

ATTACHMENT 6 - Program Preferences

Program Preferences

Regional Project or Program: Two of the projects benefit the overall Region as follows:

- BVWSD: The Palms Groundwater Recharge and Recovery Project (GRRP) recharges the aquifer underlying BVWSD, and provides water for storage in the aquifer and extraction of previously banked water during dry periods. The Project serves to recharge the Kern Sub-Basin that BVWSD shares with many other agencies. Banked water remaining in storage at the end of the 50 year Project life will help mitigate basin wide groundwater overdraft. Furthermore, the Project includes constructing a 27" diameter recovery pipeline that connects to the District's BV-8 California Aqueduct turnout. This pipeline will increase BVWSD operational flexibility and facilitate both regional and local water exchanges.
- GHCSO: The project is regional since it addresses a critical water supply problem in an adjudicated groundwater basin, which is shared by many different water users. The project also has multiple beneficiaries, including the project proponent, Golden Hills Community Services District, the City of Tehachapi, who will have access to the water supply for emergencies and future demands, and TCCWD, who plans to connect to the proposed well in the future for a special dry year supply.

Integrate Water Management Programs and Projects w/in Hydrologic Region: All of the projects proposed by the Kern RWMG were selected through a rational process of regional priority setting ensuring that the projects address multiple important regional needs. Further, the Kern IRWMP provides for many opportunities to look for and create synergies between projects that optimize the regional water management benefits. The BVWSD Project and the GHCSO Project provide benefits to the Kern Sub-Basin and the Tehachapi Basin, respectively. This conjunctive use of groundwater and surface water is at the heart of water management in Kern County and is the common basis in how project integration and truly regional benefits are generated. If a project benefits groundwater conditions in one area it almost certainly provides regional benefits in terms drought protection, reductions in conflicts, water quality improvement, etc.

Effectively Resolve Water-Related Conflicts within or Between Regions: The Region continues to be impacted by the decrease in volume and reliability of SWP, CVP, and Kern River water deliveries to Kern County as a result of drought and regulatory impacts. With the reductions of surface water supplies, landowners (and conjunctive use districts) pump groundwater supplies from the groundwater basin. This condition of chronic water shortage has and will create conflicts over limited supplies within the Region. These projects may help resolve water-related conflicts as follows:

- BVWSD: The Palms GRRP regional groundwater recharge benefits provide an additional firm dry period water supply helping to offsets some of the Region's groundwater overdraft, which is the source of most of the Region's water management conflicts.
- GHCSO: GHCSO's wells are currently clustered in one area of the District, creating a cone of depression in the District. The new well will shift pumping to a rural area with higher groundwater levels as recommended by a groundwater model of the Tehachapi Basin.

Contribute to Attainment of Objectives of CALFED Bay-Delta Program: The primary CALFED Bay-Delta Objective met by the proposed projects revolves around water supply reliability in providing new storage and water use efficiency in local partnerships. The CALFED program seeks to reduce the mismatch between Delta water supplies, and current and projected beneficial uses dependent upon the Bay-Delta system.

- BVWSD: The Palms GRRP banks groundwater and provides an alternative source of dry year water when the Bay-Delta cannot deliver needed water supplies to the area. The Project provides instantaneous capability to store wet period water at times when there is less pressure on the Bay-Delta to provide export water supplies.
- GHCSO: The project will help to reduce the mismatch between Delta water supplies and demands. The project increases the ability to use SWP water in wet years when it is plentiful (by expanding groundwater banking recovery capacity), and then use the banked water in dry years when SWP water is scarce.

Address Critical Water Supply or Quality Needs of DACs:

- GHCSO: GHCSO and the City of Tehachapi are collectively a DAC. The project will meet a critical water supply need in GHCSO by helping them to meet peak demands and prevent water shortages. It will also provide an emergency water supply for the City of Tehachapi, and helps to ensure they have a continuous and reliable water in the event of an outage, emergency or water quality problem. The project is also similar to one of the example projects that meet a critical water supply need in Table 9 of the IRWMP guidelines – "Replacement of Water Supply Wells that have exceeded their useful life (older than 50 years)." The proposed well is meant to backup the 68-year old Iriart well in case of a short-term or long-term outage, since the Iriart well is the highest capacity well for the District.

- LOW: LOWMWC is located in a census designated place determined to be a DAC. Because of the drought impacted groundwater production, residents cannot afford to continue hauling water to meet summer water demands. By replacing deteriorated water mains, adding meters and other water conservation measures, the resulting conserved water will help “assure continued reliability of the minimum quality and quantity of water.” The system improvements will also help provide adequate fire protection flows in accordance with Kern County Fire Department requirements.

Statewide Priorities:

Drought Preparedness: All of the projects address this Priority (refer to Attachment 2 for additional details).

- BVWSD: Regional drought preparedness will be improved through increased drought year water supplies to BVWSD and improved groundwater basin conditions. The Project also provides the ability to recharge/bank surplus surface water that would likely otherwise be lost to beneficial use as high flow or flood water (thus water conservation). In addition, BVWSD purchased 1,100 acres of land for the Project removing it from production, thereby reducing annual crop demands by approximately 3,300 AF/yr.
- GHCSO: The project provides drought protection by offering an additional water supply to GHCSO and the City of Tehachapi, and allows for greater recharge at Antelope Dam (by providing much needed recovery capacity), therefore allowing larger volumes of water to be stored underground for future use in droughts. The new well is also located outside of a large cone of depression that has formed in GHCSO, and could be a water source in droughts if other wells in the cone of depression temporarily go dry.
- LOW: Through water conservation training, the project will result in a long-term reduction in groundwater use improving the management of the groundwater basin, and preserving some groundwater for droughts.

Use & Reuse Water More Efficiently:

- BVWSD: As discussed above, The Palms GRRP provides direct groundwater recharge/banking and the ability to capture and store (underground) surplus surface water that would likely otherwise be lost to beneficial use as high flow or flood water.
- LOW: The proposed project implements conservation measures improving water use efficiency.

Climate Change Response Actions: The effects of Climate Change will likely make imported water supplies less reliable in the future. It will reduce the natural storage and re-regulation of local surface water supplies by lessening the snowpack, increasing the amount of precipitation that comes in the form of rainfall, and likely reduce the overall volume of precipitation falling on the Region.

- BVWSD: The Palms GRRP provides additional dry period water supply reliability by providing a new source of water, which is likely to occur more often as a result of climate warming. It provides the ability to recharge/bank captured surplus surface water that would likely otherwise be lost to beneficial use as high flow or flood water. Increased water storage (underground storage) has been identified as being crucial to better manage earlier season river runoff patterns associated with climate change.
- GHCSO: The additional well capacity will allow more wells to be operated off-peak, thereby reducing on-peak demands and allow use of surplus off-peak energy, which can reduce greenhouse gas emissions. The well will also be placed in an area with higher groundwater levels than most other District wells, and will have a smaller pumping lift, resulting in less energy to retrieve the groundwater.
- LOW: With snowfall effectively reduced in the mountain community due to climate change groundwater recharge will be reduced. Water conservation from the Project will help to mitigate this condition. Project GHG reduction will also help mitigate Climate change.

Expand Environmental Stewardship:

- BVWSD: The Palms GRRP provides a recharge basin which will aid the owners of agricultural lands within the District to maintain the productivity of their land, and provide intermittent wetland habitat for migratory birds along the Pacific Flyway. The Project’s construction of 260 gross acres of recharge basin with associated intermittent wetland habitat is consistent with Kern IRWMP Regional Strategy 11.2.5.3.
- GHCSO: The project will enhance the District’s ability to recharge water at Antelope Dam by offering greater recovery capacity. Antelope Dam is a dry dam that creates valuable wetland, marsh and pond habitat when water is recharged.

Practice Integrated Flood Management:

- BVWSD: The Palms GRRP will provide for flood control measures through the diversion of flood waters for beneficial purposes. The need for this Project is in part created by the flood reduction needs of areas within Kern County, as some of the water destined for BVWSD is from local tributaries that discharge to the Kern River. However, part of the flood damage reduction need also originates in areas further north

in the Tulare Basin, which are also periodically flooded by rivers and streams that originate in the Sierra Nevada Mountain Range. Flood water from these northern areas is diverted into the Friant-Kern Canal (as flood control) for eventually delivery into the Kern River, and thus made available to BVWSD for underground storage.

Protect Surface Water & Groundwater Quality:

- BVWSD: Recharge of high quality surface water from the Sierras and Tehachapi Mountains, and recovery of slightly lower groundwater quality, will reduce the concentration of salts, nitrate, and arsenic in the underlying groundwater aquifer. Furthermore, BVWSD's western boundary is formed by the Coastal Range that is derived from marine and lacustrine deposits that tend to have marginal to poor quality groundwater (high salinity). The Project will increase groundwater levels in the southern portion of BVWSD, reducing the head gradient separating the good quality groundwater located on the basin floor and the poorer groundwater to the west.
- GHCS: The well will be drilled in an area known to have good water quality, and recommended as a location for wells in a 2009 hydrogeologic report. This could provide opportunities to use higher quality water, or blend the well water with other lower quality well water that is currently produced in the District.

Improve Tribal Water & Natural Resources: The Proposal does not impact tribal resources.

Ensure Equitable Distribution of Benefits: These projects were put forward for this funding application by the Kern IRWM Group as a result of the emphasis from the Plan to ensure the water related issues of the Region, especially of the Region's Disadvantaged Communities, were being equitably addressed. The process used for the inclusion of projects in this Proposal for IRWM Implementation Grant funding is rigorous, yet very inclusive and resulted in the selection of the most (highest scoring) important projects benefiting Disadvantaged Communities within the Kern IRWM Region.

Human Right to Water

Regional Level: The Kern IRWM Region has been proactive in working with communities that currently have or potentially have a drinking water supply that may not be safe, clean, affordable and/or accessible. Small DACs are particularly vulnerable to these issues as they typically do not have the staff or resources available to address these issues. In order to help identify the water quality and supply needs and potential solutions for DACs in the Kern Region (and other regions), the Tulare Lake Basin DAC Water Study was prepared. The study has involved representatives of the Kern IRWM Group, stakeholders, and non-governmental organizations, to help ensure that the needs of the DACs are being addressed in the Kern IRWM planning process.

It should be noted that the Region has made great strides in addressing these water quality issues for these DACs. Self-Help Enterprises (SHE) is a Kern IRWMP stakeholder that is working with LOW, Frazier Park and 18 other communities in the Region obtain water, clean water, and sanitary sewer. Since 1980, SHE has helped 60 DAC communities in the Region to organize, fund and build water and sewer projects serving over 9,000 homes.

Proposal Level: The Kern IRWM Group Proposal provides multiple water supply benefits to DACs. About 48% of the proposed grant funding is designated for LOW, a small disadvantaged community lacking adequate water.

LOW: LOWMWC has minimal resources to operate and maintain the water system. The Water Company is managed by one part-time secretary and one part-time operator. The water mains to be replaced are old steel and PVC pipe that continuously leak, which put the customers at risk of bacteriological contamination in addition to the service interruption (potentially multiple days with available staff). The implementation of volumetric water rates, replacement pipelines and conservation training will help conserve water and eliminate water hauling during summer months. Without the project, water hauling will continue similar to 2014 at the annual cost of at least \$120,000 (about 50% of the Company's operating budget); this will require the rates to increase from \$50 per month to about \$75 per month. This rate is well above the cost of water guideline of 1.5% of a community's MHI (i.e. a rate of \$900/year vs. $1.5\% \times \$48,750 = \$731/\text{year}$) (EPA, 2003). With any additional reductions in water supply (a likely situation), more water hauling will be required, Forcing increased rates (e.g. an additional 10% loss of water supply could necessitate year round water hauling, doubling this cost, requiring rates of \$100/month). Note that SHE and Kern County has helped LOW in submitting this application at no cost to LOW.

GHCS: The two project beneficiaries are collectively a DAC. GHCS and the City of Tehachapi are both susceptible to water shortages due to inadequate system redundancy. The project can help provide an uninterrupted supply of safe potable water to GHCS and the City of Tehachapi during peak demands or in case of an emergency, outage or water quality problem. If a water supply shortage occurs then residents may have to rely on other unsafe and non-potable water supplies. GHCS currently has three wells inactive due to water quality problems. If they are needed then the water supply would not be potable and residents would need to use bottled water. The new well can help to prevent this circumstance through its additional capacity, and is located in an area with historically good water quality.