



Bay Area Drought Relief Program (Bay DRP)

Attachment 7

PROGRAM PREFERENCES

Association of Bay Area Governments
Proposition 84
Integrated Regional Water Management
2014 Drought Grant Application





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List of Acronyms and Abbreviations

AB	Assembly Bill
ABAG	Association of Bay Area Governments
ACWD	Alameda County Water District
AF	acre-feet
AFY	acre-feet per year
AMI	advanced metering infrastructure
AMR	automatic meter reading
BACWA	Bay Area Clean Water Agencies
BAWSCA	Bay Area Water Supply and Conservation Authority
Bay DRP	Bay Area Drought Relief Program
BOD	biological oxygen demand
CBOD	carbonaceous biochemical oxygen demand
CC	Coordinating Committee
CCMP	Comprehensive Conservation and Management Plan
CCWD	Contra Costa Water District
CLP	Cope Lake to Lake I Pipeline
Coalition	Western Recycled Water Coalition
COL-	Chain of Lakes Well No.
CVP	Central Valley Project
DAC	Disadvantaged Community
DBPs	disinfection byproducts
Delta	Sacramento-San Joaquin River Delta
DERWA	Dublin-San Ramon Services District (DSRSD) and East Bay Municipal Utility District (EBMUD) Recycled Water Authority

DSRSD	Dublin-San Ramon Services District
DWR	California Department of Water Resources
EBMUD	East Bay Municipal Utility District
GWMP	groundwater management plan
IRWM	Integrated Regional Water Management
IRWMP	Integrated Regional Water Management Plan
JPA	joint powers authority
kg/yr	kilograms per year
LCA	Lower Cherry Aqueduct
LCWD	Los Carneros Water District
LEED	Leadership in Energy and Environmental Design
MGD	million gallons per day
MMWD	Marin Municipal Water District
MST	Milliken-Sarco-Tulocay
PAC	Powdered Activated Carbon
Prop 84	Proposition 84
Proposal	Bay Area Drought Relief Program, Proposition 84, 2014 Integrated Regional Water Management Drought Grant Application
PSP	Proposal Solicitation Package
RWQCB	Regional Water Quality Control Board
San Mateo County RCD	San Mateo Resource Conservation District
SCVWD	Santa Clara Valley Water District
SFEP	San Francisco Estuary Partnership
SFPUC	San Francisco Public Utilities Commission
SWDU	Statements of Water Diversion and Use
SWP	State Water Project
SWRCB	State Water Resources Control Board
TDS	total dissolved solids
THMs	trihalomethanes
TOC	total organic carbon
TSS	total suspended solids
USGS	U.S. Geological Survey
WTP	water treatment plant
Zone 7	Zone 7 Water Agency

Introduction

The Bay Area Drought Relief Program (Bay DRP), 2014 Integrated Regional Water Management (IRWM) Drought Grant Application (Proposal) and its 11 high-priority projects comprise a geographically diverse and well-integrated implementation program with multiple water supply, water quality, habitat improvement, and socio-economic benefits. This attachment demonstrates that this Proposal includes significant, dedicated, and well-defined projects that meet multiple Program Preferences of the California Department of Water Resources' (DWR's) 2014 IRWM Drought Grant Solicitation Guidelines. This attachment describes the specific Program Preferences met by each of the projects, the certainty that the projects meet the Program Preferences, and the breadth and magnitude to which the Program Preferences are met. **Table 7-1** lists the projects by identification number and identifies which Program Preferences are met by the project. **Table 7-2** (located on the last page of this Attachment) is based on Table 1 of the IRWM Grant Program 2014 Drought Guidelines and provides more detail about which specific statewide priorities are met by each project.

Table 7-1. IRWM Plan Program Preferences by Project

Project ID #	Regional Projects or Programs	Integrative Project within a Hydrologic Region Identified	Resolves Regional Water-related Conflicts	Supports One or More CALFED Bay-Delta Program Objectives	Addresses Critical Water Supply/ Water Quality Needs of a DAC within the Region	Integrates Water Management with Land Use Planning	Helps Reduce Reliance on the Sacramento-San Joaquin Delta for Water Supply	Addresses Statewide Priorities
1	•		•		•			•
2			•	•				•
3			•	•			•	•
4	•		•			•		•
5	•	•	•	•	•	•	•	•
6	•	•	•	•		•	•	•
7	•		•	•			•	•
8			•					•
9			•					•
10	•	•	•	•	•	•	•	•
11			•			•		•

Project 1. Lower Cherry Aqueduct Emergency Rehabilitation Project

Certainty for Meeting the Program Preferences

The San Francisco Public Utilities Commission (SFPUC) owns and operates the Hetch Hetchy Regional Water System, which provides water supply to approximately 2.6 million residents in San Francisco, San Mateo, Santa Clara, and Alameda counties. The Lower Cherry Aqueduct (LCA) in the Upper Tuolumne River watershed has been used in the past by SFPUC to supplement water supply in dry years, providing proven benefits through previous instances of use. The LCA Emergency Rehabilitation Project will restore an aging and damaged connection from the Cherry and Eleanor reservoirs into the San Francisco Regional Water System. This Project will directly and immediately increase water supply for all of SFPUC's customers by more than 150,000 acre-feet (AF) and provide *ongoing* access to 273,500 AF of storage for potable water.

The LCA Emergency Rehabilitation Project will add to the SFPUC's limited supply, which will benefit all of its customers, including low-income and residents of disadvantaged communities. SFPUC's service area includes East Palo Alto, which is a Disadvantaged Community. In addition, by providing access to a reliable water source, this Project will relieve water-related conflicts in the Bay Area region by reducing the hardship posed by the drought.

Breadth and Magnitude of Meeting Program Preferences

The proposed project has regional breadth and will continue to provide benefits over the course of its 25-year projected life span. The LCA Emergency Rehabilitation Project will directly and immediately increase water supply for all of SFPUC's 2.6 million customers by more than 150,000 AF and provide ongoing access to potable water storage. It will ensure that SFPUC can continue making full deliveries to its customers and will reduce the need for further rationing if dry conditions persist. The Project will contribute to long-term water supply reliability and system resiliency and will ease pressure on SFPUC customers' other sources, such as the Santa Clara Valley Water District's (SCVWD's) groundwater reserves. The Project will also enable long-term operational flexibility and adaptive management of water supplies under changing climate conditions.

How the Project Will Address Human Right to Water Policy

SFPUC serves more than 2.6 million customers across four Bay Area counties. Due to aging infrastructure and damage caused by the 2013 Rim Fire, the LCA system is currently unable to reliably convey water supply to SFPUC's water delivery system. The LCA Emergency Rehabilitation Project will rehabilitate and improve the LCA system and allow SFPUC to access up to 150,000 AF of potable water supply from Cherry Reservoir and Lake Eleanor. This will increase the reliability of SFPUC's limited supply of safe, clean, affordable, and accessible water, benefiting all of its customers, including those who are low-income and residents of disadvantaged communities. This Project is well aligned with the goals of AB 685.

Project 2. Rinconada Water Treatment Plant Powdered Activated Carbon (PAC) Treatment

Certainty for Meeting the Program Preferences

Source water quality for imported supplies treated at the Rinconada Water Treatment Plant (WTP) has deteriorated since the drought declaration in January 2014. Increased TDS, bromides, TOC, and taste and odor compounds threaten formation of trihalomethanes (THMs) and exceed drinking water standards. Powdered activated carbon (PAC) has been proven to be effective in reducing these threats and is the least cost alternative for ensuring safe drinking water supply to Santa Clara County. RWTP is the only plant on the west side of Santa Clara Valley Water District's (SCVWD's) treated water system, so it is a critical supply source for retailers. This Project will ensure compliance with drinking water standards for local supply sources and reliable delivery of safe drinking water to users in Santa Clara County.

This Project will reduce water-related conflicts by enabling SCVWD to provide Rinconada WTP retailers with treated water that meets drinking water standards during a time when surface supplies in the region are limited. By treating Delta-conveyed supplies of poor quality, the Project supports operations that meet multiple objectives of the CalFED Bay-Delta Program. Also, the Project addresses Statewide Priorities, particularly those regarding protecting surface water and groundwater quality.

Breadth and Magnitude of Meeting Program Preferences

This Project will have immediate benefits for Santa Clara County. The Rinconada WTP supplies potable water to the following west valley water retailers: City of Sunnyvale, City of Santa Clara, City of Mountain View, San Jose Water Company, and California Water Service Company. The Rinconada WTP treats water from a wide variety of sources – Central Valley Project, South Bay Aqueduct, and local sources. Traditionally, the Rinconada WTP has used PAC in summer months to remove taste and odor compounds but RWTP has not needed it previously for THM treatment. Without the continued use of PAC throughout 2014, however, it is likely that the SCVWD and its retailer water agencies will not meet THM requirements.

The water retailers have limited alternative sources. Use of PAC is the only method available to ensure reliable potable water delivery to west Santa Clara County during this year's drought and future drought years. This Project ensures that drinking water meets water quality standards for more than 500,000 residents by allowing SCVWD to treat more than 39,000 AF of water.

How the Project Will Address Human Right to Water Policy

Over one-half million people depend on the treated water from the Rinconada WTP as their primary source of drinking water. Implementation of this Project will ensure continued delivery of safe, clean, affordable, and accessible water supply for consumption and use, including Disadvantaged Community (DAC) block groups. SCVWD serves and manages its water supplies in a manner that provides high-quality and safe supplies regardless of customers' economic status. This level of SCVWD commitment is in alignment with the goals and aspirations of AB 685.

Project 3. Zone 7 Water Supply Drought Preparedness Project

Certainty for Meeting the Program Preferences

This Project resolves regional water conflicts and reduces reliance on Delta water supply by increasing the availability of groundwater in the Livermore-Amador Valley. This Project involves two main components: a new pipeline to capture groundwater that was previously discharged out of the system, and a new well to provide additional drought relief. This Project will allow Zone 7 to access critical water supplies from the groundwater basin, including capturing "lost" groundwater that was previously pumped by mining companies and discharged to the Arroyo Mocho stream, where it then became inaccessible for potable use. With this project, Zone 7 will be able to redirect the groundwater to a holding reservoir via the new Cope Lake to Lake I Pipeline (CLP) (located at the Chain of Lakes), where the water can later be used for recharge back into the groundwater basin. This retained recharge water will now assist Zone 7 to maintain more sustainable groundwater supplies and allow for additional supply when surface water deliveries are reduced.

Breadth and Magnitude of Meeting Program Preferences

This Project also includes a new well, Chain of Lakes Well No. 5 (COL-5), which will provide access to up to 2 million gallons per day (MGD) of groundwater supply to meet the demands of Zone 7's retailers. Current well production is not adequate to supply 100% of the retailer demands through groundwater pumping alone. The CLP will allow Zone 7 to capture up to 15 MGD of water previously discharged to the Arroyo Mocho by mining companies.

How the Project Will Address Human Right to Water Policy

This Project will help ensure that residents of the Livermore-Amador Valley continue to have access to "safe, clean, and affordable water adequate for human consumption, cooking and sanitary purposes." Without this Project, continuing drought conditions could put the public in jeopardy of not having access to such water.

Project 4. Los Carneros Water District and Milliken-Sarco-Tulocay Recycled Water Pipelines

Certainty for Meeting the Program Preferences

The Napa Sanitation District has a well-established recycled water production and distribution system that currently delivers up to 2,000 AF of recycled water per year. The District is completing the expansion of its recycled water infrastructure (not part of this grant application) to increase production from 2,000 AFY to 3,700 AFY of recycled water. This will provide the necessary recycled water to meet water demands through the new Milliken-Sarco-Tulocay (MST) and Los Carneros Water District (LCWD) recycled water pipeline distribution systems (which are included in this grant application). These pipelines will directly resolve water supply issues for agricultural users in the MST and LCWD areas, and they will increase potable water availability through reduced groundwater extraction for agricultural uses in these areas. As the County has already established a "no net increase of groundwater use" planning policy in the MST area, any amount of recycled water used to offset groundwater use has a direct impact on groundwater availability for potable uses. This Project supports the state goal of increased recycled water use by at least 1 million AFY by 2020 and 2 million AFY by 2030, and to substitute as much recycled water for potable water as possible by 2030.

Breadth and Magnitude of Meeting Program Preferences

The Napa Sanitation District is part of the North Bay Water Reuse Authority, a coalition of 10 member agencies in the North Bay area working together on a regional scale to develop recycled water production and distribution projects to serve the communities of Marin, Sonoma, and Napa counties.

The Napa Sanitation District is committed to the recovery and beneficial reuse of wastewater for recycled water purposes. This Project will serve recycled water to water-deficient areas for decades to come. These Projects are part of a Phase 1 project to increase recycled water distribution to these areas. Future projects are being planned to

increased production, storage, and delivery of recycled water. These pipelines in the MST and LCWD areas serve as the backbone of the distribution system into these geographic areas, with future distribution expansion (Phase 2) reliant upon these Projects.

How the Project Will Address Human Right to Water Policy

In the MST area, these recycled water projects will reduce the use of groundwater for irrigation and agricultural purposes in areas that are groundwater deficient and under increasing potable water pressure. As these areas rely on groundwater for their potable water supplies, the use of recycled water as an alternative makes additional water available for potable uses.

In the LCWD area, a dozen residents must truck in water each summer. Introducing recycled water will go a long way toward addressing this problem. Additionally, minimizing groundwater extractions will assist in mitigating saline intrusion effects. All of these benefits lead to better and more reliable access to adequate potable water for human consumption, cooking, and sanitary purposes.

Project 5. Sunnyvale Continuous Recycled Water Production Facilities and Wolfe Road Pipeline

Certainty for Meeting the Program Preferences

This Project is consistent with SCVWD's Water Supply and Infrastructure Master Plan, which presents the strategy for achieving water supply reliability in Santa Clara County, including the South sub-region. It integrates efforts by SCVWD and Sunnyvale to expand recycled water use to support conjunctive management and water supply reliability and efforts to reduce nutrient loading to San Francisco Bay. The agencies are entering into partnership agreements that specify roles and responsibilities to ensure continued integration and cooperation.

The Project has been developed through a partnership that includes Apple, the City of Cupertino, the City of Sunnyvale, California Water Service Company, and SCVWD. The Apple 2 Campus will be certified through the Leadership in Energy and Environmental Design program (LEED-certified), incorporating water efficiency measures and the use of recycled water. The development of the Project is consistent with both land and water use planning.

This Project resolves water-related conflicts by increasing the availability of recycled water. Recycled water development in the South sub-region reduces reliance on Delta-conveyed supplies. The region relies on Delta-conveyed supplies for 40% of its needs. Recycled water provides in-lieu groundwater recharge as part of SCVWD's conjunctive use program. The Project will also construct a pipeline and expand recycled water treatment capacity into the City of Cupertino and the California Water Service Company service area. Recycled water is also a drought-proof supply that will help the South sub-region adapt to climate change. Further, local non-potable recycled water production has a lower energy intensity than imported water supplies, so developing recycled water instead of importing additional water avoids greenhouse gas emissions. Recycled water use protects water quality by reducing pollutant loading to San Francisco Bay.

Breadth and Magnitude of Meeting Program Preferences

The Project is a Western Recycled Water Coalition (Coalition) project. Constructing Coalition projects will provide multiple benefits: developing more than 120,000 AFY of dry-year yield; providing drought-tolerant, sustainable water supplies for industry, agriculture, landscape, and wetlands enhancement; improving surface water quality; and saving energy. Increases in non-potable recycled water use correlate directly to reductions in pollutant discharges to San Francisco Bay. This integrated Project will benefit water quality in San Francisco Bay as well as improve water supply reliability throughout the South sub-region.

Reduced reliance on imported water supplies from the Delta reduces water demand conflicts throughout the State. Reducing nutrient loading to San Francisco Bay benefits the entire Bay Area. The Project is consistent with SCVWD's 2012 Water Supply and Infrastructure Master Plan, which calls for 30,000 AFY of non-potable recycled water use and 20,000 AFY of potable reuse. This partnership between industry, land use agencies, and water agencies has broad applicability throughout the region. Improved and more efficient conjunctive management, recycled water use, and greenhouse gas emissions avoidance in the South sub-region meet multiple statewide priorities.

How the Project Will Address Human Right to Water Policy

SCVWD, the primary water resources management agency in Santa Clara County, serves 1.9 million residents and 200,000 commuters. SCVWD serves and manages its water supplies in a manner that provides high-quality and safe

supplies regardless of customers' economic status. This level of SCVWD commitment is in alignment with the goals and aspirations of AB 685. This Project specifically provides additional recycled water that equitably increases everyone's regional potable water reliability. The Project will also add sustainable water supplies for everyone in the county into the future.

Project 6. DERWA Phase 3 Recycled Water Expansion Project

Certainty for Meeting the Program Preferences

DERWA is an interagency partnership formed in 1995 between Dublin-San Ramon Services District (DSRSD) and East Bay Municipal Utility District (EBMUD) to provide a regional drought-resistant water supply for irrigation while preserving drinking water and the environment. This recycled water Project integrates the reduction of wastewater discharge to the San Francisco Bay and offsets the use of limited potable water with recycled water. DERWA began operations in 2006. In 2013, DERWA delivered more than 3,900 AF of recycled water to customers in the East Bay. DERWA and its member agencies are invested in the long-term development of recycled water in the region and continue to plan for expansion of the regional system. DERWA Sales and Supply Agreements have 40-year term limits that began in 2003. EBMUD's Mokelumne River supply is a tributary to the Delta and DSRSD diverts from the Delta. This recycled water project reduces impacts to Delta to the benefit and health of the Delta environment and helps to reduce regional water conflicts. Land use planning is carefully coordinated to ensure the availability of a reliable water supply. This Project provides a water supply of 867 AFY that permanently reduces potable water demands for non-potable uses.

Breadth and Magnitude of Meeting Program Preferences

The proposed Project has regional breadth that spans two counties and several cities and will have increasing magnitude over the years. The Project will contribute to long-term water supply reliability, recycled water availability, reduction of demand on the Delta, and reduction of pollution to the San Francisco Bay. This Project will have lasting, positive effects on the environment.

Both DSRSD's and EBMUD's water supplies are associated with the Delta. DSRSD's water supply comes from the State Water Project (SWP), which diverts water from the Delta; EBMUD's water supply comes from the Mokelumne River, a tributary to the Delta. Implementation of this Project will reduce diversions from the Delta, thereby contributing to an improved Delta ecosystem and increasing flows to downstream users in the Central Valley, an area severely impacted by flow reductions in the Delta. Recycled water provides a long-term, drought-proof water supply that increases water supply reliability and availability for DSRSD and EBMUD. This Project will provide 867 AFY of recycled water supply, permanently reducing potable water demands by an equivalent amount. This Project will also reduce nutrient loading to the San Francisco Bay, reducing total nitrogen by 38.5 metric tons per year, total dissolved solids by 7 metric tons per year, and carbonaceous biological oxygen demand (CBOD) by 4 metric tons per year.

How the Project Will Address Human Right to Water Policy

This recycled water project will offset the use of limited potable water supply for non-potable uses and preserve it for drinking water for the benefit of all DSRSD and EBMUD ratepayers in Alameda and Contra Costa counties, including low-income ratepayers or disadvantaged communities, as shown in Figure 2-15 on page 2-42 of the 2013 Bay Area IRWM Plan. This recycled water project contributes to DERWA's (DSRSD's and EBMUD's) long-term recycling goal, which will reduce the need for severe rationing during prolonged droughts. DSRSD and EBMUD as water agencies have the responsibility to provide water that meets regulatory standards to about 1.38 million water customers (1.35 million EBMUD water customers, 77,250 DSRSD water customers).

Project 7. Calistoga Recycled Water Storage Facility

Certainty for Meeting the Program Preferences

The City of Calistoga in Napa County receives half of its water supply from the SWP. The Calistoga Recycled Water Storage Facility Project will enhance recycled water production and storage to provide increased recycled water supply for urban and agricultural use. Increasing recycled water supply will have a conjunctive benefit in that it will reduce reliance on existing SWP sources and water-related regional conflicts. Recycled water provides a sustainable local water supply source that reduces reliance on imported and local water supplies (Delta, surface water, and

groundwater) and improves water quality in the Napa River and ultimately the San Francisco Bay (reduced wastewater discharges, improved ecosystem).

Bay Area agencies and organizations have implemented recycled water programs for many decades. This Project will support and strengthen ongoing regional implementation efforts for recycled water programs.

Breadth and Magnitude of Meeting Program Preferences

Calistoga currently delivers about 26% of its annual water demand from recycled water. This Project will allow the City to increase recycled water supply by another 14% (an increase of about 25 AFY to an average of 205 AFY). Not only will this Project continue to supply the existing recycled water demand, it will allow the City to run the recycled water system year-round (an estimated increase of 7%, or 13 AFY) and supply new customers (estimated to increase by 7%, or 12 AFY).

The proposed Project has regional breadth and will increase in magnitude in future years. The Project will contribute to long-term water supply reliability, recycled water availability, and habitat restoration. The new storage facility will allow the City to store water rather than discharge it to the Napa River during low flow/drought conditions when dilution ratios cannot be met, thereby protecting riparian habitat that may be sensitive to effluent constituents at higher concentrations. The Project will reduce treated-water effluent discharge to the Napa River/San Francisco Bay by 61 AFY. This will reduce nutrient loading to the Napa River/San Francisco Bay as follows: biological oxygen demand (BOD), 379 kilograms per year (kg/yr); total suspended solids (TSS), 341 kg/yr; and total nitrogen, 1,514 kg/yr.

How the Project Will Address Human Right to Water Policy

This Project meets Objective 13 - Ensure Equitable Distribution of Benefits of AB 685. Unlike larger municipalities, Calistoga has a small population base that pays for its significant operations, capital replacement, and aging infrastructure costs. Calistoga currently has the highest water and sewer rates in Napa County, which make its utility rates disproportionately high. The same treatment standards to provide safe and clean water to customers are required of cities regardless of their population.

Recycled water is one of the most reliable water sources available in Calistoga. Recycled water comes from the most sustainable source, treated wastewater. Treated wastewater will never go away; people will always flush their toilets, wash dishes and clothes, and take showers that generate this extremely valuable resource. Upon processing this wastewater through a treatment plant, this resource can be utilized as a continuous, sustainable source in lieu of potable water and groundwater use for irrigation purposes. With increased storage, the City will have the ability to operate its recycled water system 365 days per year, rather than the 8 months (240 days) per year of current operations. It is estimated that this Project will increase water supply reliability by 14% (an increase of about 25 AFY to an average of 205 AFY).

Project 8. Drought Relief for South Coast San Mateo County

Certainty for Meeting the Program Preferences

The Project improves drought preparedness, water supply reliability, and reliability of safe drinking water within the south coast region of San Mateo County. The Project helps rural communities, which rely entirely on local water supplies, to meet their water use needs while also protecting critical instream habitat for salmonids and other aquatic species.

This Project addresses critical water supply issues in 2014 and beyond by (1) developing and implementing a regional emergency water supply coordination plan to extend water supplies and coordinate actions among various local entities to reduce water shortages and provide a local plan of action in the event that residents run out of water; (2) fixing significant water system leaks and broken pipes; (3) improving water conveyance and storage facilities; and (4) increasing water supply and drought resiliency for domestic, agricultural, and environmental water use by implementing water use efficiency improvements and strategic water diversion management on farms.

The Project addresses critical water supply and water quality issues throughout the Pescadero-Butano and San Gregorio creek watersheds; implementation of this project will increase local water supply reliability and delivery of safe drinking water for the region.

Breadth and Magnitude of Meeting Program Preferences

The U.S. Drought Monitor designated the southern half of the Bay Area (including the Project area) as an area of Exceptional Drought. Groundwater supplies in the region are limited by the local geology, so most water is acquired from the region's creeks and springs by pumps and wells adjacent to these waterways. Based on more than 35 years of streamflow data from the U.S. Geological Survey (USGS) gages located on San Gregorio Creek (USGS 11162570) and Pescadero Creek (USGS 11162500), stream flows recorded to date in these watersheds during 2014 are approximately 8% and 7% of average, respectively.

This Project will improve both immediate and long-term water supply and water quality reliability: it will provide a more reliable drinking water supply to the approximately 4,050 residents and 9,000 park visitors in the south San Mateo coast region. This Project is estimated to generate about 14 million gallons of water per year in the form of additional water supply and 51 million gallons of water per year in reduced water demand due to improved water storage and distribution efficiencies. This volume of water represents approximately 22% of the estimated domestic water supply allocations for all residents in the area. Additionally, the locations of water supply projects and the reduced summer diversion rates (from improved water pumping management practices) and amounts will augment in-stream flows that are critical to summer salmonid rearing. Modifications in pumping rates will reduce local stream impairments by as much as 65% during low flow periods.

If this Project is not implemented, residents will continue to truck in potable water, which will increase greenhouse gas emissions; the popular San Mateo County Memorial Park campground will remain closed; and agricultural water users in the area will be forced to fallow fields. In addition, if water diversion pumping and low flow conditions continue at the current rates, salmonid populations, including federally listed endangered and threatened species, will be increasingly at risk.

How the Project Will Address Human Right to Water Policy

This Project addresses the Human Right to Water Policy by improving water reliability and ensuring that residents, migrant farmworkers, at-risk youth at residential care facilities, and others residing or visiting some of the most rural communities within San Mateo County have access to potable water. Rural water suppliers within San Mateo County's south coast region are isolated from other water purveyors and water sources; potable and agricultural water supplies in the region depend entirely on local surface water and groundwater sources.

The distance from municipal water supply infrastructure located elsewhere in the Bay Area makes the development of water system interties infeasible because the high costs of infrastructure and maintenance are not financially feasible with only a small customer fee base. Some residents have already begun trucking in water from other areas. Without emergency drought relief funding, many residents will be in danger of having no water supply, and trucking in water from other areas is expected to increase. Implementation of this Project will ensure that the Project area will have sufficient clean, affordable, and accessible water for human consumption, cooking, and sanitary purposes.

Project 9. Stinson Beach Water Supply & Drought Preparedness Plan

Certainty for Meeting the Program Preferences

The Project involves construction of a new groundwater well and connections to privately owned wells to increase water supply and reliability. The Project also includes pipeline replacements and water meter installations and replacements to identify and fix leaks in the Stinson Beach County Water District's water system. The groundwater supply components of the Project will increase local water supply reliability and safe drinking water.

The Project will provide direct environmental benefits from more efficient water supply use and distribution, and reducing the need to extract surface water supplies during drought and emergency periods. This Project is supported by a well-established planning and implementation infrastructure. Bay Area agencies and organizations have implemented conservation programs for many decades, and this Project will support and strengthen ongoing regional implementation efforts.

Breadth and Magnitude of Meeting Program Preferences

The new groundwater well and connections to existing wells will increase the District's water supply by 10 million gallons per year (MGY), which represents nearly 18% of the District's total annual water production. The pipeline

replacement Projects and the water metering efforts will alleviate approximately 5 MGY of lost supply due to leaks, and the groundwater well Projects will provide 10 MGY of drought and emergency supplemental groundwater supply.

The proposed Project has regional breadth and will have increasing magnitude over the years. This Project will have lasting, positive effects on the environment. The Project will contribute to long-term water supply reliability and improvements for fish and wildlife by allowing for as much as 15 MGY of increased in-stream creek flows.

How the Project Will Address Human Right to Water Policy

This Project addresses the AB 685 principles that pertain to facilitating access by rural communities to state funds for infrastructure improvements and safe, clean, affordable, and accessible water supplies.

The District and its service area are isolated from other cities and large water agencies in the greater San Francisco Bay Area and Marin County, and the isolated service area contains very limited sources of surface water and groundwater water supplies. There are no existing or feasible possibilities for intertie connections or water transfers with other water agencies, and surface water and groundwater supplies available from the small coastal drainages are very limited. The District's surface water sources are small creeks that drain the coast side of Bolinas Ridge. Groundwater resources are very limited in size and capacity, consisting primarily of small alluvial groundwater deposits at the mouths of two creeks that drain the Bolinas Ridge and smaller amounts of groundwater in the fractured rock and sandstone formations that form the Bolinas Ridge. These limited supply sources are highly vulnerable to climatic conditions and seasonal water shortages resulting from large numbers of summer vacationers. These limited water resources are also shared with anadromous fish.

The popular Stinson Beach and parks surrounding the town attract thousands of visitors daily during the summer months. The primary challenge facing the District is meeting peak water demand while also maintaining creek flows for fish and wildlife. On average, over the past 10 years, the District produces approximately 55 MGY of water (approximately 170 AFY). Seasonal water production ranges from approximately 3.0 MG (9 AF) per month in the winter to more than 6 MG (18 AF) per month in the summer.

Project 10. Bay Area Regional Drought Relief Conservation Program

Certainty for Meeting the Program Preferences

The 12 proponents of this project (12 implementing agencies and organizations) serve the entire Bay Area population, and this Project will accelerate the region's ability to respond to the statewide drought emergency. The Project will also lessen dependency on water supplies from the Bay/Delta, improve watershed ecosystems, and reduce energy consumption and greenhouse gases throughout the region. The Project focus is regional water conservation and involves the integration of stakeholders, institutions, and resources across the Bay Area.

Breadth and Magnitude of Meeting Program Preferences

This Project will achieve immediate and long-term drought relief, reducing demand on limited water supplies by approximately 1,200 AFY for a 20-year project total of approximately 24,000 AF. The Project will resolve water-related conflicts by improving landscape irrigation efficiencies and reducing non-point-source pollution. In addition, the breadth and magnitude of the Project will lessen energy demands by approximately 8,780 MWh and reduce greenhouse gas emissions by approximately 3.5 million pounds of CO₂ annually, for a project total of approximately 176,000 MWh and 60 million pounds of CO₂, respectively. Furthermore, the Project will ensure water availability for environmental demands and human consumption, and will reduce reliance on supply from the Delta by saving Delta diversions of approximately 840 AFY, for a Project total of approximately 16,800 AF.

The Project will reduce water demands for agencies that derive their supplies from the Delta and, as a result, will leave additional supplies for the Delta to provide increased dilution of pollutants to support a healthier ecosystem. More efficient use of water supply will improve flow to aquatic ecosystems and help habitat restoration. The resulting water savings from the Project will help reduce diversions from the Delta and upstream of the Delta, allowing more in-stream flows on a year-round basis. Additionally, landscape Projects promoting use of native and drought-tolerant plantings that require fewer nutrients and less water will help reduce urban runoff and water quality impacts to water bodies.

Implementing parallel agency Projects will provide data and feedback from which to evaluate and compare the effectiveness of incentive Projects among the diverse populations of the region. Working within a regional framework

will help improve the pricing, structure, and quality control of incentive Projects and support water-related regional planning and land use goals.

This Project will reduce not only potable water use but wastewater processing as well. Less water and wastewater to pump and treat, in turn, will reduce energy consumption and the associated greenhouse gas emissions. By reducing overall water use, energy demand and costs associated with the pumping of raw water, treatment plant operation, the distribution of finished, potable water, and wastewater collection and treatment are all likewise reduced. Reduction in treatment process chemicals also means less energy needed to produce and transport the chemicals.

How the Project Will Address Human Right to Water Policy

This Project increases water security and equity for all Bay Area customers, including low-income residents and residents of disadvantaged communities. Impacts to potable water supply caused by wasteful discretionary use in landscape irrigation and indoor consumption will be reduced, thereby increasing accessibility to an adequate supply of safe, clean, and affordable water for human consumption. This Project supports the Human Right to Water Policy, although it does not provide new water supplies to an area or a population previously lacking high-quality drinking water.

Project 11. WaterSMART Irrigation with AMI/AMR

Certainty for Meeting the Program Preferences

MMWD has implemented similar projects and programs for many decades, and development investments have occurred for elements of the Project that will support and facilitate overall Project implementation. In addition, the Project addresses landscape water use directly, which is consistent with the California Urban Water Conservation Council's statewide effort to develop a new norm in landscapes in California.

Breadth and Magnitude of Meeting Program Preferences

Immediate and long-term drought relief will be achieved by reducing demand on limited water supplies by approximately 300 AFY, for a 15-year project total of approximately 4,500 AF. The Project will resolve water-related conflicts by improving landscape irrigation efficiencies and reducing non-point-source pollution, lessening energy demands, and reducing greenhouse gas emissions, ensuring water availability for environmental demands and human consumption.

This Project will provide direct benefits to drought relief and water supply through conservation measures, including advanced metering infrastructure (AMI) and automatic meter reading (AMR) hardware and software, and landscape irrigation equipment upgrades. The Project will also provide cross-functional benefits. For example, water-efficient landscape and irrigation controller rebates provide direct benefits to receiving water bodies through reduced irrigation overspray and runoff, and the use of natural plantings that require fewer nutrients provides benefits to water quality. Therefore, this Project is expected to contribute to a reduction in concentration of water quality contaminants.

More efficient use of water supply will improve flow to aquatic ecosystems and improve wildlife habitat, as well as freeing up potable supply. The Project also supports environmental stewardship by promoting water use efficiency in the landscape, eliminating runoff onto pavement, and reducing the use of chemical fertilizers, herbicides, and pesticides.

The Project will enhance water supply reliability because the ability to respond to supply shortages due to emergency, regulatory, or drought conditions will be improved through the reduction of normal demand requirements that will result from implementing this Project.

How the Project Will Address Human Right to Water Policy

This Project increases water security and equity for all MMWD customers. Impacts to potable water supply caused by wasteful and discretionary use in landscape irrigation will be reduced, thereby increasing accessibility to an adequate supply of safe, clean, and affordable water for human consumption. This Project supports the Human Right to Water Policy but does not provide new water supplies to an area or a population previously lacking high-quality drinking water.

