ATTACHMENT 7
Program Preferences

The Kern IRWM Group has selected four projects through the project prioritization process as discussed in Attachment 1. These projects will implement water management strategies to meet the Region's objectives as well as the Program Preferences and Statewide Priorities as discussed herein. Additionally, the end of this Attachment addresses the Human Right to Water Policy.

Program Preferences

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

- BVWSD - Utilizing the new supplemental shallow groundwater supply, BVWSD will see an increase of in-lieu groundwater recharge which benefits the local groundwater aquifer that BVWSD and BCWD are dependent upon; other water districts in the Kern Region that utilize the Kern Sub-Basin are also benefited as BVWSD has been able to achieve a groundwater balance which results in groundwater outflow contributing to other groundwater banking areas (e.g. Semitropic Water Storage District's groundwater bank and the Kern Water Bank).
- ID4 – By eliminating the seepage losses in the CVC Pool No. 7, groundwater pumping is reduced benefitting the Kern Sub-basin, especially in a dry/drought year. The benefit applies to many agencies that makeup the ownership of the water banking facilities in the Kern River Alluvial Fan (Kern Fan).
- AEWSD – The In-lieu Program recharges the aquifer underlying AEWSD, provides water for storage in the aquifer and extraction of previously banked water during dry years. The project serves to recharge the Kern Sub-Basin that AEWSD shares with many other agencies. Furthermore, the North In-Lieu Project includes building a 48" diameter pipeline that is part of a proposed future interconnection pipeline between AEWSD and Kern Delta Water District to facilitate regional water management programs. The Pump Back project would provide AEWSD the ability to limit and/or shift the use of its surface water supply for benefit of others (i.e. exchanges) or utilize the valuable imported water during its summer peak irrigation season.

Integrate Water Management Programs and Projects w/in Hydrologic Region: All of the projects being put forth in this proposal by the Kern IRWMP were selected through a rational process of regional priority setting ensuring that the projects address multiple important regional needs. Further, the Plan provides for many opportunities to look for and create synergies between projects that optimize the regional water management benefits. For example, all of the projects in this Proposal provide benefits to the Kern Sub-Basin. 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 and CVP 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) are forced to groundwater supplies from the Kern Sub-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 – This project provides a new firm water source that results in increased in-lieu recharge benefitting regional groundwater. This offsets some of the Region's groundwater overdraft, which is the source of most of the Region's water management conflicts.
- ID4 – Conflicts have arisen in regards to dropping groundwater levels in the Kern Fan, particularly in drought years. This project will reduce the volume of groundwater pumped associated with the non-beneficial losses in the CVC Extension.
- AEWSD – The In-lieu Program's regional groundwater recharge benefits and use of idle extraction facilities would provide an additional firm dry year water source and will aid in resolving conflicts related to overdraft.

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 and 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 project provides a new water supply for the District that is especially needed in dry/drought years when the Bay-Delta has some of its greatest problems with providing needed export water supplies. BVWSD has utilized supplemental water supplies to provide critically needed water transfers to other districts in the Region, and this new supply will increase that capability.
- ID4 – When supply is available from the SWP, ID4 delivers this Bay-Delta sourced drinking water to urban purveyors in the Metropolitan Bakersfield area. The water that currently seeps into the localized contaminated upper aquifer would be beneficially used by ID4 to help improve water supply reliability reducing impacts to the Bay-Delta.
- AEWSD – Three specific Program goals will be aided:
    - Goal 1: Reduce existing irrecoverable losses, increasing the overall volume of available water imported into the region – The Project will conserve 1,006 ac-ft/year of existing irrecoverable losses.
    - Goal 2: Achieve multiple state-wide benefits – The Program provides state-wide benefits of energy conservation and reduced emissions.
    - Goal 3: Preserve local flexibility – The Program will aid AEWSD to be more flexible with managing water and energy resources, including drought protection programs.
    - Goal 4: Build on existing water use efficiency programs – The Program builds on the District's Agricultural Water Management Plan and Groundwater Management Plan, the Kern IRWMP, the State Water Plan's Water Use Efficiency and Energy Efficiency Strategies, and the USBR's Sacramento and San Joaquin Rivers Basin Plan Strategies for Water Use Efficiency.

Address Critical Water Supply or Quality Needs of DACs:

- BCWD – With a Median Household Income (MHI) at 60% of the State's MHI, residents of the Buttonwillow community cannot afford to replace their deteriorated water main system. By replacing the water mains and adding meters, the rehabilitated water system will "assure continued reliability of the minimum quality and quantity of water" by reducing leaks and breakages and augment the system to provide adequate fire protection flows in accordance with Kern County Fire Department requirements.

Statewide Priorities:

Drought Preparedness: All of the projects address long-term drought preparedness (refer to Project Descriptions in Attachment 3 for additional details).

- BVWSD - By increasing in-lieu recharge through the reuse of non-beneficial shallow groundwater, the Sub-Basin is more efficiently managed and a new long term water supply is generated.
- ID4 – Water conservation is accomplished through the elimination of seepage along the CVC Extension. In normal and wet years, beneficial recharge will occur in targeted areas, while in dry/drought years, less groundwater extractions occur, benefiting the Kern Sub-Basin.
- AEWSD – Regional drought preparedness will be improved through increased drought year water supplies to AEWSD and improved groundwater basin conditions.
- BCWD – Through water conservation, the project will result in a long-term reduction in groundwater use improving the management of the groundwater basin.

Use & Reuse Water More Efficiently:

- BVWSD – With the reuse of the slightly brackish water blended with surface water supplies, farmers can still meet crop water demands while reducing the demands on deep-aquifer groundwater sources.
- ID4 – As described above, water conservation is being implemented that increases water supply reliability.
- AEWSD – As mentioned above, The In-lieu Program improves Delta water supply reliability through contributing toward CALFED objectives, and implements an expanded water supply reliability element consistent with AEWSD's Agricultural Water Management Plan and the Kern IRWMP.
- BCWD – 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. In addition to the Climate Change responses for each project described below, <u>all four projects</u> will result reduce energy use and associated GHG emissions as detailed in Attachment 3.

- BVWSD – As droughts are more likely to occur as a result of Climate Change, the project provides additional water supply reliability by providing a new firm drought-year water supply. Additionally, conjunctive use management of BVWSD's multiple water supply sources is expanded with this new supply.
- ID4 – This project will increase the reliability of the existing supply by lessening the existing demand in all year types. This conservation measure is a strategy to deal with Climate Change by reallocating non-beneficial water losses in the canal prism to recharge in wet years, thereby improving conjunctive use.
- AEWSD – The In-lieu Program increases water storage (underground storage), which has been identified as being crucial to better manage earlier season river runoff patterns associated with climate change.
- BCWD – Water use efficiency is improved with the proposed conservation measures. The project will also reduce wastewater volumes, thereby reducing the amount of wastewater to be treated.

Expand Environmental Stewardship:

- BVWSD – This project will provide additional water to the KNWR to help meet wetland needs, especially when the environmental water supply is reduced in dry/drought years.
- ID4 – Wildlife habitat will be improved by repurposing water losses along the CVC Extension for recharge along the Kern River corridor and water banking facilities. This habitat will also provide intermittent wetland habitat for migratory birds along the Pacific Flyway. The need for conserving habitat and natural communities of State and Federal threatened and endangered species drives this purpose and is consistent with promoting land use planning and resource stewardship.

Practice Integrated Flood Management:

- AEWSD – The In-lieu Program aids flood control measures through utilizing flood waters for beneficial purposes. Flood reduction will include areas within Kern County (when Kern River flood waters are stored) and portions of Tulare County, Kings County, Fresno County, areas further north, which are also periodically flooded by rivers and streams that originate in the Sierra Nevada. Flood water from these northern areas is diverted as part of regional flood fighting efforts into the Friant-Kern Canal.

Protect Surface Water & Groundwater Quality:

- BVWSD – By blending the shallow groundwater with surface water, the farmers can match the water quality to the types of crops. This is in accordance the salt management practice prescribed as a water management strategy to meet IRWMP objectives (Section 11.2.4.3 of the Kern IRWM Plan). Protection is also provided by reducing groundwater extraction through in-lieu recharge helping to prevent increasing arsenic levels that impact BCWD.
- ID4 – With the elimination of seepage losses in the CVC Pool No. 7, the groundwater aquifer is protected from the potential spreading of the contaminated groundwater created from the activities of the adjacent refinery.
- AEWSD – Importing additional high quality flood waters that originate in the Sierra Nevada mountains will help protect and improve local groundwater quality.
- BCWD – A dropping water table generally causes arsenic levels to increase. Through this project (and BVWSD's project) groundwater pumping in the area is decreased, alleviating this condition.

Improve Tribal Water & Natural Resources: The Proposal does not include projects that improve Tribal water and natural resources. The Tribal project proponents that had projects ranked high on the Priority Project List declined to be included in this current round of Implementation Grant funding.

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 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 supply and water quality needs and potential solutions of DACs in the Kern Region (and other regions); the Tulare Lake Basin Disadvantaged Community Water Study was initiated in 2011. The water supply goals of the study include: (1) development of a plan that provides DACs with a safe, clean and affordable potable water supply, (2) recommendations for planning, infrastructure, and other water

management actions for DACs, and (3) identification of projects and programs that create long-term water supply reliability, while optimizing overall costs. 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.

The study is approaching completion, but the following preliminary information has been obtained from a database developed during the study regarding DACs located in the Kern Region:

- There are approximately 70 DACs located in the Kern Region; of these, approximately 40 are severely disadvantaged communities (MHI less than 60% of the Statewide MHI).
- Approximately 36 of these 70 DACs have a water quality issue; this is defined as exceeding a primary MCL one or more times and is based on the 2008-2010 datasets available.

It should be noted that the Region has made great strides in addressing these water quality issues for these DACs. The CDPH has been proactive in working with DACs to help them obtain grants to improve their water quality issues such as nitrate, arsenic, uranium, and fluoride that are most prevalent in the Region. Approximately 27 of these communities either have or will shortly have a funding agreement in place to help address their water quality or supply issue. There is still additional work to be completed, especially with small DACs that do not have a legal entity with necessary authority to access grant funding. However, with the recent Pre-Planning funding made available by CDPH, some communities will be able to proceed with addressing their water quality needs. As an example, five communities around the Weldon area (near Lake Isabella) received $187,000 to initiate their pre-planning process that will ultimately result in a project to help address high uranium concentrations in some of these communities wells. Additional funding is needed, especially for water systems with issues not specifically related to a current MCL violation.

Proposal Level: The Kern IRWM Group Implementation Grant Proposal provides multiple water quality and supply benefits to DACs. Over 30% of the proposed grant funding is dedicated to serving BCWD, a severely disadvantaged community. In addition, the AEWSD and BVWSD also benefits DACs by helping maintain sustainable water supplies and improvements to water quality.

BCWD: As a severely disadvantaged community, BCWD has minimal resources to operate and maintain the District's water system. The District is managed by two part-time staff and a part-time operator. As mentioned previously, the District's existing pipeline system was installed in the early 1950s and is currently deteriorated to where leaks and breaks occur frequently, which put the customers at risk of bacteriological contamination in addition to the service interruption (potentially multiple days with available staff). Additionally, arsenic has been a problem for one of the District's wells in the past and could reoccur with an extended drought. The implementation of water rates based on water use and replacing pipelines will help conserve water and provide the District flexibility in managing its two main water wells for water quality issues. If an arsenic treatment system were to become necessary, the cost would be significant for the small community. In fact, if the District were to obtain a loan to fund the rehabilitation of its water system as described in this Proposal, the water rates would need to be tripled (current rate of about $25 per month to about $70 per month) in order to pay for the infrastructure over 30 years. This potential rate is well above the cost of water guideline of 1.5% of a community's MHI (i.e. a potential rate of $840/year vs. 1.5% x $37,500 = $562/year) (EPA, 2003).

BVWSD: This project will benefit the Buttonwillow community as described previously, reducing the potential need for an arsenic treatment system in the future.

AEWSD: AEWSD's In-Lieu Program includes the City of Arvin in its area of influence; with the increased import of freshwater, the water quality is expected to improve for the urban areas over time. Certain areas of the aquifer exhibit high arsenic levels in the groundwater. With CVP water, the arsenic concentration in the groundwater will dilute gradually. This is an economical project to help remediate the groundwater aquifer. Currently City of Arvin is in the process of adding new wells and arsenic treatment plants to reduce arsenic concentrations below the MCL. These projects are funded through CDPH grants over $8 million, but will have a long term impact to water rates as operating costs rise substantially (most likely greater than the 1.5% cost of water guideline). Over time, the water quality benefit of the project may result in decreased arsenic concentrations produced from City wells, thereby reducing their operating costs.