverables: Confirm NEPA compliance requirements with Reclamation's environmental staff, assist in preparation of NEPA documentation and provide the results of the pre-activity biological survey at the time of construction. Compliance with CEQA would be performed in parallel with NEPA.

Task 5: Permits/Approval. This involves the permitting of all Project works activities. The Project is located exclusively within maintained canal rights-of-way or other rights-of-way owned by BVWSD. Any remaining easements will be covered under this task.

a. Bids for construction will be solicited through a competitive bidding process on the basis of final plans and specifications. The standard specifications include language relating to obtaining permits and approvals prior to construction. In particular, the standard language in the specifications states "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 such things as 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 protocol-level surveys for the San Joaquin kit fox and the Western burrowing owl.

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

Deliverables: Complete necessary permitting and approval activities prior to construction activity.

Task 6: Construction. This task entails the furnishing and installing of all Project works. A contract for the majority of this task will be awarded to the successful bidder with the remaining construction being conducted by the District. The division of the construction effort between contracted work and District activity is shown in Appendix A. All other construction activities will be performed by the District.
Deliverables: Reference Task 7: Construction Management

Task 7: Construction Management. This task involves everything from the advertisement for bids to filing a Notice of Completion for the Project works and preparation of "As-Built" drawings. The activities can generally be categorized as field inspection and contract administration, where the latter includes many 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.
Deliverables: (1) Abstract of bids received; (2) successful bid proposal; (3) construction progress pay estimates; (4) start-up and testing verification; (5) Notice of Completion; and (6) "As-Built" drawings.

The proposed Project will be implemented under the direction of BVWSD. Maurice Etchechury, the District's General Manager, will have responsibility for overall Project management, while Tim Ashlock, BVWSD's Engineer, will serve as the Point of Contact for Reclamation and others involved in the Project, provide technical Project Management on behalf of the District and will work closely with the designated engineer and construction manager.

The Project is being designed to meet the following criteria:

1) **Match Current Service Access** - Currently all landowners served by BVWSD have equal access to water. Any new system must insure similar availability of water. Water will be supplied at the location of existing turnouts, or a mutually agreed upon new locations. However, all deliveries will be made through metered outlets rather than through gated turnouts. Landowners who have plans to convert their land to permanent crops may request service to both current and future points of delivery. Each point of delivery will require authorization from district management and the landowner.

2) **Meet Current and Future Needs** - Buena Vista is a changing district. In 2008 there were approximately 3,500 acres of permanent crops. By the spring of 2015, based on lands either already in permanent crops or under current development for permanent crops, it is estimated district facilities will serve 17,000 acres of permanent crops. An implication of this shift is that even in instances where a landowner insists their land will never be converted to permanent crops, the District should be capable of meeting

a delivery schedule adequate to serve these crops. Permanent crops tend to have longer irrigation seasons and higher seasonal consumptive use requirements than annual crops but require fewer points of service. Although the conversion from serving annual crops to permanent crops should not affect system-wide peak demand, it may raise peak demands on certain branches and laterals.

3) **Meet Current and Past Demands at Wetlands** - BVWSD has a significant portion of the lands (4,950 acres) in the Northern Area Pipeline service area encumbered with exclusive easements. These easements are owned by nature conservancies, both public and private. However, each wetland still maintains its full water rights and could choose to have delivery of their full right. Usually these deliveries are not requested in peak demand times, however water must be available to meet this eventuality.

4) **On-Farm Irrigation Improvements** - The BVWSD water conveyance and distribution system has been essentially unchanged for over 130 years. Although on-farm irrigation practices centered for many years on flood irrigation through gated turnouts, on-farm irrigation practices are now changing rapidly as growers convert to drip and micro-sprinkler systems to better control applications to permanent crops. Buena Vista is now in the process of converting all gated turnouts to meters to better serve irrigation customers, to comply with current standards for measurement accuracy at turnouts and for implementation of volumetric pricing.

   The Northern Area Pipeline - Southeast Extension will help facilitate implementation of on-farm improvements by installing highly accurate magnetic flowmeters at all turnouts to enable precise measurement and control of delivered water. In addition to facilitating volumetric pricing, improved control of deliveries will enable growers to schedule deliveries to match crop water demands reducing the need to apply excess water to compensate for lack of control of irrigation applications.

5.4 Evaluation Criteria

5.4.1 Evaluation Criterion A: Water Conservation

Subcriterion No. A.1: Quantifiable Water Savings

- *What is the applicant's average annual acre-feet of water supply?*
- *Where is the water that will be conserved currently going (e.g., back to the stream, spilled at the end of the ditch, seeping into the ground, etc.)?*
- *Where will the conserved water go?*

The District currently receives an annual amount of 158,000 acre-feet (AF). The proposed Project will conserve water that is currently being lost to seepage and as tailwater from excess water deliveries. The water conserved by eliminating seepage will enable delivery of all of the surface water entering the conveyance system, thereby minimizing the need to augment surface water supplies by pumping groundwater. The Project is estimated to conserve 6,100 AF/yr through seepage reduction and 3,340 AF/yr by improved measurement and control, for a **total annual savings of 9,440 AF.**

Water Conserved by Seepage Reduction:

(a) How has the estimated average annual water savings that will result from the project been determined? Please provide all relevant calculations, assumptions, and supporting data.

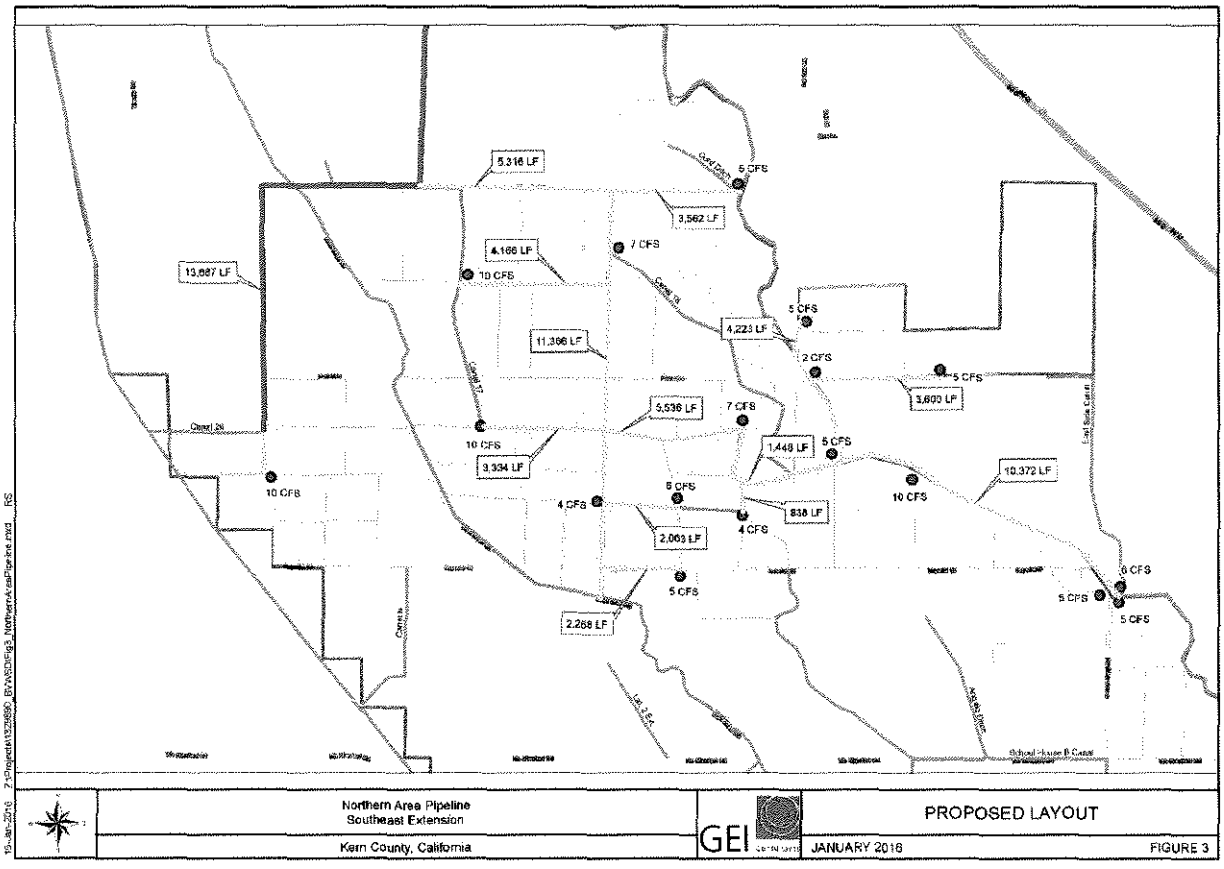
(b) How have average annual canal seepage losses been determined? Have ponding and/or inflow/outflow tests been conducted to determine seepage rates under varying conditions? If so, please provide detailed descriptions of testing methods and all results. If not, please provide an explanation of the method(s) used to calculate seepage losses. All estimates should be supported with multiple sets of data/measurements from representative sections of canals.

(c) What are the expected post-project seepage/leakage losses and how were these estimates determined (e.g., can data specific to the type of material being used in the project be provided)?

(d) What are the anticipated annual transit loss reductions in terms of acre-feet per mile for the overall project and for each section of canal included in the project?

(e) How will actual canal loss seepage reductions be verified?

(f) Include a detailed description of the materials being used.



The proposed Project will conserve water by converting unlined canals and ditches to a pipeline system. As shown on Figure 3 above, the Northern Area Pipeline – Southeast Extension will distribute surface water from two sources, the California Aqueduct and the Kern River. SWP water will enter the system at a turnout from the 120-inch diameter Semitropic Pipeline and from the SWP Turnout BV1-B, while Kern River water will be pumped from the East Side Canal. The Project includes 16,240 linear feet (LF) of 42-inch diameter pipe as well as 30-inch, 24-inch, and 15-inch pipe installed as laterals. Appendix A is a cost estimate that presents details of the lengths of pipe and fittings included in the design.

Appendix B presents estimated canal seepage losses throughout BVWSD including both the Buttonwillow and the Maples service areas and shows a District-wide average annual seepage volume of 37,000 AF. Canals and ditches being converted under Phase 1 of the Northern Area Pipeline, now under construction, are grouped by the letter "D" and have an estimated seepage volume of 4,437 AF/year. Canals and ditches to be converted to pipelines under the Northern Area Pipeline – Southeast Extension fall within the conveyances grouped by the letter "C" and entail the following facilities including one-half the length of the East Side and West Side canals.

Canal	Length (mi)	Width (ft)	Loss (cfs)
East Side	8.3	53	9.4
West Side	4.3	53	7.8
Schoolhouse B	2.6	37	2.8
Angelo	0.8	22	1.2
School House Cutoff	0.9	22	1.3
East Side Cutoff	1.2	22	1.5
Canal 17	5.3	37	10.6
Canal 18	2.0	37	4.0
Cord Ditch	0.4	22	0.5
Canal N	1.5	22	2.0
Total	**27.3**		**41.1**

The seepage rate for the canals to be pipelined, 41.1 cfs, is 59% of the total seepage rate of 69.8 cfs computed for the Group "C" canals in Appendix B. The total annual volume of seepage was computed by multiplying the total annual seepage for Group "C" canals, 10,365 AF, by 59% yielding a pre-project seepage volume of 6,103 AF for the canals to be converted to pipelines under the Southeast Extension Project.

Conversion of unlined canals and ditches to PVC and HDPE pipelines is expected to eliminate all seepage from the converted conveyances. Therefore, post-project seepage/leakage losses are anticipated to be negligible for both Phase 1 and for the Southeast Extension. As a result, the quantity of conveyance system seepage conserved by completion of the Southeast Extension is estimated to be **6,100 AF/yr.**

Materials used for construction of the Northern Area Pipeline – Southeast Extension will be the same as those now being used to construct Phase 1. These materials, detailed in Appendix A, are PVC and HDPE pipe of diameters ranging from 15 inches to 42 inches as well as fittings and appurtenances such as tees and meter vaults.

Water Conserved by Improved Measurement and Control:

(a) How have average annual water savings estimates been determined? Please provide all relevant calculations, assumptions, and supporting data.

(b) Have current operational losses been determined?

(c) Are flows currently measured at proposed sites and if so what is the accuracy of existing devices? How has the existing measurement accuracy been established?

(d) Provide detailed descriptions of all proposed flow measurement devices, including accuracy and the basis for the accuracy.

(e) Will annual farm delivery volumes be reduced by more efficient and timely deliveries? If so, how has this reduction been estimated?

(f) How will actual water savings be verified upon completion of the project?

In addition to conservation benefits of 6,100 AF/yr resulting from reduced canal seepage, the Northern Area Pipeline – Southeast Extension will conserve water by reducing tailwater resulting from excessive water deliveries. The reduction in tailwater anticipated from the Project will result largely from improved measurement of flows as open canals with gated turnouts are converted to a piped distribution system with magnetic flow meters at turnouts. These improvements will provide better measurement and control of delivered water enabling growers to more closely match deliveries with demands regardless of whether the field is irrigated using drip, micro-sprinkler or surface irrigation techniques. Given the low application rates typical of micro-sprinkler and drip systems and the high frequency of application, converting the District's distribution facilities to pipelines will also enable the BVWSD to meet the scheduling requirements of modern on-farm systems.

Improved measurement and control of deliveries to agricultural users are expected to increase on-farm irrigation efficiency from the existing average of 70% to a with-project average of 85% and to eliminate tailwater from fields served by the Southeast Extension. This is expected to reduce the volume of water delivered to fields by 3,340AF/yr within the 4,384 acre area served by the Southeast Extension.

The annual volume of water conserved by an increase in irrigation efficiency resulting from improved measurement and control was computed based on the reduced requirement for delivered water that would result from a 15% increase in on-farm application efficiency. Data from the District's 2015 Agricultural Water Management Plan (BVWSD, 2016), shows an average demand to meet crop water requirements of 3.0 AF/ac, which over the 4,384 acre service area of the Northern Area Project-Southeast Extension equates to an annual volume of 13,420 AF. At an average application efficiency of 70%, a delivery of 18,900 AF would be needed to meet crop water demands and to adjust for losses due to inefficiencies in application. Implementation of measures to increase the average application efficiency to 85% would decrease the demand for delivered water to 15,560 AF, a reduction in total demand at field turnouts of 3,340 AF.

As well as benefiting agricultural users, the improved measurement and control afforded by a piped distribution system will benefit environmental management by enabling delivery of low flows to habitat areas, an improvement over the current practice of delivering large slugs of water to minimize the proportion of delivered water that would seep from the canal prism if low flows were conveyed for long distances through unlined canals. Water conserved by improved control of deliveries to environmental users is not quantified in this application.

Subcriterion No. A.2: Percentage of Total Supply

BVWSD's average annual water supply is about 158,000 AF. This number includes releases of Kern River water from Isabella Reservoir, pumped groundwater and SWP deliveries. The estimated amount of conserved water consists of the two components described above: 1) 6,100 AF/yr of reduced seepage, and 2) 3,340 AF/yr of water conserved due to improved measurement and control. These components result in an annual total volume of conserved water of 9,440 AF. Therefore, the percentage of BVWSD's annual water supply that would be conserved by implementation of the Project is:

$$\frac{9,440 \text{ AF}}{158,000 \text{ AF}} = 6.0\%$$

5.4.2 Evaluation Criterion B: Energy-Water Nexus

Subcriterion No. B.2: Increasing Energy Efficiency in Water Management

Describe any energy efficiencies that are expected to result from implementation of the water conservation or water management project (e.g., reduced pumping).

- *Please provide sufficient detail supporting the calculation of any energy savings expected to result from water conservation improvements. If quantifiable energy savings are expected to result from water conservation improvements, please provide sufficient details and supporting calculations. If quantifying energy savings, please state the estimated amount in kilowatt hours per year.*
- *Please describe the current pumping requirements and the types of pumps currently being used. How would the proposed project impact the current pumping requirements?*
- *Please indicate whether your energy savings estimate originates from the point of diversion, or whether the estimate is based upon an alternate site of origin.*
- *Does the calculation include the energy required to treat the water?*
- *Will the project result in reduced vehicle miles driven, in turn reducing carbon emissions? Please provide supporting details and calculations. Describe any renewable energy components that will result in minimal energy savings/production.*

As experienced during the last years of drought, the alternative to conserving surface water by reducing canal seepage is pumping water from local aquifers. By reducing the need to pump groundwater to compensate for seepage, the Project will yield substantial energy savings. Based on local pumping costs, by reducing distribution system seepage by 6,100 AF/yr, the District expects to lower power consumption by approximately 1,744,900 kWh/yr which is equivalent to a savings of $193,000/yr. This also translates to an annual greenhouse gas emissions saving of approximately 1,203 metric tons of CO_2 (eGRID, U.S. annual non-baseload CO_2 output emission rate, year 2010 data). In addition to reducing groundwater pumping, water delivered from the pipeline will have enough residual pressure to eliminate the need for on-farm booster pumps now required on fields receiving canal water for application through drip or micro-sprinkler systems.

Energy savings resulting from this Project are due to a reduction in energy consumed within the project area and not from installation of renewable energy components. No water treatment is required under either the pre-project or post-project condition. Although conversion from an open ditch conveyance system to a pipeline is expected to reduce the number of vehicle miles driven to operate and maintain the system, no estimate is presented for the reduction in mileage or the resulting reduction in carbon emissions.

5.4.3 Evaluation Criterion C: Benefits to Endangered Species

For projects that will directly benefit federally-recognized candidate species, please include the following elements:

- *What is the relationship of the species to water supply?*
- *What is the extent to which the proposed project would reduce the likelihood of listing or would otherwise improve the status of the species?*

For projects that will directly accelerate the recovery of threatened or endangered species or address designated critical habitats, please include the following elements:

(1) How is the species adversely affected by a Reclamation project?
(2) Is the species subject to a recovery plan or conservation plan under the ESA?
(3) What is the extent to which the proposed project would reduce the likelihood of listing or would otherwise improve the status of the species?

Although all project activities will be conducted on lands that are routinely disturbed by irrigation and farming operations, BVWSD is located in a region known to have habitat that can support endangered and threaten species. To the west of the Buttonwillow Service Area and outside of the district boundaries lies the Kern River Flood Channel along with thousands of acres of land that are not farmed or otherwise developed. These areas are potential habitat for many different plant and animal species.

Along with benefits to agricultural water users, there will be significant benefits to threatened and endangered species because of project features designed to improve control of water deliveries to the more than 16,000 acres of wildlife areas served with District water. Delivery of water through pipelines to the Northern Area will enable low flows to be conveyed to the northern boundary of the District to serve lands of the Kern National Wildlife Refuge, the NRCS Wetland Reserve Program, the California Retriever Training Association, and multiple duck clubs that lie beyond the District's boundaries. The ability to deliver water to these areas without incurring conveyance losses will mean that more of the water intended to be delivered will reach its destinations and deliveries will be better suited in both timing and volume to meet habitant requirements.

Potential impacts to Endangered or Threatened species will be evaluated according to CEQA and NEPA guidelines, and biological and cultural surveys will be conducted by qualified personnel as required for CEQA and NEPA compliance.

Currently CalTrans is planning on performing biological trapping along the Kern River Flood Channel for a road expansion project. CalTrans staff have indicated they will provide a copy of their field work to BVWSD for reference.

5.4.4 Evaluation Criterion D: Water Marketing

Briefly describe any water marketing elements included in the proposed project. Include the following elements:

- *Estimated amount of water to be marketed*
- *A detailed description of the mechanism through which water will be marketed (e.g., individual sale, contribution to an existing market, the creation of a new water market, or construction of a recharge facility)*
- *Number of users, types of water use, etc. in the water market*
- *A description of any legal issues pertaining to water marketing (e.g., restrictions under Reclamation law or contracts, individual project authorities, or State water laws)*
- *Estimated duration of the water market.*

BVWSD is an active participant in water markets as are many other water agencies in Kern County. The District participates in water markets through mechanisms ranging from long-term banking and exchange agreements to auctions for short-term supplies. Water conserved through implementation of the Northern Area Pipeline – Southeast Extension will augment the volume of marketable water available to meet the needs of water users outside BVWSD's service area.

5.4.5 Evaluation Criterion E: Other Contributions to Water Supply Sustainability

Subcriterion E.1: Addressing Adaptation Strategies in a WaterSMART Basin Study

The District has not been involved in a WaterSMART Basin Study; therefore this project is not an element of an adaption strategy identified in such a study.

Subcriterion E.2: Expediting Future On-Farm Irrigation Improvements

If the proposed projects will help expedite future on-farm improvements please address the following:

- *Include a detailed listing of the fields and acreage that may be improved in the future.*
- *Describe in detail the on-farm improvements that can be made as a result of this project. Include discussion of any planned or ongoing efforts by farmers/ranchers that receive water from the applicant.*
- *Provide a detailed explanation of how the proposed WaterSMART Grant project would help to expedite such on-farm efficiency improvements.*

- *Fully describe the on-farm water conservation or water use efficiency benefits that would result from the enabled on-farm component of this project. Estimate the potential on-farm water savings that could result in acre-feet per year. Include support or backup documentation for any calculations or assumptions.*
- *Projects that include significant on-farm irrigation improvements should demonstrate the eligibility, commitment, and number or percentage of farmers/ranchers who plan to participate in any available NRCS funding programs. Applicants should provide letters of intent from farmers/ranchers in the affected project areas.*
- *Describe the extent to which this project complements an existing NRCS-funded project or a project that either has been submitted or will be submitted to NRCS for funding.*

Historically, BVWSD only delivers surface water between two and three months a year. The balance of the time, irrigation water is supplied from deep wells. A pipeline system will allow year-round delivery of surface water, eliminating the need for groundwater pumping during periods when the canal system is not operational. The benefits of year-round delivery of surface water are increasing as more land is being converted from seasonal to permanent crops.

Completion of the Northern Area Pipeline – Southeast Extension will support NRCS on-farm water conservation programs by providing a pipelined system for delivering water to field turnouts. This will enable growers who have already installed highly efficient drip and micro-sprinkler systems to take full advantage of their systems by having flexible, responsive deliveries that will not require the filtration now necessary with water delivered from canals. Completion of the Southeast Extension will also encourage growers who have not yet converted to high efficiency on-farm systems to take this step because the District will have the water distribution infrastructure needed to effectively operate these systems.

Regardless of the type of on-farm system served by the Southeast Extension, all deliveries will be measured using magnetic flow meters which will enable growers to accurately monitor and schedule their irrigation applications. The improved control of deliveries and accuracy of measurement possible through implementation of the Southeast Extension will also encourage growers to participate in NRCS-funded programs that support improved on-farm water management through:

- conversion to high efficiency on-farm systems,
- performance evaluations of existing systems, and
- introduction of improved irrigation scheduling and performance monitoring tools.

As described above in Section 5.4.1, improved measurement and control of deliveries to agricultural users are expected to increase on-farm irrigation efficiency from the existing average of 70% to a with-project average of 85% and to eliminate tailwater from fields served by the Southeast Extension. This is expected to reduce the volume of water delivered to fields by 3,340AF/yr within the 4,384 acre area served by the Southeast Extension.

All lands within the area served by the Southeast Extension will be eligible for participation in NRCS programs, and BVWSD has a long history of successful cooperation with NRCS staff from the both the Bakersfield and the Visalia offices.

Subcriterion E.3: Other Water Supply Sustainability Benefits

- *Will the project make water available to alleviate water supply shortages resulting from drought?*
  - *Explain in detail the existing or recent drought conditions in the project area. Describe the impacts that are occurring now or are expected to occur as a result of drought conditions.*
  - *Describe the severity and duration of drought conditions in the project area.*
  - *Describe how the water source that is the focus of this project (river, aquifer, or other source of supply) is impacted by drought.*
  - *Provide a detailed explanation of how the proposed WaterSMART Grant project will improve the reliability of water supplies during times of drought.*
- *Will the project make water available to address a specific concern? For example:*
  - *Will the project directly address a heightened competition for finite water supplies and over-allocation (e.g., population growth)?*
  - *Describe how the water source that is the focus of this project (river, aquifer, or other source of supply) is impacted by climate variation.*
  - *Will the project help to address an issue that could potentially result in an* interruption to the water supply if unresolved?
- *Will the project make additional water available for Indian tribes?*
- *Will the project make water available for rural or economically disadvantaged communities?*
- *Does the project promote and encourage collaboration among parties?*
  - *Is there widespread support for the project?*
  - *What is the significance of the collaboration/support?*
  - *Will the project help to prevent a water-related crisis or conflict?*
  - *Is there frequently tension or litigation over water in the basin?*
  - *Is the possibility of future water conservation improvements by other water users enhanced by completion of this project?*
- *Will the project increase awareness of water and/or energy conservation and efficiency efforts?*
  - *Will the project serve as an example of water and/or energy conservation and efficiency within a community?*
  - *Will the project increase the capability of future water conservation or energy efficiency efforts for use by others?*
  - *Does the project integrate water and energy components?*

Kern County is the largest agricultural contractor on the SWP, with a contract for nearly a million AF/year. Restricted flows due to court decisions, biological opinions, and drought have resulted in an average allocation of 46% since 2006, with 2014 having a zero allocation.

Likewise, the largest local supply, the Kern River, has yielded an April through July runoff of only 71% of the long-term (1898-2015) average. In reaction to the shortage of surface water, there has been an unprecedented volume of water pumped from the local groundwater subbasin as the District, and private pumpers within the District, have had to replace approximately 100,000 AF/yr of diminished surface water supply. This pumping has lowered the water table and compromised groundwater quality by steepening the gradient that draws saline water found to the west of the District into the local groundwater basin.

The Northern Area Pipeline – Southeast Extension is one of the projects being pursued by the District to protect against these impacts by conserving and better managing water within the BVWSD service area and by providing the infrastructure needed to enable highly efficient on-farm systems to operate as designed. The metered, pipeline distribution system will benefit growers who have already converted to drip and micro-sprinklers systems as well as growers planning to convert in the future or to take other steps to conserve water on-farm.

Most of the farmland served by Phase 1 of the Northern Area Pipeline overlies a perched water table. Perched water influences crop selection as it intrudes into the root zone of seasonal crops and restricts most permanent crops. Replacement of unlined canals with pipelines improves agronomic conditions in the Northern Area by reducing seepage entering the perched water table while making this conserved water available for recharge to aquifers that can be tapped when needed to meet demands.

In the case of the Southeast Extension, the highly productive farmland served directly by the facilities of this project is not underlain by perched groundwater. However, completion of the Southeast Extension will enable high quality water from the Kern River to be delivered to the area served by both the Southeast Extension and Phase 1. The ability to convey Kern River water to satisfy some of the irrigation requirements in the Phase 1 service area will reduce the leaching fraction needed in this area further limiting the deep percolation that feeds perched groundwater.

BVWSD lies in the southern part of the California's Central Valley, a chronically water short area that has been heavily impacted by California's on-going drought. Due to its longstanding conjunctive management practices, BVWSD has been less severely affected by the drought than some neighboring districts. Nevertheless, the District's long-term viability rests on continued improvement of facilities and water management practices as the climatic conditions that have fueled the current drought may forewarn of conditions to be faced as a result of climatic change.

The Northern Area Pipeline – Southeast Extension is an essential component of the District's improvement program as it fundamentally changes water management by distributing water from the SWP and the Kern River to the areas served directly by the Project and throughout the Northern Area. The Project's facilities provide the water distribution, measurement and control

infrastructure needed for optimal operation of modern on-farm irrigation application and scheduling techniques.

The Project is aimed at correcting long-standing surface water and groundwater management concerns and is not a response to an acute condition that could result in an unanticipated interruption in water supply. Because of its location, the Project is unlikely to make additional water available to Indian tribes, BVWSD lies in a rural area and encompasses the disadvantaged community of Buttonwillow. Because Buttonwillow and all other domestic water users within the District and its vicinity rely entirely on groundwater, improvements in groundwater management that will result from the Project will benefit these users.

The letter of support included in this grant application indicates the level of local interest in the Project and underscores the regional benefits that will emerge from its implementation. Therefore, although the Project is being undertaken by the BVWSD, it is endorsed by neighboring agencies who appreciate the value of constructing facilities that reduce groundwater recharge to a perched water table and direct this recharge to aquifers relied on by water users throughout the region.

Because of its chronically water-short condition, there is frequent tension and litigation over water use and water management within the Kern River Basin. Therefore, this Project is one of a suite of projects being developed within the Basin to defuse tension and reduce litigation. An important indicator of the magnitude of water management challenges and of the seriousness of local responses to these challenges is the leadership displayed by BVWSD and other local agencies in responding to California's new Sustainable Groundwater Management Act.

The Northern Area Pipeline – Southeast Extension is a direct response to the need for irrigation water purveyors to modernize their distribution systems to enable effective use of modern on-farm application and scheduling techniques. Therefore, the Project directly addresses the need identified by both Reclamation and NRCS of having irrigation conveyance and delivery systems that are well suited to the on-farm application systems they serve. For most of its history, BVWSD's canal system matched the cropping and gravity irrigation practices prevalent on district farms. The Northern Area Project displays a recognition on the part of the BVWSD that replacement of earthen canals with pipelines having metered deliveries is now necessary to support the conversion to permanent crops and high efficiency irrigation systems now underway in the District. Thus, the Project is a model for improvements in distribution systems needed in other districts.

As described previously, by reducing canal seepage, the Project enables a greater proportion of surface water entering BVWSD conveyance facilities to be delivered directly to agricultural and environmental users. These additional deliveries of surface water will reduce the requirement to pump groundwater, thereby reducing energy consumption. In addition, reducing seepage in

Northern Area lands underlain by a perched water table enables the District to direct water to areas where recharge sustains groundwater levels in aquifers that support local users. Both of these aspects of the Project demonstrate integration of water and energy components, and both are improvements that can be used as models by other water agencies.

5.4.6 Evaluation Criterion F: Implementation and Results

Subcriterion No. F.1: Project Planning

Does the project have a Water Conservation Plan, System Optimization Review (SOR), and/or district or geographic area drought contingency plans in place? Does the project relate/have a nexus to an adaptation strategy developed as part of a WaterSMART Basin Study)?

(1) Identify any district-wide, or system-wide, planning that provides support for the proposed project. This could include a Water Conservation Plan, SOR, Basin Study, drought contingency plan, or other planning efforts done to determine the priority of this project in relation to other potential projects.
(2) Describe how the project conforms to and meets the goals of any applicable planning efforts, and identify any aspect of the project that implements a feature of an existing water plan(s).

Over the years BVWSD has worked with other districts in Kern County to improve the efficiency of county-wide irrigation operations. BVWSD has water rights from the Kern River which flows out of the mountains on the east side of the San Joaquin Valley, while the District's service area sits 45 miles to the west, adjacent to the California Aqueduct. To improve the efficiency of water distribution throughout Kern County, Buena Vista exchanges its Kern River water with SWP supplies belonging to districts to the east. This exchange allows the eastern districts to avoid lifting SWP water to their service areas while enabling BVWSD to receive deliveries directly from turnouts on the California Aqueduct. In 2013 all surface water delivered to BVWSD was conveyed through the SWP, although 75% of BVWSD's total surface water allocation originated from the Kern River.

The high degree of integration of BVWSD's operations with those of other agencies in Kern County is indicative of the degree of coordination and planning within the region. The Northern Area Pipeline – Southeast Extension was developed through a reginal planning effort and is consistent with the goals and objectives of state and local planning documents including the:

- Kern Integrated Regional Water Management Plan,
- Buena Vista WSD 2015 Agricultural Water Management Plan,
- Governor's Water Action Plan,
- Buena Vista WSD Groundwater Management Plan, and
- California Water Plan.

Subcriterion No. F.2: Readiness to Proceed

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.

Please explain 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 Northern Area Pipeline has been under consideration for many years and has been refined through several iterations of conceptual design. With funding support from grants received from both Reclamation and the California Department of Water Resources, Phase 1 of the Northern Area Pipeline is now under construction. Given the status of activity on Phase 1, the District is now prepared to move toward implementation of the project's second phase, the Northern Area Pipeline – Southeast Extension. Please see Appendix C for the proposed Project Schedule.

Due to the Project's location, other than routine encroachment permits for road crossings, no significant third party approvals or permits will be required from local, state, or federal agencies in order to break ground. Temporary construction access easements will be required from landowners, and formal easements will be pursued after completion of final design.

Construction of the Northern Area Pipeline – Southeast Extension is now scheduled to begin in April 2017 and all project components will be completed by the end of February 2018.

Subcriterion No. F.3: Performance Measures

Until recently BVWSD's operations have emphasized maintaining and gradually improving the District's original infrastructure as these facilities distributed water in a way that satisfied the requirements of the District's historical, cotton-based, cropping pattern. The District's configuration has the fundamental attributes of allowing water from the California Aqueduct and the Kern River to flow into the service area by gravity and of generating a volume of canal seepage adequate to provide a robust foundation for conjunctive management that has enabled BVWSD to weather California's ongoing drought more successfully than many districts with newer facilities.

To better serve its growers, District facilities are now being improved to reduce seepage; provide accurate water measurement; recycle tailwater from some areas while eliminating it from others; and provide flexible, responsive irrigation service. The result in an evolving District that retains some original facilities while constructing new conveyance and delivery infrastructure in parts of the District that will most benefit from these improvements.

The design for the Northern Area Pipeline – Southeast Extension is based on the design and types of materials used for Phase 1 of the Northern Area Pipeline. The Project's water conservation benefits result from reduction of seepage through converting existing open canals and ditches to pipelines and from installing magnetic flow meters at farm turnouts that will enable growers to avoid overwatering by accurately measuring and regulating deliveries. Although not quantified, additional benefits will be the ability of the Southeast Extension facilities to convey high quality Kern River water to the Northern Area, a region underlain by marginal quality groundwater, and to convey surface water to habitat areas lying to the north of the District according to a schedule that responds to the requirements of these areas.

After completion of the Project, the following performance measures will be employed to help quantify actual project benefits:

Performance Measure No. A.1: Canal Lining/Piping:
A central purpose of the Project is to eliminate canal seepage in the Project area by replacing earth-lined canals with pipelines. The volume of seepage from existing facilities in the project area is shown in Appendix B. Because installation of PVC and HDPE pipelines will essentially eliminate conveyance system seepage and evaporation losses in the facilities being converted, the estimate of pre-project seepage based on analyses presented in Appendix B and described in Section 5.4.1 will be used to provide a conservative baseline for expected reductions in combined seepage and evaporation losses.

Conveyance losses under post-project conditions will be determined by comparing metered quantities of water entering the Southeast Extension facilities with metered volumes of deliveries. If the Project performs as expected, the total metered volume of water entering the pipeline system should compare closely with the total metered volume of delivered water.

Performance Measure No. A.2: Measuring Devices:
The Northern Area Pipeline-Southeast Extension is designed to serve fields irrigated by drip or micro-sprinkler irrigation. Fields irrigated using these on-farm systems typically generate little to no tailwater. Tailwater is expected to be reduced on fields served by the Project that are irrigated using surface irrigation techniques because growers will be able to turn off deliveries at any time to avoid applying excess water. The degree of tailwater reduction will be measured by comparing delivery records from pre-project and post-project conditions on fields where cropping and irrigation techniques are the same under both conditions as well as by examining pre- and post-project flows recorded in the District's Main Drain Canal. Much of the data necessary to accurately assess the degree to which changes in tailwater discharge can be attributed to implementation of the Northern Area Project – Southeast Extension will be provided by private landowners.

Performance Measure No. B.2: Increasing Energy Efficiency in Water Management:
The Northern Area Pipeline - Southeast Extension is expected to reduce groundwater pumping necessary to augment surface water deliveries by eliminating canal seepage and enabling a higher proportion of surface water available to the District to be delivered directly to water users. The reduction in groundwater pumping will be determined by comparing pre-project and post-project pumping records from a representative sample of District and privately-owned wells that have a history of being used to augment surface water supplies. This analysis will be performed over a series of years to determine how post-project pumping is influenced by hydrologic year type. Because of BVWSD's program to install meters on all wells within the District, extensive post-project data will be available to evaluate the effect of the Project on energy consumption.

Subcriterion No. F.4: Reasonableness of Costs

Please include information related to the total project cost, annual acre-feet conserved, energy capacity, or other project benefits and the expected life of the improvement(s). For all projects involving physical improvements, specify the expected life of the improvement in number of years and provide support for the expectation (e.g., manufacturer's guarantee, industry accepted life-expectancy, description of corrosion mitigation for ferrous pipe and fittings, etc.).

As noted in Section 10, the estimated total project cost for the Northern Area Pipeline - Southeast Extension is $6,413,000, and the Project is expected to have a minimum service life of 30 years. Using the formula presented in the FOA to calculate the "reasonableness of the cost for the benefits gained" this formula yields a cost of $35/AF if only the water conserved by pipelining canals is considered. The cost of this saved water compares favorably with the cost of any alternative source of water. Construction costs used as the basis for this estimate were derived from bids received for Phase 1 of the Northern Area Pipeline, a project using materials and construction techniques identical to those anticipated to be used for the Southeast Extension.

$$\frac{\$6,413,000}{6,100 \text{ AF/yr} \times 30 \text{ years}}$$

$$= \mathbf{\$35/AF}$$

5.4.7 Evaluation Criterion G: Additional Non-Federal Funding

The percentage of non-Federal funding BVWSD has available to support the Northern Area Pipeline – Southeast Extension has been computed using the following formula:

$$\frac{\textit{Non-federal Project Cost}}{\textit{Total Project Cost}}$$

$5,413,000
$6,413,000

= 84%

All costs included in this computation are for project development and implementation and exclude maintenance and operational costs. Details of project costs are included in Appendix A.

5.4.8 Evaluation Criterion H: Connection to Reclamation Project Activities

(1) How is the proposed project connected to Reclamation project activities?
(2) Does the applicant receive Reclamation project water?
(3) Is the project on Reclamation project lands or involving Reclamation facilities?
(4) Is the project in the same basin as a Reclamation project or activity?
(5) Will the proposed work contribute water to a basin where a Reclamation project is located?
(6) Will the project help Reclamation meet trust responsibilities to Tribes?

The project is located in the Tulare Lake Hydrologic Basin, a basin shared with the Friant Unit of the Central Valley Project. Although the primary sources of surface water to the District are the Kern River and the California Aqueduct, BVWSD receives flood and exchange water from Friant Unit contractors that is discharged from the Friant-Kern Canal to the Kern River for conveyance to the District. Therefore, a portion of the Kern River flows that will be captured by the Northern Area Pipeline – Southeast Extension for delivery throughout BVWSD's Northern Area will be flows originating from a Federal project.

Water conserved by all phases of the Northern Area Pipeline will reduce groundwater pumping from the basin to the benefit of all users in the region including CVP contractors.

The Project will not help Reclamation meet tribal trust responsibilities.

6. Environmental and Cultural Resources Compliance

As required by NEPA and described in the FOA, the District is committed to completing environmental compliance requirements prior to any earth moving activities. Project design and easement procurement will be performed concurrently with the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) processes. After completion of environmental and final design documents, construction will be coordinated with District irrigation operations and to satisfy any required mitigation measures.

The Northern Area Pipeline – Southeast Extension will be constructed within the service area of the BVWSD. The preliminary design has the pipeline following existing canal rights-of-way or existing field roads that are routinely maintained. All areas where the pipeline will be installed have been continuously farmed for many years. BVWSD plans to prepare an Initial Study and Mitigated Negative Declaration according to the regulations and guidelines of CEQA and proceed as required for CEQA compliance. Additionally, NEPA compliance will be required if Federal funds are awarded to support the Project with the level of NEPA documentation being determined by Reclamation environmental staff. The BVWSD has performed CEQA and NEPA analyses on projects throughout the District and recently completed an Environmental Assessment for Phase 1 of the Northern Area Pipeline.

6.1 Impacts to Surrounding Environment

The proposed project will require earth-disturbing activities. BVWSD and local contractors have extensive experience with digging and trenching activities and utilize best management practices for dust control. Air quality impacts of the Project will be evaluated according to CEQA and NEPA guidelines.

All earth disturbing activities will be performed outside of the irrigation season or during periods when canals and drains are dry so disturbed earth will not enter the irrigation supply water, drain water or streams. Potential water quality impacts of construction activity will be evaluated according to CEQA and NEPA guidelines.

6.2 Listed Species

Below are species listed as federally endangered species near the project site. A recently completed project supported by a 2011 WaterSMART grant did not encounter any of the species shown below, and BVWSD does not expect to find any of these species within the area of the Northern Area Pipeline – Southeast Extension. Therefore, this list only indicates endangered species that have been identified in the general vicinity of the BVWSD.

1. Tipton Kangaroo Rat
2. Blunt-nosed Leopard Lizard
3. San Joaquin Kit Fox

Potential impacts to Endangered or Threatened Species will be evaluated according to CEQA and NEPA requirements. As part of the environmental work, the District will retain a certified biologist to conduct a biological reconnaissance survey and prepare a report to evaluate potential impacts to biological resources within the project sites. If potential impacts are identified, the District will follow recommendations by the biologist to reduce those impacts to a less than significant level.

6.3 Wetlands

According to the U.S. Fish and Wildlife Service National Wetlands Inventory, there are no public wetlands in the BVWSD. However, there are privately-owned lands in the northern portion of the Northern Area Pipeline service area which have conservation easements. BVWSD has carried out work adjacent to these lands and has an excellent working relationship with the Visalia office of the NRCS, the contact for permitting of any work that could encroach on these areas.

6.4 Water Delivery System

BVWSD was organized in July 1924 to manage the irrigation and tailwater recovery systems and the water rights originally held by Henry Miller and Charles Lux of the Miller and Lux Land Company. The District's water delivery system was developed in the late 1800's and early 1900's under the Miller and Lux Land Company and their predecessors. The District now operates a surface water distribution system with more than 125 miles of earthen canals. Many of the District's canals and drains follow their original alignments, although a large number of facilities within BVWSD have been realigned over the last 90 years. Regardless of whether a canal follows a new or an original alignment, almost all of the check and gate structures have been recently replaced or updated to improve operational capabilities.

6.5 Modification to System Features

For many years, the cropping pattern of the District centered on cotton, alfalfa, and grains, with minor crops rotating in and out of favor. Because of the stability of the cropping pattern and, hence, of the irrigation demands, the District's original canal system was able to satisfy irrigation requirements. However, for the past several years, there has been a rapid shift in cropping from annual crops to permanent tree crops and vineyards. This shift has been accompanied by a shift in on-farm irrigation practices as growers install drip and micro-spray systems. In response to these changes in cropping and on-farm practices, the District is modernizing facilities to provide

flexible, responsive deliveries to enable growers to make the best use of high efficiency on-farm systems.

6.6 National Register of Historic Places

The Buttonwillow Tree, which lies within the boundaries of the BVWSD, was registered as a Historical State Landmark in 1951. There are no registered Historical State Landmarks within the boundaries of the Northern Area Pipeline – Southeast Extension. BVWSD does not have any knowledge of any other locations that are listed or may be eligible for listing under the National Register of Historic Places. If Reclamation deems necessary, the District will retain a private cultural resources management consultant or arrange for Reclamation staff to carry out a supplemental consultation to evaluate if any buildings or structures are eligible under the National Register of Historic Places. The expectation is that none will be identified as the project improvements will be constructed in actively disturbed agricultural lands.

6.7 Archeological Sites

BVWSD does not have any knowledge of archeological sites in the vicinity of the proposed Project. There has been over a century of farming operations spanning the Project footprint making it unlikely that archaeological sites will be discovered within Project area.

Previous cultural resources record searches at the Southern San Joaquin Valley Historical Resources Information Center and the Native American Heritage Commission have identified recorded archaeological sites in the vicinity of the California Aqueduct and Kern River Flood Channel. Although these sites lie outside the boundaries of the BVWSD and of the proposed Project, a thorough cultural resources evaluation will be performed to determine potential impacts to cultural resources that may result from implementation of the Northern Area Pipeline – Southeast Extension.

6.8 Other Environmental and Cultural Concerns:

Other environmental and cultural concerns that were noted regarding the Project area are:

a. 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 persons living in the region.
b. The Project will not limit access to or ceremonial use of Native American sacred sites or tribal lands.
c. The Project will not contribute to the introduction, continued existence, or spread of noxious weeds or non-native species in the region.

7. Required Permits and Approvals

Due to the Project's location, other than routine encroachment permits for road crossings, no significant third party approvals or permits will be required from local, state, or federal agencies in order to break ground. Easements will be required from landowners, and formal easements will be pursued after completion of final design.

The final design may have a pipeline adjacent to lands in the District that are privately owned but that have an overlying conservation easement. In this event, the District would contact the USDA-NRCS office in Visalia to get permission for potential encroachment. The District recently completed a project requiring a permit from the NRCS and has an excellent working relationship with them, as well as with the growers who own the underlying lands.

8. Letters of Project Support

Buena Vista Storage District has received the following letter from the Kern Delta Water District that indicates support for the District's effort to seek WaterSMART funding necessary for implementation of the Northern Area Pipeline – Southeast Extension Project.

Kern Delta Water District
501 TAFT HIGHWAY
BAKERSFIELD, CALIFORNIA 93307-9247
TELEPHONE (661) 834-4656
FAX (661) 836-1705

BOARD OF DIRECTORS
Rodney Palla, *President*
David L. Kaiser, *Vice President*
David C. Cosyns, *Secretary*
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OFFICERS & STAFF
L. Mark Mulkay
General Manager
Chris Bellue
Assistant General Manager
Bryan C. Duncan
Controller
McMurtrey, Hartsock & Worth
Attorneys-at-Law

January 18, 2016

Mr. Tim Ashlock
Project Manager/Engineer
Buena Vista Water Storage District
525 North Main St.
Buttonwillow, CA 93206

SUBJECT: Support for Buena Vista Water Storage District's 2016 WaterSMART Grant Application

Dear Mr. Ashlock:

I am writing on behalf of (city, agency) in support of Buena Vista Water Storage District's (BVWSD) application for a 2016 WaterSMART: Water and Energy Efficiency Grant that will support implementation of the Northern Area Pipeline Southeast Extension Project. The project will improve overall District water use efficiency by eliminating seepage, allowing year-round surface water deliveries, and providing facilities needed to convey high quality water to the District's northern area.

The water conserved by eliminating seepage would enable delivery of all of the surface water entering the conveyance system, minimizing the need to augment surface water supplies by pumping groundwater. The project would also conserve water that can be used for agricultural purposes, wetland and wildlife enhancement, and groundwater recharge which will benefit areas within and outside the District.

We support BVWSD's application for a WaterSMART: Water and Energy Efficiency Grant, and respectfully request your consideration to fund this important project.

Sincerely,

L. Mark Mulkay
General Manager
Kern Delta Water District

9. Board Resolution

The following is a draft of a resolution is to be presented to the Buena Vista Water Storage District Board of Directors at their regularly scheduled meeting on January 20, 2016. A copy of the signed resolution will be conveyed to Reclamation after its adoption.

RESOLUTION NO. XX-XXX

WHERAS, Buena Vista Water Storage District has prepared an application to apply for federal funding from the United States Department of the Interior, Bureau of Reclamation (Reclamation) to assist in the funding of the Northern Area Pipeline – Southeast Extension Project; and

WHERAS, the funding opportunity provided by Reclamation through their Grant Program entitled "2016 WaterSMART Grant" Funding Opportunity Announcement No. R16-FOA-DO-004; and

WHERAS, the Northern Area Pipeline – Southeast Extension involves converting the District delivery system from unlined canals to pipeline which will: 1) eliminate water losses, 2) keep water losses from entering the perched water table which can affect plant growth and cropping patterns, and 3) allow for District delivery of water year round versus the current seasonal deliveries. This will improve system efficiency and reduce groundwater pumping and energy consumption, improve water-user services, and make available additional water for multiple beneficial uses; and

THEREFORE, BE IT RESOLVED, the Buena Vista Water Storage District Board of Directors have reviewed the application and support its submittal for Reclamation assisted funding. The Board of Directors approve Maurice Etchechury, Engineer-Manager, as the official with legal authority to enter into a cooperative agreement with Reclamation and confirm that Buena Vista Water Storage District is capable of providing the amount of funding specified in the application. Buena Vista Water Storage District will work with Reclamation to meet established deadlines for entering into a cooperative agreement.

10. Project Budget

10.1 Funding Plan

(1) How you will make your contribution to the cost share requirement, such as monetary and/or in-kind contributions and source funds contributed by the applicant (e.g., reserve account, tax revenue, and/or assessments).

The District's cost-match will be covered by the District's general engineering account. BVWSD's financial statements for 2013 and 2014 are presented in Appendix D.

(2) Describe any in-kind costs incurred before the anticipated project start date that you seek to include as project costs. Include:
(3) What project expenses have been incurred
(a) How they benefitted the project
(b) The amount of the expense
(c) The date of cost incurrence

The District plans to include no in-kind costs incurred before the anticipated project start date in the budget for this project.

(4) Provide the identity and amount of funding to be provided by funding partners, as well as the required letters of commitment.

No funding partners are now involved in this Project, thus, no letters of commitment were necessary. BVWSD is committed to providing the local cost share needed to fund the Project throughout its implementation period. This commitment does not preclude the District from continuing to consider other agency collaborators to participate in the Project, however it does commit the District to meeting all non-Federal cost-share requirements both in the first year of the Project and in subsequent years. Please see Appendix D for copies of selected sections of BVWSD's 2013 and 2014 Financial Statements. Should the District identify funding partners in the future, letters confirming their commitment will be provided to Reclamation.

The estimated cost of the Project including design, environmental documentation, all associated construction costs, and permits is $6,413,000. Please refer to Section 10.2, Budget Proposal for a detailed cost estimate.

(5) Describe any funding requested or received from other Federal partners. Note: other sources of Federal funding may not be counted towards your 50 percent cost share unless otherwise allowed by statute.

There are no other Federal partners for this proposed Project

(6) Describe any pending funding requests that have not yet been approved, and explain how the project will be affected if such funding is denied.

There are no pending funding requests for this Project.

Table 2. Summary of non-Federal and Federal funding sources

Funding Source	Funding Amount
Non-Federal Entities:	
Buena Vista Water Storage District	**$5,413,000**
Other Federal Entities	**$0**
Requested Reclamation Funding	**$1,000,000**
Total Project Funding	**$6,413,000**

Table 3. Funding Group II funding request

Funding Group II Request			
	Year 1 (FY 2016)	Year 2 (FY 2017)	Year 3 (FY 2018)
Funding Requested	**$0**	**$500,000**	**$500,000**

The Project will directly conserve water during the Project's service life of thirty years, and BVWSD is committed to provide 84% of project funding if the requested award amount is granted.

Currently there are no other funding requests submitted or funding applications pending approval. The Project is a substantial construction project where Reclamation funding would increase the likelihood of successful project completion and continue a longstanding partnership between the District and USBR. The Project directly makes available a quantifiable amount of conserved water that can be used to meet increasing water demand. Although federal assistance is requested, if USBR declines to participate in the Project, BVWSD would seek other funding opportunities to move forward and attempt to complete the Project.

Appendix B – Canal Seepage Table

Canal seepage for all District-owned facilities was estimated in a study performed by BVWSD staff. This investigation used information on canal lengths, top widths, soil parameters and operating periods to determine seepage rates and seepage volumes over a typical irrigation season. The following table summarizes this seepage data. The canals shown at the bottom of the table in the block marked Area D are all being converted to pipeline in Phase 1 of the Northern Area Project. The conveyance facilities delineated in the table as being converted to pipeline in the Northern Area Project – Southeast Extension are all in Area C.

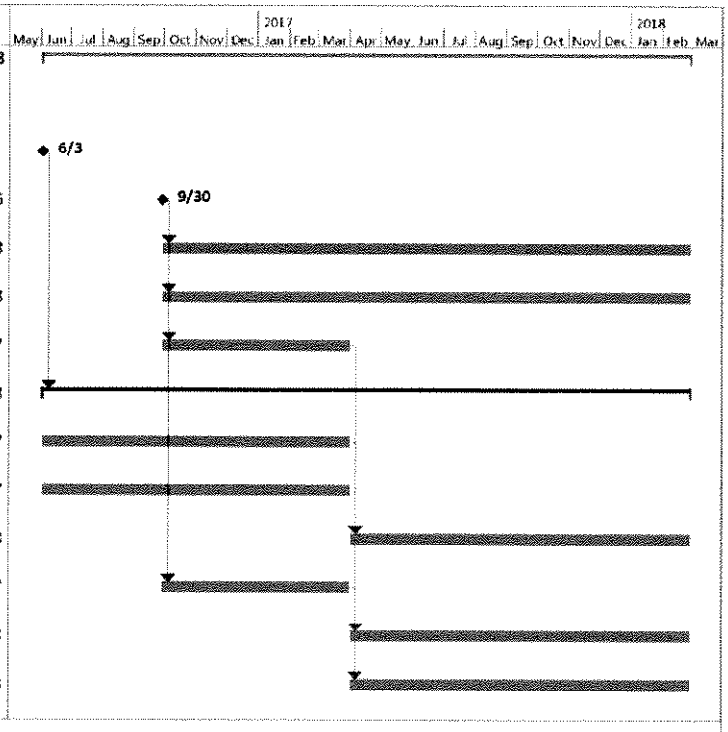
BVWSD Canal Losses

Area	Canal	Length (miles)	Width		Loss (cfs)	Loss Rate (cfs/mile)			
							TOP EDGE TO TOP EDGE		
							LARGE = 45' TO 60'	53	
							MEDIUM = 30' TO 45'	37.5	
							SMALL = 15' TO 29'	22	
A	East Side	8.3	L	53	30	3.6			53.3
A	Short Main	1.1	L	53	10	9.1			7.1
A	West Side	3.6	L	53	8	2.2			23.1
A	Bishop	0.6	S	22	1	1.7			1.6
A	Freeborn	1	S	22	2	2.0			2.7
A	Case	1.4	M/S	37	2.5	1.8			6.3
A	Deep Wells	4.7	M	37	9	1.9			21.1
A	Arizona	4.8	M	37	7	1.5			20.6
A	Weed Island	1.3	M	37	2	1.5			5.8
A	Pierucci Ditch	0.3	S	22	0	0.0			0.8
	8500 acres	26.8			71.5	2.7	10617.75		142.4
					0.01084		0.835882		
B	East Side	4.2	L	53	8.4	2.0			27.9
B	West Side	10.3	L	53	20.6	2.0			68.2
B	80 Foot	6	L	53	9	1.5			39.8
B	Santos	0.3	S	22	0.5	1.7			0.8
B	Whittier	0.6	S	22	1	1.7			1.6
B	Weed Island	2.6	M	37	5.2	2.0			11.7
B	Mirasol	2.2	M	37	3	1.4			9.9
B	Bull Pump	0.7	S	22	1	1.4			1.9
B	Sudan	0.5	S	22	0.6	1.2			1.3
B	Garden	0.6	S	22	1	1.7			1.6
B	Corn Camp	2.7	M	37	8	3.0			12.1
B	South Canal 5	0.5	S	22	0.5	1.0			1.3
B	School House B	1.8	M	37	3	1.7			8.1
B	Ditch 14	0.4	S	22	0.5	1.3			1.1
B	Lateral 2	2	S	22	2.6	1.3			5.3
B	Lateral 3	0.5	S	22	0.5	1.0			1.3
B	Baker Ditch	0.9	S	22	1	1.1			2.4
	14513 acres	38.8			66.3	1.8	9845.55		192.1
					0.00457				
C	East Side	8.5	L	53	18.7	2.2			64.6
C	West Side	5.5	L	53	13.8	2.4			41.8
C	School House B	2.6	M	37	2.9	1.1			11.7
C	Angelo	0.8	S	22	1.2	1.4			2.1
C	School House Cutoff	0.9	S	22	1.3	1.4			2.4
C	East Side Cutoff	1.2	S	22	1.5	1.3			3.2
C	Canal 17	5.3	M	37	10.6	2.0			28.8
C	Canal 18	2	M	37	4	2.0			9.0
C	Cord Ditch	0.4	S	22	0.5	1.3			1.1
C	Canal N	1.5	S	22	2	1.3			4.0
C	Canal 20	2	M	37	4.2	2.1			9.0
C	Lateral 8	0.9	S	22	1.55	1.7			3.4
C	Area Ditch	0.8	S	22	1.55	1.9			2.1
C	Canal A	1.7	M	37	2.4	1.4			7.6
C	Canal 21	1.1	S	22	2	1.8			2.8
	13319 acres	36.2			69.5	1.9	10360.3		171.6
					0.0052				
D	East Side	3.1	L	53	5	1.6			16.9
D	West Side	5	L	53	11.5	1.9			38.5
D	Spicer Spill	0.2	S	22	0	0.0			0.5
D	Delfino	0.7	S	22	0.5	0.7			1.9
D	Cox	5.7	M	37	4	1.1			18.8
D	17 Extension	2.7	M	37	3.4	1.3			12.1
D	Moore	0.5	S	22	0.5	1.0			1.3
D	Canal 14	1.7	S	22	2	1.2			4.5
D	Canal 16	1.5	S	22	2	1.3			4.3
D	Canal 30	1.6	S	22	1.6	1.0			4.0
D	Estrada	1.5	S	22	1.5	1.0			4.0
	8848 acres	23.3			31.9	1.4	4737.16		107.7
					0.0032				
Maples	Maples	5.9	L	53	9	1.5			37.9
	4350 acres	5.9			9	1.5	1336.5		
					0.0021	76.55172414	38912.23		
									857.7
									3836.366

Northern Area Pipeline - Southeast Extension Project Canals

Appendix C – Project Schedule

ID	Task Name	Start	Finish
0	**Northeast Area Pipeline Southeast Extension Project**	**6/3/16**	**2/28/18**
1	Notice of Funding Award	6/3/16	6/3/16
2	Signed Grant Agreement Date	9/30/16	9/30/16
3	Task 1 - Administration	9/30/16	2/28/18
4	Task 2 - Reporting	9/30/16	2/28/18
5	Task 3 - Design	9/30/16	3/31/17
6	Task 4 - Environmental Documentation	6/3/16	2/28/18
7	CEQA	6/3/16	3/31/17
8	NEPA	6/3/16	3/31/17
9	Mitigation	4/3/17	2/28/18
10	Task 5 - Permits/Approvals	9/30/16	3/31/17
11	Task 6 - Construction	4/3/17	2/28/18
12	Task 7 - Construction Management	4/3/17	2/28/18



Project: Northeast Area Pipeline Southeast Extension Project
Date: 1/18/16

Task — Summary
Milestone — Project Summary

Page 1

Appendix D – Financial Reports

BUENA VISTA WATER STORAGE DISTRICT

Financial Statements

Years Ended December 31, 2013 and 2012

DALE PINER
CERTIFIED PUBLIC ACCOUNTANT
BAKERSFIELD, CALIFORNIA

BUENA VISTA WATER STORAGE DISTRICT

INDEX TO REPORT

December 31, 2013

DALE PINER
CERTIFIED PUBLIC ACCOUNTANT

INDEPENDENT AUDITOR'S REPORT

The Board of Directors
BUENA VISTA WATER STORAGE DISTRICT
Buttonwillow, California

Report on the Financial Statements

I have audited the accompanying financial statements of Buena Vista Water Storage District as of and for the years ended December 31, 2013 and 2012, and the related notes to the financial statements, as listed in the index.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatements, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that I plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, I express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence I have obtained is sufficient and appropriate to provide a basis for my audit opinion.

Opinion

In my opinion, the financial statements referred to above present fairly, in all material respects, the financial position of Buena Vista Water Storage District as of December 31, 2013 and 2012, and the

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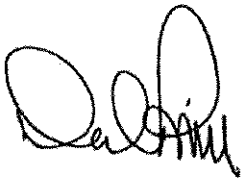
dpiner@dalepinercpa.com

changes in financial position and cash flows for the years then ended in conformity with generally accepted accounting principles in the United States of America.

Other Matters

Accounting principles generally accepted in the Unites States of America require that the management's discussion and analysis be presented to supplement the basic financial statements. Such information, although not a part of the financial statements, is required by the Government Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. I have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquires of management about the methods of preparing the information and comparing the information for consistency with management's responses to my inquires, the financial statements, and other knowledge I obtained during the audit of the financial statements. I do not express an opinion or provide any assurance on the information because the limited procedures do not provide me with sufficient evidence to express an opinion or provide any assurance on them.



Dale Piner
November 14, 2014
Bakersfield, California

BUENA VISTA WATER STORAGE DISTRICT

MANAGEMENT'S DISCUSSION AND ANALYSIS

FOR THE YEAR ENDED DECEMBER 31, 2013

WITH THE YEAR ENDED DECEMBER 31, 2012 FOR COMPARATIVE PURPOSE

Our discussion and analysis of the Buena Vista Water Storage District's (the District's) financial performance provides an overview of the District's financial and operational activities for the year ended December 31, 2013. Please read it in conjunction with the District's basic financial statements, which begin immediately following this analysis. This annual financial report consists of two parts – Management's Discussion and Analysis (this section) and the Basic Financial Statements.

OVERVIEW OF THE BASIC FINANCIAL STATEMENTS:

The District operates as an enterprise fund and presents its financial statements using the economic resources measurement focus and the full accrual basis of accounting. As an enterprise fund, the District's basic financial statements include four components:

- **Statement of Net Position** – Provides the basis for evaluating the capital structure of the District and assessing its liquidity and financial flexibility. The Statement of Net Position reflects all the District's assets and liabilities at year-end.

- **Statement of Revenues, Expenses and Changes in Net Position** – Measures the success of the District's operations over the past year and determines whether the District has recovered its costs through water sales, assessments, and other sources of revenue by showing how the District's net position changed during the year. This statement shows all the current year's revenues and expenses, which are recorded when the underlying transaction occurs (accrual basis approach), regardless of the timing of the related cash flows.

- **Statement of Cash Flows** – Presents information regarding the District's cash receipts and disbursements during the year. It shows changes in cash balances divided into three activities:
  - **Operating**
  - **Investing**
  - **Capital Financing**

  This statement differs from the Statement of Revenues, Expenses and Changes in Net Position in that it only shows those transactions resulting in cash receipts or disbursements, as opposed to transactions resulting in revenues and expenses under the accrual basis as described above.

- **Notes to the Financial Statements** – Describes the accounting policies used to prepare the financial statements and present material disclosures required by generally accepted accounting principles that are not otherwise present in the financial statements.

BUENA VISTA WATER STORAGE DISTRICT

FINANCIAL STATEMENTS
WITH
INDEPENDENT AUDITOR'S REPORT

FOR THE YEARS ENDED
DECEMBER 31, 2014 AND 2013

BUENA VISTA WATER STORAGE DISTRICT
DECEMBER 31, 2014 AND 2013

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REGISTERED with the Public Company Accounting Oversight Board and MEMBER of the American Institute of Certified Public Accountants

BROWN ARMSTRONG
Certified Public Accountants

INDEPENDENT AUDITOR'S REPORT

Board of Directors
Buena Vista Water Storage District
Buttonwillow, California

Report on the Financial Statements

We have audited the accompanying statement of net position of the Buena Vista Water Storage District (the District) as of December 31, 2014, and the related statements of revenues, expenses, and changes in net position and cash flows for the year then ended and the related notes to the financial statements, which collectively compromise the District's basic financial statements as listed in the table of contents. The District's 2013 financial statements were audited by another auditor, whose report dated November 14, 2014, expressed an unmodified opinion on those financial statements.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the District's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the District's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the District as of December 31, 2014, and the changes in financial position and its cash flows for the year then ended in accordance with accounting principles generally accepted in the United States of America

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, and schedule of funding progress for other post employment benefits as listed in the table of contents are presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated August 19, 2015, on our consideration of the District's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the District's internal control over financial reporting and compliance.

BROWN ARMSTRONG
ACCOUNTANCY CORPORATION

Brown Armstrong
Accountancy Corporation

Bakersfield, California
August 19, 2015

BUENA VISTA WATER
BVWSD
STORAGE DISTRICT