Attachment 7 – Program Preferences

Program Preferences

The American River Basin Drought Response Program assists in meeting several program preferences and statewide priorities, as described in the 2014 IRWM Drought Guidelines (Guidelines). While the projects in this Proposal will provide immediate drought relief to the American River Basin Region (Region), they also provide broader statewide benefits from the perspective that they allow for more management flexibility of Folsom Reservoir to the U.S. Department of the Interior, Bureau of Reclamation (Reclamation). While the immediate need to provide reliable water supply throughout the Region during the ongoing drought is the primary focus of this Proposal, each of the projects provides long-term benefits that will improve local sustainability while providing additional benefit beyond the Region. Table 1 on the following two pages identifies which of the projects in the Proposal meet the various program preferences in the Guidelines. Each of the program preference areas addressed by this Proposal is described further below. ***Issues related to the Human Right to Water Policy and how this Proposal and specific projects that assist in meeting the goals are described at the end of this attachment with the "ensure equitable distribution of benefits" section.***

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Table 1

American River Basin Drought Response Program, Projects, and Implementing Agencies	Program Preferences														
								Address Statewide Priorities							
	Regional Projects or Programs	Integrate Water Management Programs & Projects	Resolve Water-Related Conflicts Within or Between Regions	Contribute to One or More CALFED Objectives	Addresses Critical DAC Water Supply or Quality Needs	Integrate Water Management with Land Use Planning	Part of IRWMP that Reduces Reliance on Bay Delta	Drought Preparedness	Use & Reuse Water More Efficiently	Climate Change Response Actions	Expand Environmental Stewardship	Practice Integrated Flood Management	Protect Surface Water & Groundwater Quality	Improve Tribal Water & Natural Resources	Ensure Equitable Distribution of Benefits/ Human Right to Water
American River Basin Drought Response Program	**X**	**X**	**X**	**X**	**X**	**N/A**	**N/A**	**X**	**X**	**X**	**X**	**N/A**	**X**	**N/A**	**X**
Project 1: Lower American River Pipeline (Carmichael Water District [CWD])	X	X	X	X		N/A	N/A	X		X		N/A	X	N/A	
Project 2: Hazel/50 Intertie Improvements (City of Folsom [Folsom])	X	X	X	X		N/A	N/A	X		X		N/A		N/A	
Project 3: Well #2 Reactivation (City of Lincoln [Lincoln])	X			X		N/A	N/A	X		X		N/A		N/A	
Project 4: Nelson Well Improvements (Lincoln)	X			X		N/A	N/A	X		X		N/A		N/A	
Project 5: PFE and Zone 4 Transfer Pump Stations (City of Roseville[Roseville])	X	X	X	X		N/A	N/A	X		X		N/A		N/A	
Project 6: Phase 2B Well Rehabilitations (City of Sacramento [Sacramento])	X		X	X		N/A	N/A	X		X		N/A		N/A	X
Project 7: Sacramento River Pump Station Modifications (Sacramento)	X		X	X		N/A	N/A	X		X		N/A	X	N/A	X
Project 8: Lower American River Pump Station Modifications (Sacramento)	X		X	X		N/A	N/A	X		X	X	N/A	X	N/A	X
Project 9: Main Ditch Piping (El Dorado Irrigation District [EID])	X			X		N/A	N/A	X	X	X		N/A		N/A	
Project 10: Madison Well Construction (Fair Oaks Water District [FOWD])	X		X	X		N/A	N/A	X		X		N/A		N/A	X
Project 11: American River Pump Station Improvements (Placer County Water Agency [PCWA])	X			X		N/A	N/A	X		X		N/A		N/A	

American River Basin Drought Response Program, Projects, and Implementing Agencies	Program Preferences														
								Address Statewide Priorities							
	Regional Projects or Programs	Integrate Water Management Programs & Projects	Resolve Water-Related Conflicts Within or Between Regions	Contribute to One or More CALFED Objectives	Addresses Critical DAC Water Supply or Quality Needs	Integrate Water Management with Land Use Planning	Part of IRWMP that Reduces Reliance on Bay Delta	Drought Preparedness	Use & Reuse Water More Efficiently	Climate Change Response Actions	Expand Environmental Stewardship	Practice Integrated Flood Management	Protect Surface Water & Groundwater Quality	Improve Tribal Water & Natural Resources	Ensure Equitable Distribution of Benefits/ Human Right to Water
Project 12: Agricultural and Rural Residential Drought Response Incentives Program (PCWA)	X	X	X	X		N/A	N/A	X	X	X		N/A		N/A	
Project 13: Regional Water Efficiency Drought Measures (Regional Water Authority [RWA])	X	X	X	X		N/A	N/A	X	X	X		N/A		N/A	
Project 14: Striker Well Upgrades (Sacramento County Water Agency [SCWA])	X	X	X	X		N/A	N/A	X		X		N/A		N/A	X
Project 15: Antelope Booster Pump Station Phase 2 (Sacramento Suburban Water District [SSWD])	X	X	X	X		N/A	N/A	X		X		N/A		N/A	X
Project 16: Enterprise Intertie Improvements (SSWD)	X	X	X	X		N/A	N/A	X		X		N/A		N/A	X
Project 17: Barton Road Intertie (San Juan Water District [SJWD])	X	X	X	X		N/A	N/A	X		X		N/A		N/A	X

Include regional projects or programs

The projects in this grant proposal were identified through extensive stakeholder outreach to identify the most significantly drought-impacted parts of the Region. This Proposal represents the culmination of planning that started in late 2013 to identify the highest priority projects to provide near-term drought relief and long-term water supply reliability. Therefore, there is a **High Degree of Certainty** that each project will provide a **Regional** benefit.

Effectively integrate water management programs and projects within a hydrologic region

The ARB region encompasses a contiguous urban, suburban, and rural area covering more than 1,200 square miles and including 60% of the population of the Sacramento River hydrologic region. The current Proposal is the result of a coordinated, regional effort to identify the priority impacted areas and projects that mitigate against water supply impacts from the drought. Evidence of the degree of integration is that many of the projects involve partnerships between multiple agencies. Table 1 identifies nine projects that directly involve multi-stakeholder regional cooperation and sharing of resources to achieve multiple benefits. All of the remaining projects will result in benefits beyond that of the project proponent. Overall, there is a **High Degree of Certainty** that this Program Preference will be addressed at the **Regional** level.

Effectively resolve significant water-related conflicts within or between regions

Regional water management conflicts can arise due to differences in stakeholders' goals and values and the perceived priority of proposed projects and programs. Minimizing and resolving differences before they propagate into large-scale conflicts has been the region's approach since the inception of the Sacramento Water Forum in the early 1990's, and was integral to the development of the ARB IRWMP. A majority of the projects in this Proposal allow local water suppliers to continue to provide water supply for human needs while continuing to implement elements of the April 2000 Water Forum Agreement, which is one of the most significant and durable resolutions to water-related conflict developed by local stakeholders in the history of the State. Completion of these projects helps assure a **High Degree of Certainty** of resolving water management strategy conflicts at the **Regional** level.

Contribute to attainment of one or more of the objectives of the CALFED Bay-Delta Program

While 2009 legislation changed Delta governance, the critical needs of the Delta remain. The ARB Region, within and immediately upstream of the Delta, is uniquely situated to contribute to CALFED objectives. Each of the projects in this Proposal contribute substantially to the attainment of the CALFED objective of improved water supply reliability, as shown in Table 1. Under nearly all conditions, the Region has high supply reliability. The response to the current extreme drought conditions represents the next iteration of improved regional supply reliability. Collectively, the proposal has a **High Degree of Certainty** of contributing to the attainment of the CALFED objectives for the **State**.

Address critical water supply or water quality needs of disadvantaged communities

None of the projects in the Proposal directly address a supply or quality need of a disadvantaged community. DACs are largely interspersed throughout the service areas of water suppliers in the region, and have few unmet water supply or quality needs. However, it should be noted that nearly 30% of the Region has individuals that fall below the 80% mean household annual income that defines a disadvantaged citizenry. In general, meeting the regional needs through this Proposal will provide overall benefits to the DACs in the region.

Effectively integrate water management with land use planning

Due to the nature of the 2014 IRWM Drought Solicitation and current conditions, no attempt was made to integrate with land use planning in this Proposal.

Reduce reliance on the Sacramento-San Joaquin Delta

None of the current affected service areas relies on the Delta for water supply, so this program preference is not applicable.

Address Statewide Priorities

The Guidelines identify eight statewide priorities specific to the IRWM Grant Program. As illustrated in Table 1, each of the projects in this proposal embodies at least one of these Statewide priorities. Together the projects have a **High Degree of Certainty** of addressing Statewide priorities at **Regional** and **Local** levels.

Drought Preparedness

Each of the projects in the Proposal effectively address long-term drought preparedness. Specific to the Guidelines, the projects have benefits in three major areas: 1) increasing the Region's conjunctive use potential; 2) increasing the interconnectedness of the Region through new or improved interties; and 3) reducing water use through conservation and efficiency measures. Each of these areas is described below. Because the current proposal focusses on drought impacts, no projects that Practice Integrated Flood Management were identified. Additionally, the drought has not caused any impacts to tribes in the Region, so the statewide priority to Improve Tribal Water and Natural Resources is not addressed in this Proposal.

Conjunctive Use Projects

- The **Lower American River Pipeline** project will allow Carmichael Water District to provide a capacity of up to 5 million gallons per day (MGD) from its Bajamont surface water treatment plant south into Golden State Water Company in Rancho Cordova. During drought conditions this will GSWC to in-turn use freed-up groundwater capacity to provide an estimated 2.9 MGD (or 2,000 gallons per minute) to the City of Folsom once the Hazel/50 Intertie Improvements (described below) are completed.
- The **Well #2 Reactivation** will allow the City of Lincoln to self-supply up to 640 acre-feet per year (AFY) from groundwater. The City currently receives surface water from Placer County Water Agency, so the offset demand could provide water for use elsewhere in the Region to benefit other agencies experiencing shortages.
- The **Nelson Well Improvements** will allow the City of Lincoln to self-supply up to 1,600 AFY from groundwater. The City currently receives surface water from Placer County Water Agency, so the offset demand could provide water for use elsewhere in the Region to benefit other agencies experiencing shortages.
- The **PFE and Zone 4 Pump Stations** will allow the City of Roseville to distribute up to 15.6 MGD of groundwater within its distribution system. Of this amount 8.6 MGD will be able to lift the City' own groundwater produced in its western service into the City's eastern service area, which can only currently received surface water. The remaining 7 MGD would be boosted from groundwater wells in Sacramento Suburban Water District into the City from the south. These projects are imperative for the City during surface water shortage conditions.
- The **Phase 2B Well Rehabilitations** will allow the City of Sacramento to restore 7.7 MGD of its groundwater capacity to make up for surface water shortage and further implement conjunctive operations over the longer term.
- The **Sacramento River Pump Station Modifications** will allow the City of Sacramento to continue using its diversion on the Sacramento River under nearly all flow conditions. Without the project, the City is at risk of not meeting drinking water demands.
- The **Lower American River Pump Station Modifications** will allow the City of Sacramento to continue using its diversion on the American River under nearly all flow conditions. Without the project, the City is at risk of not meeting drinking water demands.
- The **Madison Well Construction** project will allow Fair Oaks Water District to self-supply up to 540 AFY from groundwater. Fair Oaks currently receives surface water from San Juan Water District, so this demand would

be offset and available for other critical needs of San Juan which does not overly the groundwater basin and has no alternative supply.

- The **American River Pump Station Modifications** would allow Placer County Water Agency to divert up to an additional 41 cubic feet per second (cfs) from the American River above Folsom Reservoir. This allows for more distribution of surface water around parts of the region, particularly for agencies in Placer County and eastern Sacramento County that are reliant on supply taken from diversions at Folsom Reservoir. This will be particularly helpful in the event that lake levels approach minimum levels that would allow diversions.
- The **Striker Well Upgrades** will allow Sacramento County Water Agency to provide up to 2 MGD of groundwater to the City of Sacramento through an existing intertie, which will allow the City to make up for surface water shortages.
- The **Antelope Booster Pump Station Phase 2** will allow Sacramento Suburban Water District to lift up to 14.4 MGD of available groundwater capacity into higher pressure zones in the City of Roseville and San Juan Water District. This provides immediate drought relief to these agencies during surface water shortages and also creates significant long-term conjunctive use opportunities.

System Interties

- The **Hazel/50 Intertie Improvements** will allow GSWC to boost water into a higher pressure zone to supply the City of Folsom during surface water shortage conditions. The intertie already exists, but it has only been used to transfer water from Folsom to GSWC. The capacity estimated at 2.9 MGD.
- The **Enterprise Intertie Improvements** will allow Sacramento Suburban Water District to transfer up to 20 MGD to the City of Sacramento when the City has surface water shortage conditions. The intertie already exists, but control improvements are needed to properly control the flow of water between the two systems.
- The **Barton Road Intertie** will allow for an estimated 2 MGD of available surface water to be transferred from PCWA to San Juan Water District.

Water Conservation/Efficiency

- The **Main Ditch Piping** project would allow El Dorado Irrigation District (EID) to save up to 1,300 AFY of water that can provide water supply and hydropower benefits. The saved water provides a net benefit to flows in the south fork of the American River as it flows into the American River Basin Region.
- The **Agricultural Rural Residential Drought Response Incentives Program** would reduce water demands by non-commercial agricultural and other rural residential customers by an estimated 787 AFY.
- The **Regional Water Efficiency Drought Measures** project would reduce outdoor water use of residential customers by 145 AFY.

Use and Reuse Water More Efficiently

The benefits of the **Main Ditch Piping, Agricultural Rural Residential Drought Response Incentives Program,** and **Regional Water Efficiency Drought Measures** toward the efficient use of water are described in the Drought Preparedness section above. Those same benefits apply to this Statewide Priority.

Climate Change Response Actions

As described under the Drought Preparedness section above, **all of the projects** would apply the same benefits to climate change response actions. In addition to the independent benefits, the Region would be much better positioned to adapt to climate because of the extensive regional coordination that is occurring under the current drought conditions.

Expand Environmental Stewardship

While none of the projects in the Proposal are actual environmental projects (e.g., habitat restoration), the **Lower American River Pump Station Modifications** project is noteworthy for its environmental stewardship. The project will allow the City of Sacramento to continue to divert surface water for human consumptive uses under extremely

low flow conditions in the lower American River. This is important because it would allow Reclamation to significantly reduce releases from Folsom Reservoir to maintain cold water pool to sustain migrating, spawning, and rearing habitat for spring and fall fish species. As discussed in Attachment 2, the Nimbus Fish Hatchery on the lower American River has already been evacuated of Central Valley steelhead over temperature concerns. The cooler water that could be preserved in Folsom Reservoir could then be released at times of more critical lifecycle stages for the fish species to improve their viability.

Protect Surface Water and Groundwater Quality

As described in the Drought Preparedness section above, the **Sacramento River Pump Station Modifications** and the **Lower American River Pump Station Modifications** will allow the Region to continue to maintain surface water diversions under extremely low flow conditions in the Sacramento and American rivers. It is critical to maintain some basic use of surface water over the long-term. Without these improvements, the Region could be required to substantially its reliance on groundwater. This could significantly impact groundwater quality the extensive existing groundwater contaminant plumes (as described in Attachment 2) were to be mobilized. Another important that will help protect groundwater over the long-term is the Carmichael Water District **Lower American River Pipeline**. During non-drought conditions, this will allow for the delivery of surface water during non-drought conditions to Rancho Cordova, which currently relies on groundwater located within and around the extensive contamination at Aerojet (shown in Attachment 2). This will allow for reduced groundwater pumping, which helps contain potential migration of the plume and will aid in reducing cleanup by responsible parties.

Ensure Equitable Distribution of Benefits

The Proposal substantially addresses equitable distribution of benefits in that its intent is to ensure that the Human Right to Water Policy is not violated in the ARB region. The Human Right to Water Policy states that "the use of water for domestic purposes is the highest use of water" (CWC 106) and that "every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes" (CWC 106.3). This human right applies, regardless of the socio-economic status of the communities being served.

As described in *Attachment 2 – Drought Impacts*, earlier this year the region has already experienced the lowest recorded storage in Folsom Reservoir since the dam was completed in 1955. Current storage is already significantly lower than this same time last year in the reservoir. Because of this, local agencies and the Region as a whole have been preparing for a scenario that would limit water uses to indoor uses only. Described below are the Region's effort to address Human Right to Water in the context of the ongoing drought, and the Proposal projects that speak to providing basic water supplies.

Efforts of ARB Region

The ARB Region has a long history of cooperation, collaboration, and investment in developing, implementing, and adapting its vision for integrated regional water management and vision is with the Human Right to Water Policy. As stated in the ARB IRWMP 2013 Update, the ARB IRWMP vision, goals, principles, objectives, and strategies all support long-term, adaptable, proactive management in the Region, and are implemented by the projects and programs that are led by project proponents in the Region.

The ARB IRWMP vision is:

> *The American River Basin Region will responsibly manage water resources to provide for the lasting health of our community, economy, and environment.*

The ARB IRWMP goals support the vision, and include:

Goal	Description
Provide reliable and sustainable water resources, sufficient to meet the existing and future needs of the Region.	This goal focuses on water quantity, encompassing both the supply and demand aspects of water resources. Concepts such as providing sufficient drinking water, increasing efficiency, exploring unconventional water supplies, and reducing demand are covered by this goal. It is also inclusive of water resources for human and ecosystem needs.
Protect and enhance the quality of surface water and groundwater.	This goal focuses on the water quality aspects of water resources, which includes management of point and nonpoint source pollution and water and wastewater treatment. Although water quantity and quality are closely linked, the two goals attempt to distinguish and highlight both concerns.
Protect and enhance the environmental resources of the watersheds within the Region.	This goal focuses on environmental resources of the watersheds, which includes consideration of vegetation, habitat, and ecosystem functions. This goal directly relates to the environment pillar of sustainability, also included in the vision statement.
Protect the people, property, and environmental resources of the Region from damaging flooding.	This goal recognizes that floods pose significant natural disaster risks in the Region and that the Region needs an integrated effort to mitigate and adapt to these risks. The Region also recognizes that flood management and environmental management can be achieved in ways that complement one another.
Promote community stewardship of our Region's water resources.	This goal recognizes that the need for active participation of the community to achieve the vision. Education and increased awareness at all levels of the community, from public officials to the general public, is an integral part of implementing the ARB IRWMP.

The ARB IRWMP strategies and projects support adaptability to future situations (e.g., drought conditions, funding opportunities), as both of these elements are designed to be dynamic and adaptive. ARB IRWMP projects are updated, reviewed, reported, and vetted quarterly. Therefore, the list of approved projects is always aligned to regional and statewide priorities, guidance, and policies.

Financing projects is always a challenge, and it sometimes prevents projects from proceeding to implementation. In recent years, with difficult economic times, these challenges have only increased. However, to realize progress toward achieving the ARB IRWMP vision, goals, and objectives, projects will need to be implemented now and into the future. The ARB stakeholders and project proponents recognize the importance of maintaining the highest standards of cost effectiveness for priority projects. Financing options vary according to each project proponent.

One of the key roles of the IRWMP is to serve to identify the implementation needs of the Region's stakeholders. RWA continues to help stakeholders move projects forward on an ongoing basis, by providing the IRWMP as a vehicle for other ARB stakeholders to identify, vet, prioritize, and promote projects. ***As is evidenced by this Proposal and its 17 projects, natural partnerships have emerged for those projects that benefit multiple stakeholders in the Region and meet urgent needs – such as safe, clean, affordable, and accessible water – during the ongoing drought and into the future.***

American River Basin Drought Response Program – Projects that Assist in Meeting Human Right to Water Goals

While all of the projects in the Proposal will improve the Region's drought preparedness and long-term water supply reliability, there are two areas in the Region that have the most pressing concerns related to being able to provide for basic water supply during the current conditions. These areas and the projects that will help ensure the basic human right to water needs are met in the Region are described below.

City of Sacramento

The City provides water to its service area population of an estimated 466,000 residents (2010 Census). It has two primary sources of water with diversion and treatment from both the American and Sacramento rivers. The City also operates a small groundwater system with a currently capacity of about 15 MGD, and this distribution system

is not capable of providing this source throughout the City. During the current drought the City's minimum demand in winter was about 50 MGD, which is considered primarily indoor water use. Therefore, it is imperative the City be able to divert some portion of its water supply from either the Sacramento or American river.

During the current drought, releases in the Sacramento River and American River have dropped below the design elevation of the respective river diversions. Fortunately, the flows in those river systems have not been reduced at the same time, but there are no assurances that this will not occur in the near future. Basic City water needs can be met if both diversions are improved to allow for taking water at lower flow conditions. There are two projects that will achieve this:

- The **Sacramento River Pump Station Modifications** will allow the City of Sacramento to continue using its diversion on the Sacramento River under nearly all flow conditions.
- The **Lower American River Pump Station Modifications** will allow the City of Sacramento to continue using its diversion on the American River under nearly all flow conditions.

The City is also working on projects to increase the availability of groundwater as a basic source of supply in the event that drought conditions continue to worsen and surface water diversions are further reduced. One project will be a City's rehabilitation of its own wells (Project 6: Phase 2B Well Rehabilitations). The other two projects rely on receiving groundwater from Sacramento Suburban Water District (Project 16: Enterprise Intertie Improvements) and Sacramento County Water Agency (Project 14: Striker Well Upgrades). Combined, these projects can produce nearly 30 MGD to assist in meeting the City's basic water service needs. These three projects include:

- The **Phase 2B Well Rehabilitations** will allow the City of Sacramento to restore 7.7 MGD of its groundwater capacity to make up for surface water shortage and further implement conjunctive operations over the longer term.
- The **Striker Well Upgrades** will allow Sacramento County Water Agency to provide up to 2 MGD of groundwater to the City of Sacramento through an existing intertie, which will allow the City to make up for surface water shortages.
- The **Enterprise Intertie Improvements** will allow Sacramento Suburban Water District to transfer up to 20 MGD to the City of Sacramento when the City has surface water shortage conditions.

San Juan Water District

San Juan is both a wholesale and retail agency serving its own service area and the City of Citrus Heights and Folsom (Ashland Service Area), and the communities of Orangevale, Fair Oaks, and Granite Bay. Folsom, Granite Bay and Orangevale have no access to groundwater and are solely reliant on Folsom Reservoir. As described in Attachment 2 of this Proposal, Folsom Reservoir storage in February was dangerously close to being below the minimum storage level to divert public water supply from the reservoir. While Reclamation has been in the planning stages for a temporary, emergency barge on the reservoir to provide minimal diversions, San Juan must proceed to plan for meeting the long-term and reliable basic water supply needs for its approximately 138,000 customers in its retail and wholesale service areas. Based on minimum demands in winter, San Juan is planning for a minimum service level of 25 MGD to be achieved without diverting from Folsom Reservoir. Western areas in Citrus Heights and Fair Oaks do overly the groundwater basin, so they have access to groundwater with an assumed reliable capacity of about 13 MGD and there is an existing 1 MGD intertie with Placer County Water Agency. The make up the difference in supply needs, San Juan is working with partners in the Region that can provide up to 17.8 MGD. Three projects help achieve this additional supply:

- The **Antelope Booster Pump Station Phase 2** will allow Sacramento Suburban Water District to lift up to 14.4 MGD of available groundwater capacity into San Juan Water District.
- The **Madison Well Construction** project will allow Fair Oaks Water District to self-supply approximately 1.4 MGD from groundwater.

- The **Barton Road Intertie** will allow for an estimated 2 MGD of available surface water to be transferred from PCWA to San Juan Water District.