ATTACHMENT: 2

Project Justification

East Contra Costa County Integrated Regional Water Management

Proposition 84 2015 Implementation Grant Application

List of Acronyms and Abbreviations

AF	acre-feet
AFY	acre-feet per year
CO_2e	carbon dioxide equivalent
CEQA	California Environmental Quality Act
CFS	cubic feet per second
CIMIS	California Irrigation Management Information System
CCWD	Contra Costa Water District
DEC	Delta Energy Center
DAC	Disadvantaged Communities
Delta	Sacramento–San Joaquin River Delta
DWR	Department of Water Resources
ECCC	East Contra Costa County
Eto	evapotranspiration
FWSS	Future Water Supply Study
GHG	greenhouse gas emissions
GPD	gallons per day
HOA	homeowners association
kWh	kilowatt-hour
IRWM	Integrated Regional Water Management
lbs.	pounds
LPS	Local Project Sponsor
LMEC	Los Medanos Energy Center
MOU	Memorandum of Understanding
MG	million gallons
MGD	million gallons per day
mg/L	milligrams per liter
MHI	median household income
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
Prop 84	Proposition 84
Proposal	ECCC Sustainable Delta Water Management Proposal
RWQCB	Regional Water Quality Control Board
RWF	recycled water facility
RWPS	raw water pump station
sq. ft.	square feet

TMDL	total maximum daily load
UWMP	urban water management plan
WWTP	wastewater treatment plant

Introduction

The East Contra Costa County (ECCC) Integrated Regional Water Management (IRWM) Region is part of the San Joaquin River IRWM Funding Region. This 2015 ECCC Sustainable Delta Water Management Proposal and its three high-priority projects compose a geographically diverse and well-integrated implementation program, with multiple water supply and recycled water benefits to region's diverse population and natural resources. This attachment demonstrates that this proposal contains significant, dedicated, implementable, and well-defined projects that meet multiple Program Preferences of the California Department of Water Resources (DWR) Proposition 84 (Prop 84) IRWM Guidelines. This attachment describes how the ECCC Sustainable Delta Water Management Proposal provides direct water-related benefits to the region, including to disadvantaged communities (DACs), and meets the ECCC IRWM Plan Objectives as well as DWR's evaluation criteria for this funding round.

The ECCC Sustainable Delta Water Management Proposal includes three projects that address two primary IRWM benefits: water conservation and recycled water supply. These projects support sustainable management of water resources of the San Francisco–San Joaquin River Delta (Delta), and target the highest statewide priorities for drought preparedness and water use/reuse efficiency. The Proposal includes a program to encourage conversion of high water use lawns to water-wise gardens, and two recycled water projects that will benefit the quality and quantity of Delta flows. These projects will provide immediate and sustainable benefits by reducing water demands long-term, improving water quality, while supporting water supply for aquatic resources in the Delta. A brief description of grant administration tasks is provided as Project 4.

To facilitate review, the projects are grouped by primary benefit type, as listed in **Table 2-1** below. **Table 2-2** provides an abstract for each project. A **Regional Map** showing the locations of these projects in relation to the ECCC IRWM Region is included as **Figure 2-1**. Details and justifications for each of the three high-priority projects are provided in this attachment following the summary tables.

Table 2-1. ECCC Sustainable Delta Water Management Proposal Identification Numbers and Organization

Primary Project Benefit	Project ID #	Project Proponent	Project Title
Water Conservation	1	Contra Costa Water District (CCWD)	East Contra Costa County Lawn to Garden Rebate Program
Recycled Water Supply	2	City of Brentwood	Brentwood Non-Potable Water Distribution System – Phase III
	3	Delta Diablo	Delta Diablo Recycled Water Supply Expansion and Residential Fill Station Project
-	4	CCWD	Grant Administration

Table 2-2. ECCC Sustainable Delta Water Management Proposal Project Abstracts

Project ID #	Project Name	Project Proponent	Project Abstract
1	East Contra Costa County Lawn to Garden Program	CCWD	A rebate program will reduce non-essential potable water by 11.8 AFY from lawns converted to water-wise gardens, which reduces potable water usage and demands on the Delta.
2	Brentwood Non-Potable Water Distribution System – Phase III	City of Brentwood	By expanding pipelines, the project will reduce potable water usage by 73.65 AFY, serve a larger area, decrease chloride discharge, and reduce demand on the Delta.
3	Delta Diablo Recycled Water Supply Expansion and Residential Fill Station Project	Delta Diablo	With installation of a backup generator and fill station, 208 AFY of recycled water will be available to reduce potable water usage and reduce reliance on the Delta.

Regional Map

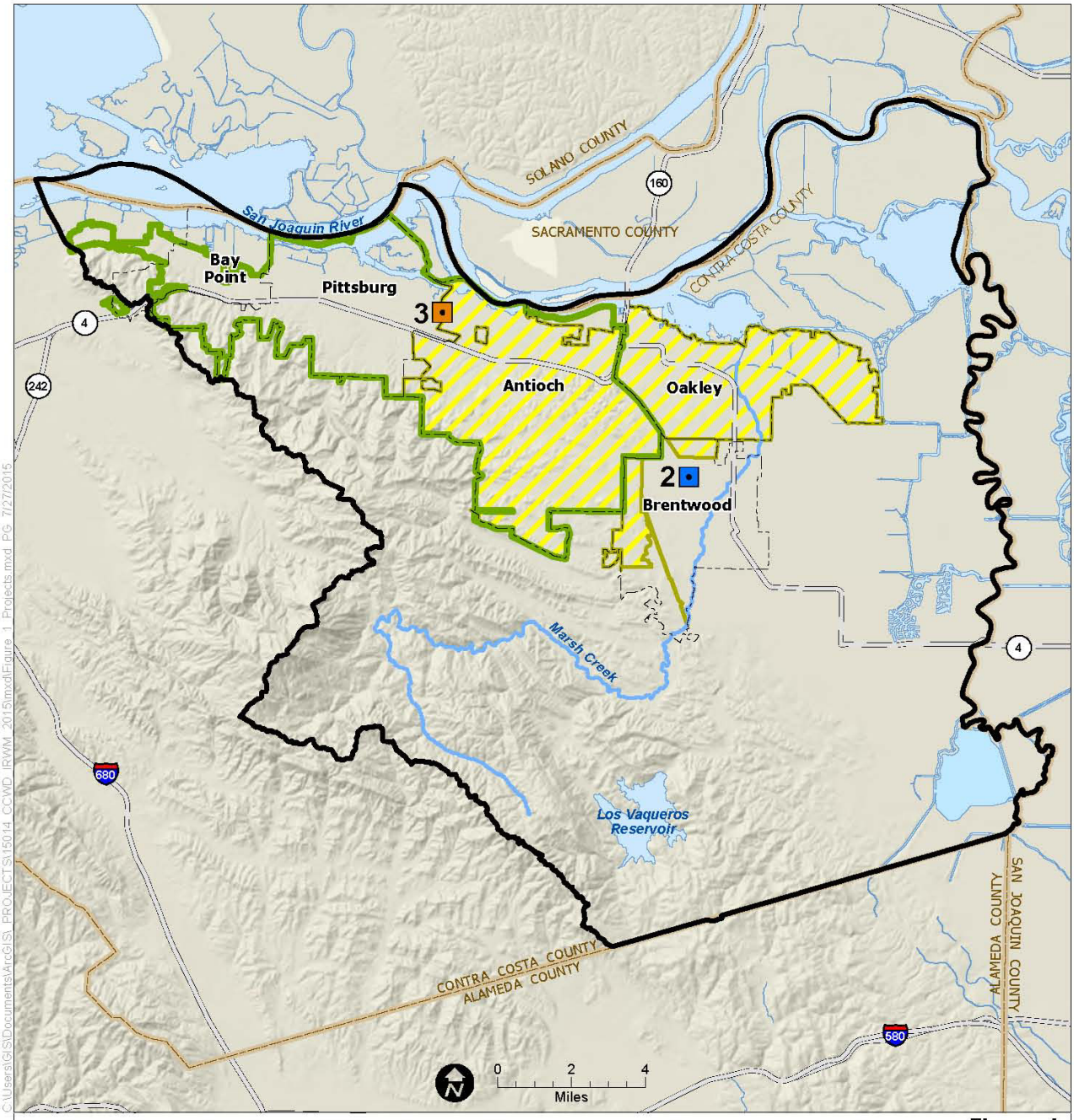


Figure 1

East Contra Costa County 2015 IRWM Implementation Grant Program

Project 1
Contra Costa Water District
East Contra Costa County Lawn to Garden Rebate Program

Project 2
City of Brentwood
Brentwood Non-Potable Water Distribution System -- Phase III

Project 3
Delta Diablo
Delta Diablo Recycled Water Supply Expansion and Residential Fill Station Project

East Contra Costa County IRWM Boundary
Delta Diablo Service Area
City Limits

Project Summary Table

PSP Table 4 lists the projects by identification number and identifies which aspects of the IRWM Project Elements are met by the three projects. The IRWM Project Elements presented in the table are as follows:

IR.1: Water supply reliability, water conservation, and water use efficiency

IR.2: Stormwater capture, storage, cleanup, treatment, and management

IR.3: Removal of invasive non-native species; the creation and enhancement of wetlands; and the acquisition, protection, and restoration of open space and watershed lands

IR.4: Nonpoint source pollution reduction, management, and monitoring

IR.5: Groundwater recharge and management projects

IR.6: Contaminant and salt removal through reclamation, desalting, and other treatment technologies and conveyance of reclaimed water for distribution to users

IR.7: Water banking, exchange, reclamation, and improvement of water quality

IR.8: Planning and implementation of multipurpose flood management programs

IR.9: Watershed protection and management

IR.10: Drinking water treatment and distribution

IR.11: Ecosystem and fisheries restoration and protection

PSP Table 4 - 2015 IRWM Implementation Grant Application Project Summary Table			
IRWM Project Elements	**1**	**2**	**3**
	East Contra Costa County Lawn to Garden Rebate Program	Brentwood Non-Potable Water Distribution System – Phase III	Delta Diablo Recycled Water Supply Expansion and Residential Fill Station Project
IR.1	♦	♦	♦
IR.2			
IR.3			
IR.4	♦		
IR.5			
IR.6		♦	♦
IR.7		♦	♦
IR.8			
IR.9	♦	♦	♦
IR.10			
IR.11	♦	♦	♦

Project Justification

Project justifications include the following information for each project:

A. Project description;

B. Project map;

C. Annual project physical benefits (primary and secondary) (PSP Table 5) and technical analysis of physical benefits claimed;

D. Direct water-related benefits to a DAC;

E. Project Performance Monitoring Plan; and

F. Cost effectiveness analysis (PSP Table 6).

References supporting the project physical benefits described for each project are identified in each project discussion.

PROJECT 1 – EAST CONTRA COSTA COUNTY LAWN TO GARDEN REBATE PROGRAM

A. Project Description

Project Goals: The goals of the East Contra Costa County Lawn to Garden Rebate Program (Program) are to provide incentives to East Contra Costa County customers to reduce non-essential potable water usage through a program that provides customer rebates for conversion of lawns to water-wise gardens to achieve immediate and long-term drought relief and reduce water supply demands on the Sacramento-San Joaquin River Delta (Delta).

Project Description: The Contra Costa Water District (CCWD) is both a retail and wholesale water provider, serving approximately 500,000 people as well as several major industries in portions of north, central, and east Contra Costa County. CCWD owns and operates four Delta intakes, as well as the Los Vaqueros Reservoir. Nearly all of CCWD's supplies are drawn from the Delta.

CCWD is balancing water supply with expected demands to ensure customers have a high-quality, reliable long-term water supply. Long-term planning includes addressing the requirements of Senate Bill X7-7 to reduce per-capita urban water use by 20% by December 31, 2020, with the goal of reducing water supply requirements on the Delta. CCWD's 1996 and soon-to-be-released 2014 Future Water Supply Study (FWSS), as referenced in the 2010 Urban Water Management Plan (UWMP) (CCWD 2011), provides a basis to achieve these goals and recommends a mix of projects from recycled water, water transfers to meet dry years, and conservation-based use reduction such as the Lawn to Garden Rebate Program. Conservation programs encourage public acceptance of the concept that saving our natural resources is everyone's responsibility.

CCWD first implemented the Lawn to Garden Rebate Program throughout its service area (including East Contra Costa County) in 2012, which program is funded through the Proposition 84 Rounds 1, 2, and Drought Implementation Grants. In 2015, the Lawn to Garden Rebate Program became the most popular rebate program offered by CCWD due to customer response to the ongoing drought. To comply with the State's order for a 28 percent statewide reduction in water use, CCWD implemented its Stage 3 Water Shortage Contingency Plan, as outlined in Table 4-5, page 55, of the CCWD 2010 Urban Water Management Plan (CCWD 2011), requiring its residential customers to save 25 percent compared to 2013 and its irrigation customers to save 45 percent. This caused a spike in rebate applications, and current funds for the program are estimated to be depleted by early 2016. It is expected that program participation will continue to grow in 2016 due to ongoing drought conditions. This 2015 grant would fund rebates in the East County (Antioch, Oakley, and portions of Brentwood) beginning in early 2016 and continuing through the end of 2017.

CCWD's rebate level is $1.00 per square foot of lawn (irrigated with sprinklers) that is replaced with drip-irrigated water-wise plants. The converted area must include a sufficient number of drought tolerant plants to ensure at least 50% of the converted area is covered with plants when the plants are fully grown. Permeable hardscape is eligible; however, the 50% plant cover still applies to the entire area. This grant request for $100,000 will supplement the current successful rebate program and provide for approximately 2.3 acres of lawn to garden conversion (estimated to benefit up to 100 homes within the East County). Metered customers are eligible for the rebate program, and conversion is limited to only front lawns or publically accessible areas visible to the general public. The intention is to encourage conversion of front lawns and publically accessible areas to provide visible examples of water-efficient landscapes to the community and encourage everyone to convert their lawns.

Other CCWD conservation efforts already in place include a suite of rebates for high-efficiency toilets, clothes washers, and irrigation equipment.

Anticipated Physical Benefits/Intended Outcomes: The water conservation benefits of this project will lessen dependency on water supplies from the Delta (primary) and improve fishery flows by reducing Delta diversions (secondary). Conservation benefits of the $100,000 grant will supplement those of a larger rebate program already being implemented; benefits in aggregate will achieve immediate and long-term drought relief, lessen energy demands and greenhouse gas emissions of potable water treatment, and reduce demands from the Delta, thereby improving flow for fisheries.

Regional Applicability: Programs promoting landscape efficiency, including the proposed program, provide year-round benefits, in particular during hot summer months, when landscape watering increases and the Delta is most vulnerable.

B. Project Map

The project area is the ECCC IRWM boundary within CCWD's service area only; the project area does not include the San Francisco Bay Area IRWM Region overlap (west of Antioch). This $100,000 grant amount will fund the communities in the San Joaquin IRWM Funding Region only; in particular, funding will be applied to the cities of Antioch, Oakley, and a portion of Brentwood.

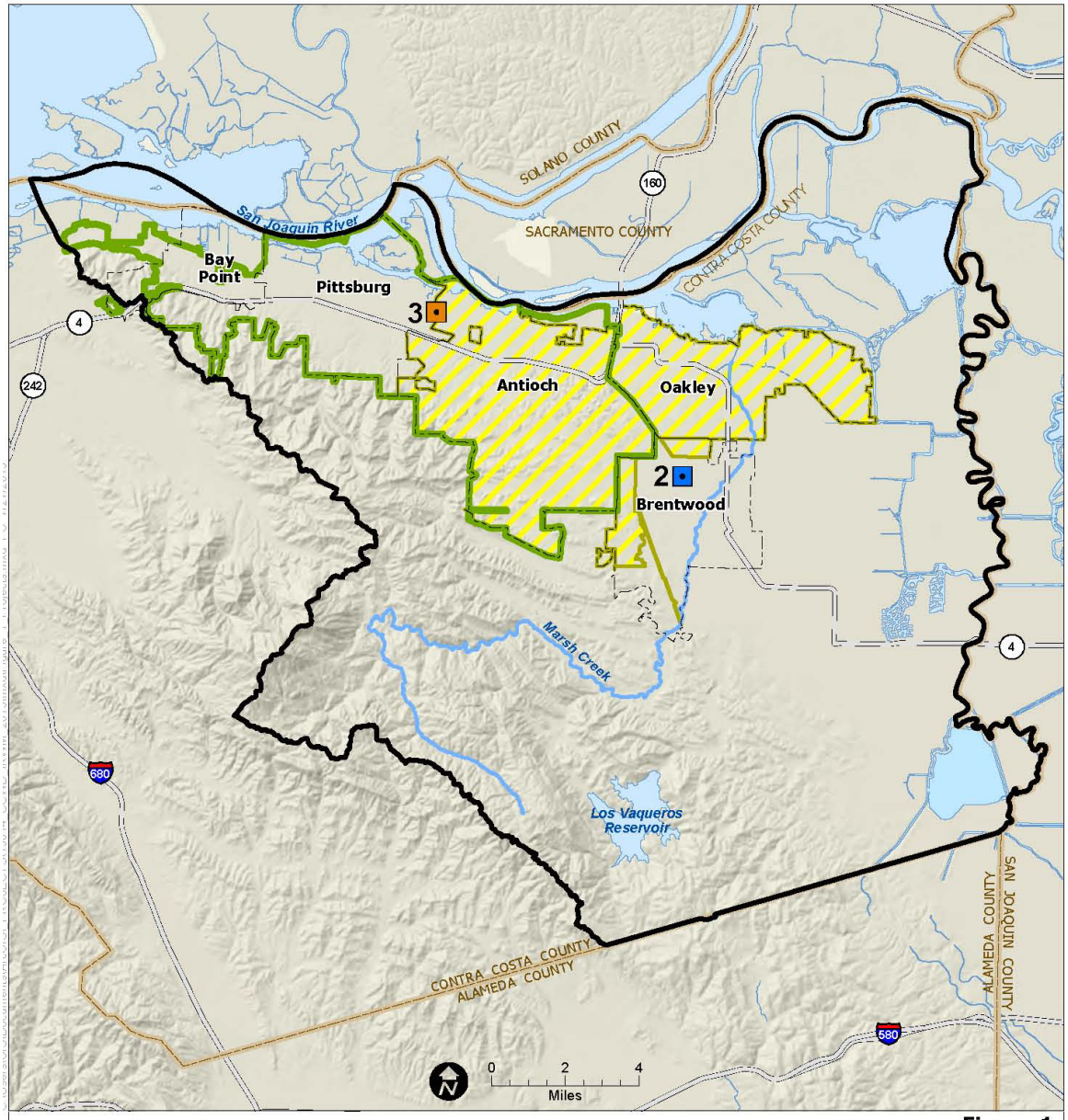


Figure 1

East Contra Costa County 2015 IRWM Implementation Grant Program

C. Project Physical Benefits

Primary and secondary project physical benefits are summarized in **PSP Tables 5a and 5b**, respectively, below.

PSP Table 5a - Primary Annual Project Physical Benefits

Project Name: Project 1 - Contra Costa Water District – Lawn to Garden Rebate Program

Type of Benefit Claimed: Water Supply Saved

Units of the Benefit Claimed: AFY of potable water savings

Additional Information About This Benefit: Water saved through conversion of lawns to water-wise gardens will reduce potable water demand on Delta supply for irrigation, in particular during summer and late fall when lawns are most thirsty and the Delta is most vulnerable. Project goal is to convert 100,000 sq.ft. of existing lawns to water-wise gardens.

Anticipated Useful Life of Project (years): 10 years

Year	Physical Benefits		
	Without Project	**With Project**	**Change Resulting from Project**
2016	16.36	10.45	The annual potable water demand savings in the first year of program implementation is 5.9 AF, resulting from conversion of 1.15 acres, or 50% of the anticipated conversion goal (50,000 sq.ft. of lawn conversion).
2017	16.36	4.54	The annual potable water demand savings in the second year of program implementation is 11.8 AF, resulting from conversion of 2.3 acres, or 100% of the anticipated conversion goal (100,000 sq.ft. of lawn conversion).
Total Savings at the Last Year of Project Life (approximately 2026)	163.6	45.5	The total savings in potable water demand for irrigation of 2.3 acres of water-wise gardens over 10 years is 118.1 AF.

Comments: Rebate funds for program implementation will be provided for two years. However, the water supply benefits of the program are anticipated to be realized for up to 10 years.

Technical Analysis of Primary Physical Benefits Claimed

1. **Explanation of the need for the project, including recent and historical conditions that provide background for benefits to be claimed; e.g., recent water shortages, loss of habitat or ecosystem function, and water quality problems.**

   CCWD balances water supply availability with expected demands to ensure customers have a high-quality, reliable long-term water supply. Long-term planning includes addressing the requirements of Senate Bill X7-7 to reduce per-capita urban water use by 20% by December 31, 2020, with the goal of reducing supply requirements on the Delta. CCWD's 2014 Future Water Supply Study (FWSS) recommends a mix of projects from recycled water, water transfers to meet dry years, and conservation-based use reduction. Conservation programs including the Lawn to Garden Rebate Program encourage public acceptance of the concept that saving our natural resources is everyone's responsibility.

   The water conservation benefits of this project will lessen dependency on water supplies from the Delta (primary) and improve fishery flows by reducing Delta diversions (secondary). Conservation benefits of the $100,000 grant request will supplement those of a larger rebate program already being implemented; benefits in aggregate will achieve immediate and long-term drought relief, lessen energy demands and greenhouse gas emissions of potable

water treatment, and reduce demands from the Delta, thereby improving flow for aquatics and allowing for more in-stream flows. (See also the Project Description, above.)

2. **Explanation of estimates of the without-project conditions (e.g., the levels of the physical benefits in the future, without the project, but with other planned projects).**

   Without the conversion to drip irrigation and low-water gardens, the without-project conditions assume no change to the existing full turf with sprinkler irrigation. Present demands on limited Delta supplies, particularly during drought years, will continue, and CCWD may have to issue mandatory water use restrictions or purchase additional water supply from other supplies to meet potable water demands. If this project is not implemented, CCWD may need to implement drastic measures, such as increasing water rates, to cover the higher cost of satisfying potable water supply demands during drought conditions.

3. **Description of the methods used to estimate the primary physical benefits.**

   Assumptions for water savings estimates are detailed below:

   - 100,000 sq. ft. of irrigated turf will be replaced by water-wise gardens (xeriscape) over 10 years.
   - Evapotranspiration (Eto) in the City of Concord is 53.48 inches per year, based on CIMIS stations.
   - Turf Water Use is 80% of Eto.
   - Water Efficient Landscape is 40% of Eto.
   - Existing Spray Irrigation is 50% Efficient.
   - New Drip Irrigation is 90% Efficient.
   - The average annual use per sq. ft. of turf is 53.34 gallons per sq. ft.
   - The average annual use per sq. ft. of xeriscape is 14.82 gallons per sq.ft. The difference is a savings of 38.52 gallons per sq. ft. of lawn-to-garden conversion. The resulting annual savings in acre-feet (AF) of potable water for a 100,000 sq. ft. conversion is 11.8 AFY and 118 AF over a 10-year period.

	% of Eto	Irrigation Efficiency	Eto Inches	Eto Feet
Turf Use	80%	50%	85.568	7.13
Xeriscape	40%	90%	24	1.98

	Area (sq. ft.)	Water Use in Depth (ft.)	Annual Water Use (cubic ft)	Annual Use per sq. ft. (gallons)	Annual Use per sq. ft. (AF)	Years of Savings	Life Water Use per sq. ft (AF)
Turf	100,000	7.13	713,067	5,333,739	16.36	10	163.59
Xeriscape	100,000	1.98	198,074	1,481,594	4.54	10	45.44
Total Savings		5.15		**3,852,145**	**11.82**		**118.15**

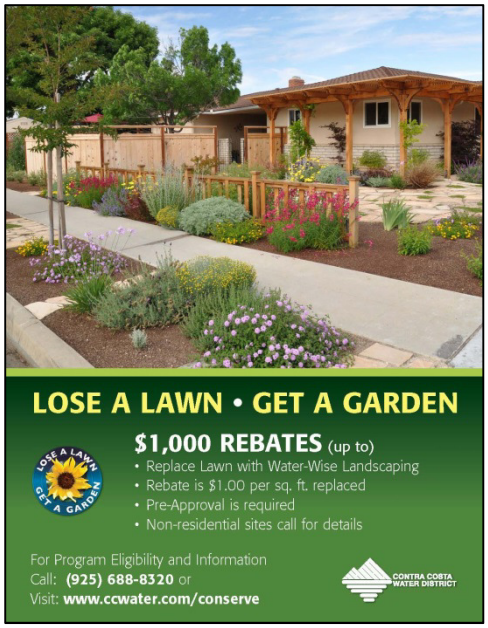
References

- Evaluating the Effectiveness of Cash for Grass Programs, Mojave Water Agency, June 2011, page 11: http://mojavewater.granicus.com/MetaViewer.php?view_id=2&clip_id=78&meta_id=7028
- Xeriscape Conversion Study Final Report, 2005, page 60: http://www.snwa.com/assets/pdf/about_reports_xeriscape.pdf

4. Identification/description of all new facilities, policies, and actions required to obtain the physical benefits, e.g., any City policies or procedures that need to be established in order for the benefits to be realized.

Amounts for lawn to garden rebate programs for other agencies throughout the State range from $0.75 to $3.00 per square foot. Customer participation in CCWD's lawn to garden rebate program increased significantly in 2014, when the rebate was increased from $0.50 to $1.00 per square foot of lawn.

The present CCWD maximum rebate amount for single-family participants is $1,000, and the maximum for a commercial, industrial, or homeowner association account is $10,000 (see flyer to the right).



CCWD evaluated the past three years of implementation of its Lawn to Garden Rebate Program in the west and central portions of the service area to determine program successes and improvement potential for application to the east portion of the service area (the subject of this grant project). This evaluation is summarized below.

Single family Customers: CCWD evaluated single-family participants and found that approximately 32% had lawns greater than 1,000 square feet in size. The average lawn replaced measured 876 square feet, and lawns of 1,393 square feet represented the size of the lawn at the 90th percentile. As 32% of customers participating in the program replaced lawns larger than the maximum allowable rebate, the average cost of the rebate equates to approximately $0.87 per square foot replaced. This results in a lower unit cost for the water saved, which is a financial benefit to all customers, as everyone pays to support the program. To implement the 2015 Lawn to Garden Rebate Program with a rebate amount larger than $1.00/sq. ft., approval from the CCWD Board is required.

Commercial, HOA, and Industrial Customers: Participation by non-residential customers has been very limited and those that have participated were small-sized properties. In order to attract a larger number of participants, CCWD is considering increasing the maximum rebate for this customer class from $10,000 to $20,000. These irrigation accounts tend to cover larger areas than a single residential account. Therefore, the cost to administer the rebate program is lower on a square-foot basis. This proposed maximum rebate amount is also consistent with several other water utilities offering similar programs. CCWD Board approval will be needed to increase rebate amounts for commercial, HOA, and industrial customers.

5. Description of potential adverse physical effects and what is being done to mitigate those impacts.

This project is a rebate program that encourages direct physical changes to private properties; the program itself involves advertising, visual inspections, and monetary exchanges. There are no adverse physical effects of the program. However, other physical effects resulting from program implementation are described below.

The current rebate program offers lawn conversion for only front lawns or publically accessible areas visible to the general public. Customers have inquired about backyard lawn conversions, but after careful review, CCWD determined this option was not viable. CCWD conducts pre- and post-inspections of all sites to ensure participants comply with the requirements. Front yard inspections do not require customers to be present when staff visits the property. Consequently, staff are able to conduct more inspections per day and to coordinate inspections located in a specific portion of the service area. In addition, scheduling of the inspection does not require personal contact with the customer, as it can be accomplished by leaving a message notifying the customer of the day CCWD will be on-site.

Should CCWD include backyards in the rebate program, the labor cost and time related to scheduling and obtaining access to backyards to conduct the inspections would increase significantly, which would delay the timeframe for issuing approvals.

Over time, as homes are sold and new families move into them, front yard conversions are less likely to revert back to lawns, as backyards are more often used for play areas for young children and pets. This means that water

savings from front yard conversions have a longer expected life.

6. **Description of whether the proposed project effectively addresses long-term drought preparedness goals.**

   a. **Promote water conservation, conjunctive use, reuse and recycling:** The proposed program will result in direct potable water conservation for at least 5 to 10 years (possibly longer); this program will save a total of 118 AF in 10 years. The success of the program is measured by the number of interested customers submitting rebate applications. The rebate level is established to be sufficiently high to garner the required participation levels, and low enough to be cost effective. The cost of a lawn to garden project varies from $1.50 per square foot for a simple homeowner-installed project to $6.00 per square foot for a contractor-installed project. The $1.00 per square foot rebate with cash outlay by customers for the conversion indicates a level of commitment to implementing water-wise gardening. The program requires the converted area to remain compliant for a period of five (5) years to ensure water savings are achieved. There is a high likelihood that water savings will continue as homeowners keep and maintain their water-wise gardens indefinitely. This will result in permanent reductions in potable water demand and support CCWD's long-term drought preparedness goals, thus benefitting the Delta.

   b. **Improve landscape and agricultural irrigation efficiencies:** Eligibility for the rebate requires that existing lawn areas proposed to be converted must be currently maintained and have an existing sprinkler system. The conversion will require that the existing sprinkler system be removed and replaced with a new drip irrigation system with a pressure regulator, filter, and pressure compensating emitters. Participants can choose to hand-water their new landscaping and not install a drip system. Permanent upgrades to irrigation systems will result in reduced potable water demand and meet long-term drought preparedness goals.

   c. **Achieve long-term reduction of water use:** The program requires that the converted area remain in compliance with the program terms and conditions for a period of five (5) years. The program will help develop a new 'normal' of what a front yard landscape in California should look like. There is a high likelihood that water savings will continue as homeowners keep and maintain their water-wise gardens indefinitely. This will result in permanent reductions in potable water demand and support CCWD's long-term drought preparedness goals, thus benefitting the Delta.

   d. **Efficient groundwater basin management:** This program may benefit groundwater usage in the Diablo Water District (DWD) service area and in the City of Brentwood, which both supplement surface water supply with groundwater.

   e. **Establish system interties:** This program does not involve system interties.

   f. **Solutions that yield a new water supply, such as seawater desalination:** Not applicable.

References Cited for Primary Project Benefit

- Evaluating the Effectiveness of Cash for Grass Programs, Mojave Water Agency, June 2011, page 11: http://mojavewater.granicus.com/MetaViewer.php?view_id=2&clip_id=78&meta_id=7028
- Xeriscape Conversion Study Final Report, 2005, page 60: http://www.snwa.com/assets/pdf/about_reports_xeriscape.pdf
- Urban Water Management Plan, Contra Costa Water District, June 2011. http://www.water.ca.gov/urbanwatermanagement/2010uwmps/Contra%20Costa%20Water%20District/CCWD_FINAL%202010%20UWMP.pdf

PSP Table 5b - Secondary Annual Project Physical Benefits			
Project Name: Project 1 – East Contra Costa County Lawn to Garden Rebate Program **Secondary Benefit Claimed:** Fishery Benefits **Units of the Benefit Claimed:** CFS increased fishery flow rate **Additional Information About This Benefit:** This project will improve fishery flows in the Delta through reduced demands from Delta intakes. **Anticipated Useful Life of Project (years):** 10 years			
Year	**Physical Benefits**		
	Without Project	**With Project**	**Change Resulting from Project**
2016	0	0.0081	Annual increased flow in the Delta due to project implementation at 50% after the first year, which equates to 0.0081 CFS that is not taken from the Delta for potable use.
2017	0	0.061	Annual increased flow in the Delta due to project implementation at 100% after the second year, which equates to 0.061 CFS.
Last Year of Project Life (approximately 2026)	0	0.61	Increased flow in the Delta due to project implementation after ten years will be 0.61 CFS.
Comments: Rebate funds for program implementation will be provided for two years. However, the water supply benefits of the program are anticipated to be realized for up to 10 years.			

Technical Analysis of Secondary Physical Benefits Claimed

1. **Explanation of the need for the project, including recent and historical conditions that provide background for benefits to be claimed.**
   CCWD owns and operates four intakes in the Delta, as well as the Los Vaqueros Reservoir. Nearly all of CCWD's supplies are drawn from the Delta, a total of approximately 90,000 AFY. Pumping from the Delta results in substantial impacts on fish and habitat particularly during summer months when Delta flows are low. CCWD is under pressure to meet Senate Bill X7-7 requirements to reduce Delta supply demands by 20% by December 31, 2020.

2. **Explanation of estimates of the without-project conditions (e.g., the levels of the physical benefits in the future, without the project, but with other planned projects).**
   Without-project conditions assume that customers will continue to sprinkler-irrigate their lawns, increasing potable water demands from the Delta that would otherwise be available in-stream for the Delta aquatic ecosystem.

   The without-project fishery flows are zero or a negative number because water is currently taken out of the Delta to meet potable water demands, including for irrigation.

3. **Description of the methods used to estimate the secondary physical benefits.**
   All of CCWD's intakes have state-of-the-art fish screens. By reducing water usage with the Lawn to Garden Rebate Program, CCWD will lower the amount of water pumped through the intakes and the amount of water drawn through the fish screens. Lowering the amount of water taken through the fish screens reduces impingement and entrainment at each of CCWD's intake screens. The Lawn to Garden Rebate Program reduces water demand in the spring and summer when there are sensitive aquatic resources in the Delta, and can lower the amount of water

used by the state to support flows in the Delta.

The estimated increase in flows in the Delta were calculated by converting the acre feet per year (AFY) of water saved to cubic feet per second (CFS), where 1 AFY = 0.00138 CFS (or 1AF/Y x 43560CF/AF x y/31536000second).

The project will save 11.8 AFY when complete. This equates to increased flows in the Delta of 0.061 CFS per year. This is the amount of water that will remain in the Delta to support aquatic resources, including to support fisheries. The project will result in less pumping from Delta intakes, thus increased flow will benefit fisheries and aquatic habitat and reduced fish impingement and entrainment,

4. **Identification of all new facilities, policies, and actions required to obtain the physical benefits.**
   See response in the primary benefit discussion above.

5. **Description of potential adverse physical effects and what is being done to mitigate those impacts.**
   See response in the primary benefit discussion above.

6. **Description of whether the proposed project effectively addresses long-term drought preparedness goals.**
   See response in the primary benefit discussion above.

D. Direct Water-Related Benefit to a DAC

The project will be implemented in the cities of Antioch, Oakley, and portions of Brentwood, including within identified DAC areas. The project will address water-related needs of DACs in the project area, including water-supply reliability during drought periods.

E. Project Performance Monitoring Plan

PSP Table 6 – Project Performance Monitoring Plan			
Proposed Physical Benefits	**Targets or Milestones**	**Measurement Tools and Methods**	**Evaluation**
Increased water conservation	1. 70–100 residential applications approved for lawn to garden conversion over 2 years 2. 3–6 non-residential applications approved for lawn to garden conversion over 2 years.	1. Opinion surveys administered before and after workshops or group meetings, mailed to residents before and after educational events, or provided to schools. 2. Beginning July 2015, CCWD began accepting and tracking applications online through the CCWD website. 3. Track the number of participants in public outreach events 4. Track the number of educational materials distributed 5. Track the number of workshops and informational events held 6. Track the number of newsletters distributed	- Pre-inspections of the conversion site will be conducted by District staff prior to issuing approval to proceed with conversion work. - Conversion work must be completed within six months of receiving approval to proceed. - Post-conversion inspection of the site to ensure compliance with terms and conditions. - Converted sites must remain in compliance for a minimum of five years. Non-compliance may result in a charge to the applicant for all or part of the area under violation. - Annually, CCWD will evaluate estimated water savings relative to actual customer savings.
Improved Delta Flows	0.061 CFS annual increase in Delta flows	Use approved rebate applications to confirm the amount of water conservation achieved annually.	Annually, CCWD will evaluate estimated water savings relative to actual customer savings.

F. Cost-Effectiveness Analysis

PSP Table 7 evaluates whether the physical benefits provided by the project are provided at the least possible costs.

PSP Table 7 – Cost-Effectiveness Analysis	
Project name: Project 1 – East Contra Costa County Lawn to Garden Rebate Program	
Question 1	***What are the types of benefits provided?*** Water supply saved and improved flow in the Delta due to reduced potable water demands. The improved Delta flows will benefit Delta fisheries.
Question 2	***Have alternative methods been considered to achieve the same types and amounts of physical benefits as the proposed project been identified?*** ***If yes, list the methods (including the proposed project) and estimated costs.*** The current rebate program offers lawn conversion for only front lawns or publically accessible areas visible to the general public. Customers have inquired about backyard lawn conversions, but after careful review, CCWD determined this option was not viable. CCWD is considering increasing the rebate amount for commercial lawn to garden conversion, but this requires CCWD Board of Director Approval.
Question 3	***Is the proposed project the least cost alternative?*** The success of the program is measured by the number of interested customers submitting rebate applications. The rebate level is established to be sufficiently high-enough to garner the required participation levels, and low-enough to be cost-effective. The cost of a lawn to garden project varies from $1.50 per square foot for a simple homeowner-installed project to $6.00 per square foot for a contractor-installed project. The $1.00 per square foot rebate with cash outlay by customers for the conversion indicates a level of commitment to implement water-wise gardening. The program requires the converted area to remain compliant for a period of five years to ensure water savings are achieved. CCWD explored offering a larger rebate amount (more than $1.00 per sq. ft.) to increase the amount of water savings from lawn conversions. However, this alternative was not preferred because a higher rebate would require a CCWD Board action and would exceed staff capacity to process rebate requests. (See the Project Description, above, for further information regarding pricing of proposed rebate.)

G. References Cited:

- California Irrigation Management Information System (CIMIS): http://www.cimis.water.ca.gov/
- Evaluating the Effectiveness of Cash for Grass Programs, Mojave Water Agency, June 2011, page 11: http://mojavewater.granicus.com/MetaViewer.php?view_id=2&clip_id=78&meta_id=7028
- Xeriscape Conversion Study Final Report, 2005, page 60: http://www.snwa.com/assets/pdf/about_reports_xeriscape.pdf

PROJECT 2 – BRENTWOOD NON-POTABLE WATER DISTRIBUTION SYSTEM – PHASE III

A. Project Description

Project Goals:

The proposed project is part of an overall plan by the City of Brentwood (City) to extend the use of non-potable water for urban irrigation throughout its service area. The City seeks to minimize the amount of potable water used for urban irrigation purposes by expanding distribution of non-potable water (tertiary-treated effluent) from the Brentwood Wastewater Treatment Plant (WWTP). Non-potable water from the WWTP is currently used for irrigation of parks and other landscape amenities. The City has constructed a portion of the non-potable water distribution system and will expand the system as the City grows, consistent with the General Plan. According to the City's 2010 Urban Water Management Plan (UWMP), a total of approximately 288 acres of City parks and golf courses could be served by non-potable water (City of Brentwood 2013). The proposed Phase III Project will assist in achieving this goal.

Project Description:

Incorporated in 1948, Brentwood is a community with approximately 55,000 people located 55 miles east of San Francisco. This community has a long history of agriculture and farming production. The City's incorporated boundary totals 14.8 square miles (9,502 acres), with a sphere of influence totaling 17.4 square miles (11,129 acres). The City currently purchases raw water from East Contra Costa Irrigation District and treats approximately 12,000 AFY (10.7 MGD) for potable use throughout the City's water service area. The City also treats approximately 3.5 MGD of wastewater, of which 3.5 MGD is tertiary treated and suitable for landscaping and agricultural irrigation. Currently, 184 AFY of non-potable water is supplied throughout the City service area for irrigation. This includes 2.5 AF for residential fill stations, which provide non-potable water for the public, and 154 AFY provided into the existing distribution network for urban landscaping. Non-potable water is not currently provided for agricultural use, but the City is considering future partnerships with the agricultural community.

With the increase in development experienced in the late 1990s, the City began to consider non-potable water as a means for landscape irrigation throughout the City. The decision was made to begin conditioning the developers to install non-potable water lines within their developments to be used to irrigate parkways, public parks, etc. With new development throughout the City intermingled with existing development, there are several missing links in the distribution network of non-potable water pipelines.

The proposed project will connect a missing pipeline link to provide non-potable water supply for four service area regions of the City's non-potable water distribution network. The proposed pipeline is located along Grant Street, between O'Hara Avenue and Fairview Avenue, in northern Brentwood. The 12-inch diameter pipeline would extend approximately 2,800 feet along Grant Street from O'Hara Avenue, under the Union Pacific Railroad (UPRR), and continue to Fairview Avenue. The non-potable water line will include stub-outs at Fairview Avenue for a future non-potable water line extension. In addition, an 8-inch diameter non-potable water line would extend south from Grant Street, approximately 1,100 feet, primarily in the alignment of the Miwok Trail, to connect with an irrigation booster pump in Miwok Park. Design for this project will be complete by the end of January 2016, with construction complete and approved in October 2016.

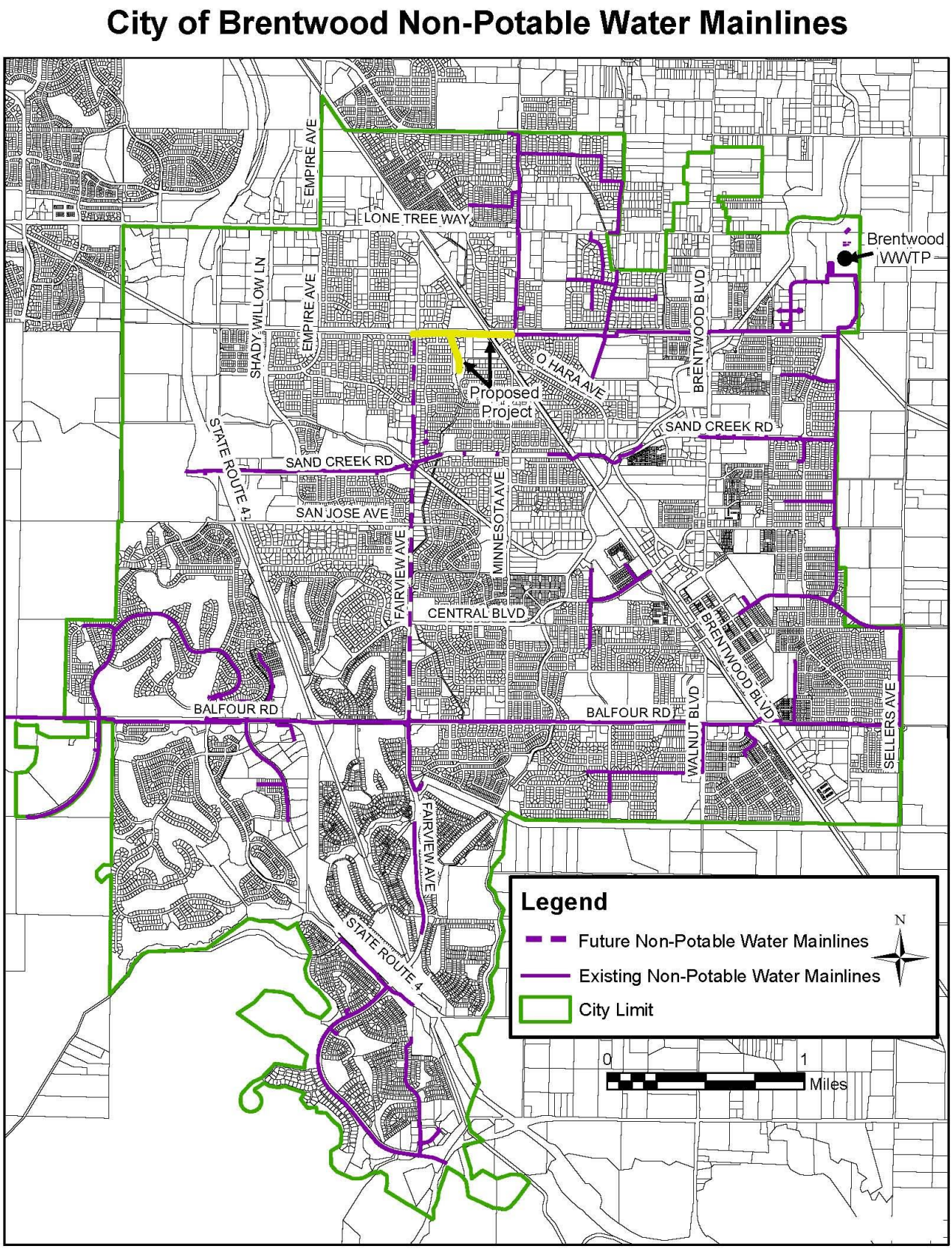
Anticipated Physical Benefits/Intended Outcomes:

The proposed project will allow the City to convert four service area regions from potable water to non-potable water. The estimated annual water use for these combined areas is 73.65 acre feet. This project will help the City meet its goal to reduce potable water demands, particularly during droughts. It will also improve the health of the Delta by pumping less water out of the Delta and improving the salinity of the Delta by discharging less treated non-potable water into Marsh Creek, a Delta tributary.

Regional Applicability:

This project is part of the region's efforts to offset potable water demands by using non-potable water for landscape irrigation. This project will reduce reliance on the Delta for water supply and improve Delta water quality. Together with the Contra Costa Water District's proposed Lawn to Garden Rebate Program (Project 1), which encourages water conservation by replacing turf with water-smart plants, this project will further support reduced reliance on Delta supply.

B. Project Map



C. Project Physical Benefits

Primary and secondary project physical benefits are summarized in **PSP Tables 5a and 5b**, respectively, below.

PSP Table 5a - Primary Annual Project Physical Benefits

Project Name: Project 2 - Brentwood Non-Potable Water Distribution System – Phase III

Type of Benefit Claimed: Water Supply Savings

Units of the Benefit Claimed: AFY of potable water savings

Additional Information About This Benefit: The project will offset potable water demand by providing non-potable (recycled) water to a larger area in the city limits. The project pipelines will allow for distribution of non-potable supply to more consumers, and will therefore offset supply demands on the Delta.

Anticipated Useful Life of Project (years): 50 years

Year	Physical Benefits		
	Without Project	**With Project**	**Change Resulting from Project**
2016	73.65	73.65	This project will reduce the City's potable water usage by 73.65 AFY.
2017	73.65	73.65	This project will reduce the City's potable water usage by 73.65 AFY.
Last Year of Project Life (approximately 2056)	3,682.66	3,682.66	This project will reduce the City's potable water usage by a total of 3,682.66 AF over 50 years.

Comments: The life span of PVC pipe ranges from 50-75 years based on the thickness of the pipe and current available data. We have chosen to be conservative and use 50 years of useful life.

Technical Analysis of Primary Physical Benefits Claimed

1. **Explanation of the need for the project, including recent and historical conditions that provide background for benefits to be claimed; e.g., recent water shortages, loss of habitat or ecosystem function, and water quality problems.**

   When the City of Brentwood began developing its wastewater treatment plant around the turn of the century, it recognized the need to utilize recycled water for urban irrigation due to the limited water supply in the region and the desire to reduce the amount of recycled water that would be discharged in Marsh Creek and ultimately to the Delta. Since that time, the City has required non-potable water lines to be included in development and capital improvement projects.

   The City currently provides 184 AFY of recycled water within the service area. Implementation of this project, as part of the City's recycled water master plan, will add an additional 1,957 AFY of recycled water for the City's service area, of which 1,058 AFY is currently being served with potable water and 899 AFY is served with raw water purchased from East Contra Costa Irrigation District.

   Within the city limits, there are several missing pipelines needed to link the network together to complete the system and make non-potable water available to the entire City. Also, with the recent statewide drought and potable water supply shortage, the City has increased its effort to expand the non-potable water network to better utilize the recycled water produced by the City's wastewater treatment plant.

2. **Explanation of estimates of the without-project conditions (e.g., the levels of the physical benefits in the future, without the project, but with other planned projects).**

   Without construction of the pipeline, the 73.65 AFY potable water offset benefits would not be realized and would be discharged into Marsh Creek. During drought conditions, the City would be at risk of not meeting potable water reduction requirements issued by the State of California, and the City of Brentwood's UWMP goals would not be met.

3. **Description of the methods used to estimate the primary physical benefits.**

   This project will convert four service areas, representing 3.5% of the City's service area and 7% of the City's potable water demand for urban landscaping irrigation, from potable water to recycled water. The water consumption data for each service area were collected for the past three years. The combined average water use of these areas equaled approximately 73.65 acre feet per year.

4. **Identification/description of all new facilities, policies, and actions required to obtain the physical benefits, e.g., any City policies or procedures that need to be established in order for the benefits to be realized.**

   The City already has policies and permits in order to use recycled water for urban irrigation, and no additional actions will need to take place.

5. **Description of potential adverse physical effects and what is being done to mitigate those impacts.**

   While there may be minor, temporary impacts during construction of this project, once the project is completed, the City is unaware of any adverse effects from using recycled water for irrigation. Recycled water has a long history of being safe for use when Title 22 guidelines are followed. Federal and state public health protection agencies issue guidance on appropriate use of recycled water, which the City relays to its customers to ensure public health and safety is protected.

6. **Description of whether the proposed project effectively addresses long-term drought preparedness goals.**

   a. **Promote water conservation, conjunctive use, reuse and recycling:** The City of Brentwood has been promoting water conservation and recycled water use through various strategies. In the late 1990s, the City began conditioning all new developments to install non-potable water pipelines. The City distributes 154 AFY of recycled water and 899 AFY of raw water using these non-potable water pipelines. The City continues to add additional non-potable water pipelines, with 16,800 feet of pipelines currently under design.

      The City of Brentwood is also currently designing a 3 MG non-potable storage tank at the wastewater treatment plant that will be filled throughout the day to ensure enough supply is available to meet nighttime demands when most urban landscape irrigation occurs.

      The City also installed a recycled water filling station at the City's corporation yard, which allows City water customers to obtain recycled water at no cost. The City recently kicked off an incentive program for residents who permanently remove their lawns and replace their appliances with water efficient appliances to reduce residential potable water demands.

   b. **Improve landscape and agricultural irrigation efficiencies:** Water conservation efforts, including landscape irrigation efficiency programs such as CCWD's Lawn to Garden Rebate Program (Project 1 of this proposal), will reduce water supply demand for landscape irrigation in the City's service area. The City's proposed project will provide recycled water to offset potable water for irrigation. Using recycled water for irrigation will provide a more efficient means of applying valuable nutrients to plants and prevent the need for additional fertilizers. The project will meet long-term drought preparedness goals.

   c. **Achieve long-term reduction of water use:** This project will have an immediate, permanent reduction of 73.65 acre feet per year (AFY) of potable water use. This project will allow future expansions to the City's non-potable water distribution network, which will generate additional long-term potable water reductions.

d. **Efficient groundwater basin management:** As some of the City's water supply is from groundwater, using recycled water will conserve valuable groundwater supplies and prevent land subsidence from occurring.

e. **Establish system interties:** This project does not involve system interties.

f. **Solutions that yield a new water supply, such as seawater desalination:** This project would not result in a new water supply.

References Cited for Primary Project Benefit

- Recycled Water Feasibility Study for the City of Brentwood by Robertson-Bryan, Inc.
- City of Brentwood. 2013. 2010 Urban Water Management Plan Update. Revised October 25, 2013. Brentwood, CA. Prepared with assistance from ICF International, Sacramento, CA.

PSP Table 5b - Secondary Annual Project Physical Benefits

Project Name: Project 2 - Brentwood Non-Potable Water Distribution System – Phase III

Secondary Benefit Claimed: Water Quality Improvement

Units of the Benefit Claimed: mg/L of chloride reduced

Additional Information About This Benefit: The City currently averages 400 mg/L of chloride that is discharged into Marsh Creek from the Brentwood wastewater treatment plant. Marsh Creek is deemed by the Regional Water Quality Control Board to have no assimilative capacity for chloride. The chloride concentration is reduced after 2017 to account for initiation of the City's water softener rebate program, which will reduce chloride concentrations in treated wastewater. To protect aquatic species, chloride levels in water discharged to Marsh Creek will be reduced as a result of this project.

Anticipated Useful Life of Project (years): 50 years

Year	Physical Benefits		
	Without Project	**With Project**	**Change Resulting from Project**
2016	400	400	The project will prevent 80,000 pounds of chloride from being discharged to Marsh Creek. The concentration of chloride in the water stays the same, but the volume of water discharged to the creek is reduced by 73.65 AF.
2017	372	372	The project will prevent 74,600 pounds of chloride from being discharged to Marsh Creek. The chloride concentration is reduced after 2017 to account for initiation of the City's water softener rebate program, which will reduce chloride concentrations in treated wastewater. With the project, the volume of wastewater discharged to Marsh Creek will reduce by 73.65 AF, which converts to a reduction of 74,500 pounds of chloride that will not be discharged to Marsh Creek.
2018	344	344	In 2018, the chloride concentrations are expected to reduce to 344 mg/L due to more participation in the City's water softener rebate program. With the project, the volume of wastewater discharged to Marsh Creek will reduce by 73.65 AF, which converts to a reduction of 69,000 pounds of chloride that will not be discharged to Marsh Creek.
Last Year of Project Life (approximately 2056)	344	344	At the useful life of the pipeline (50 years), the project will prevent a total of 3,466,500 pounds of chloride from being discharged to Marsh Creek. The concentration of chloride in the water stays the same at 344 mg/L, but the volume of water discharged to Marsh Creek is reduced.

Comments: The life span of PVC pipe ranges from 50-75 years based on the thickness of the pipe and current available data. We have chosen to be conservative and use 50 years of useful life.

Technical Analysis of Secondary Physical Benefits Claimed

1. **Explanation of the need for the project, including recent and historical conditions that provide background for benefits to be claimed; e.g., recent water shortages, loss of habitat or ecosystem function, and water quality problems.**

   Although the City produces Title 22 tertiary-treated wastewater for unrestricted reuse, only a small fraction of the treated wastewater is used as recycled water. If the City were to increase and maximize the use of recycled water, the City would be able to significantly reduce wastewater discharges to Marsh Creek in the summer months. If the City were able to achieve zero discharge during the summer months, chloride levels in Marsh Creek would be decreased. This would also give the City added flexibility in its seasonal water supply. For example, sources of drinking water with higher chloride concentrations could be used in the summer months, while sources of drinking water with lower chloride concentrations could be used in the other months of the year when the City would need to discharge treated effluent to Marsh Creek. If the City were not able to achieve zero discharge, but could still substantially reduce the discharge flow to Marsh Creek, the City could seek a seasonal dilution credit from the Regional Water Quality Control Board (RWQCB) that is higher in the summer months when effluent flows were lower. However, there is no guarantee that the RWQCB would agree to this.

   The City has recently implemented an incentive program for residents to remove their salt-based water softeners. Water softeners contribute chlorides to wastewater that are difficult to remove during the treatment process. This program is still in its infancy and no impact has been noticed at this time, but the City expects to see chloride levels decrease over the next couple of years as a result of the water softener removal program.

2. **Explanation of estimates of the without-project conditions (e.g., explain the levels of the physical benefits in the future, without the project, but with other planned projects).**

   The City currently faces challenges in complying with effluent limitations for chloride. Chloride discharges are subject to a compliance schedule in the City's NPDES permit. The compliance schedule requires the City to implement the expanded use of recycled water by December 31, 2016. Through maximizing use of recycled water, the City will significantly reduce WWTP discharges to Marsh Creek in the summer months and thus reduce chloride loading to the creek. Also, since Marsh Creek is tributary to the Delta, this will also reduce chloride loading to the Delta. Without this project, 400 mg/L of chloride will continue to be discharged into Marsh Creek annually, and the City may no longer be in compliance with its discharge permits.

3. **Description of the methods used to estimate the secondary physical benefits.**

   The City monitors the chloride levels in the water discharged into Marsh Creek. The current discharge averages 400 mg/L of chloride. By reducing the amount of water discharged into Marsh Creek by 73.65 acre feet per year, the City would discharge 80,000 fewer pounds of chloride each year for the life of the project, starting in 2016 when the project is constructed.

   The City is required to reduce chloride levels to 344 mg/L by January 1, 2018. The City has implemented a water softener removal program to assist in reducing chloride levels. For this benefit calculation, it is assumed that the water softener removal program will reduce chloride levels to 372 mg/L in 2017 and to 344 mg/L in 2018 and beyond. By continuing to reduce the discharge into Marsh Creek by 73.65 AFY, the City would discharge 74,500 and 69,000 fewer pounds of chloride each respective year.

   The City plans to continue to meet the goal of reducing the concentration of chloride in the water discharged into Marsh Creek to 344 mg/L. Expanding this over the remaining useful life of the project will result in an overall reduction of 3,466,500 pounds of chloride discharged into Marsh Creek by 2056.

4. **Identification/description of all new facilities, policies, and actions required to obtain the physical benefits, e.g., any City policies or procedures that need to be established in order for the benefits to be realized.**

   The proposed project needs to be constructed in order to obtain the physical benefits. The City already has policies and permits in order to use recycled water for urban irrigation and no additional actions will need to take place.

5. **Description of potential adverse physical effects and what is being done to mitigate those impacts.**

   The City is unaware of any adverse effects as a result of this project. There will likely be a reduction in the Marsh Creek flow as a result of reducing the City's discharge into the creek; however, this reduced flow is not anticipated to have any negative affect on the environment. The City currently discharges water into Marsh Creek throughout the year and this project will not eliminate this discharge at any point during the year.

6. **Description of whether the proposed project effectively addresses long-term drought preparedness goals.**

   See responses in the primary benefit discussion on the previous pages.

References Cited for Secondary Project Benefit

- Chloride Compliance Alternatives Report by Robertson-Bryan, Inc.
- Recycled Water Feasibility Study for the City of Brentwood by Robertson-Bryan, Inc.

D. Direct Water-Related Benefit to a DAC

There are two DAC block groups located in the city limits. Though the proposed pipeline project is not located in a DAC, the long-term drought preparedness benefits of the proposed project will benefit the entire City service area, including DACs. However, the percentage of DACs in the City's service area is less than 25%.

E. Project Performance Monitoring Plan

PSP Table 6 – Project Performance Monitoring Plan Project 2 - Brentwood Non-Potable Water Distribution System – Phase III			
Proposed Physical Benefits	**Targets or Milestones**	**Measurement Tools and Methods**	**Evaluation**
Recycled water supply distribution and potable demand offset	73.65 AFY reduction in potable water use.	Existing water meters will track the amount of non-potable water being used.	The water usage data will be included in the City's routine reports to the Regional Water Quality Control Board.
Decreased chloride levels in Marsh Creek	80,000 lbs. of chloride per year reduction into Marsh Creek	The City constantly monitors the amount of water discharged into Marsh Creek and the chloride levels.	The chloride levels will be included in the City's routine reports to the Regional Water Quality Control Board.

F. Cost-Effectiveness Analysis

PSP Table 7 evaluates whether the physical benefits provided by the project are provided at the least possible costs.

PSP Table 7 – Cost-Effectiveness Analysis	
Project name: Project 2 - Brentwood Non-Potable Water Distribution System – Phase III	
Question 1	***What are the types of benefits provided? Explain in as much detail as possible:*** The proposed project will allow the City to convert four service areas from potable water to non-potable water. The estimated annual water use for these combined areas is 73.65 AF. This project will help the City meet its goal to reduce the amount of potable water used during periods of drought. It will also improve the health of the Delta by pumping less water out of the Delta to be used for irrigation and discharging less recycled water into Marsh Creek, which will help reduce the salinity of the Delta.
Question 2	***Have alternative methods been considered to achieve the same types and amounts of physical benefits as the proposed project been identified?*** ***If no, why?*** The City has developed a map showing the existing non-potable water system with the areas that it serves. The City then identified the remaining urban irrigation area in the City and developed a list of projects with preliminary cost estimates to serve those areas. The City is in the process of refining the cost estimates for the various identified projects with their anticipated potable water reduction benefits. This analysis will not be completed in time for this grant application. As a result, City staff discussed the various projects and selected the proposed project as the most cost-effective project to reduce potable water usage.
Question 3	***Is the proposed project the least cost alternative?*** This project is the least-cost alternative to provide recycled water to this area of the City. This is also the only non-potable water pipeline section that is nearly complete in terms of designs and for which the CEQA environmental review has been completed, making it the best project for this grant.

PROJECT 3 – DELTA DIABLO RECYCLED WATER SUPPLY EXPANSION AND RESIDENTIAL FILL STATION PROJECT

A. Project Description

Project Goals: The Delta Diablo Recycled Water Supply Expansion and Residential Fill Station Project (Project) will provide consistent, permanent potable water offset for the communities of Pittsburg and Antioch (DACs) and reduced reliance on Delta water supply. It will enable Delta Diablo to provide 208 AFY to new recycled water customers, thereby reducing potable (Delta) water use, reducing wastewater discharges and associated pollutant loading of 33,500 pounds of nitrogen per year to San Francisco Bay, and reducing energy usage by 142,000 kwh/year and associated greenhouse gas emissions.

Project Description: The recycled water system for Delta Diablo (District) has delivered disinfected tertiary-treated recycled water to users since 2001. The system was originally implemented to produce and deliver recycled water to two Calpine power plants—the Delta Energy Center (DEC) and Los Medanos Energy Center (LMEC)—and it has been incrementally expanded to serve landscape irrigation customers throughout the District's service area, including golf courses and parks. New potential users within the District's service area have expressed interest in utilizing recycled water; however, peak day demands limit the District's ability to add additional customers reliably. Currently, the District produces an average of 12.8 MGD (14,337 AFY) of disinfected tertiary recycled water for unrestricted use. This recycled water supply is primarily used for irrigation and cooling water for nearby power plants, which have increased demands on hot days. On peak days, current demands meet or exceed this supply, causing some customers to use potable water to meet peak demands.

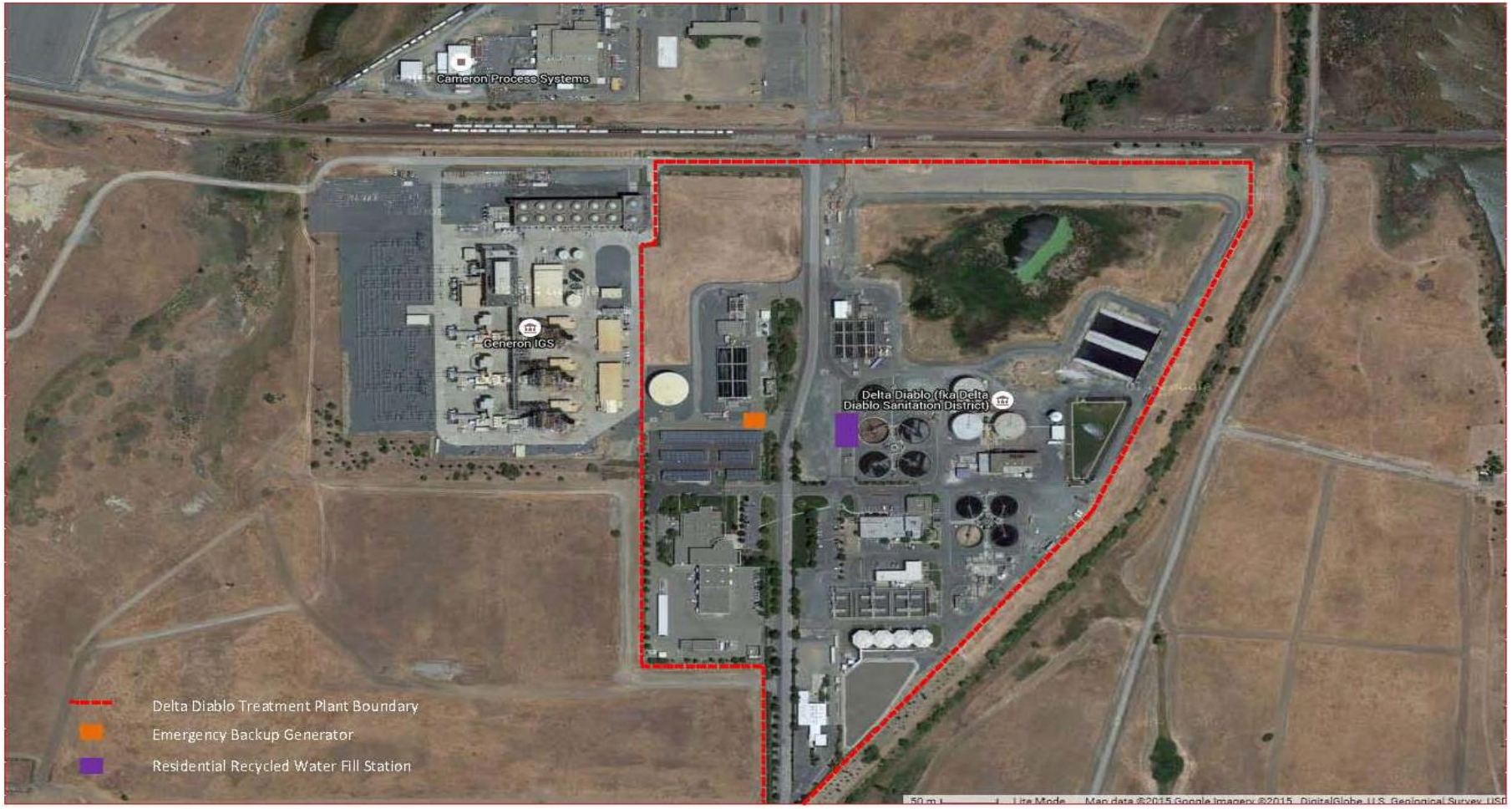
This project involves the planning, design, and construction of a 600kW emergency back-up generator for Delta Diablo's recycled water facility (RWF) and installation of 10 recycled water fill stations for residential irrigation uses. The recycled water distribution system includes four reservoirs implemented to reduce peak treatment and distribution capacity requirements. One of the RWF tanks, the DEC tank, is instead being operated to provide redundancy in the event of an outage, as opposed to purely meeting peak demands. With no backup power, the RWF would not be able to produce recycled water if main utility power is interrupted. To ensure recycled water is available for DEC in the event of an outage, Delta Diablo must keep the 2 MG DEC tank at the full operating level at all times. The emergency generator will allow the RWF to remain operational during power outages, and the DEC tank will no longer need to be maintained at full capacity and the storage can be repurposed to maximize operations and provide additional peak days demands. This will allow the District to maximize the use of existing infrastructure and operate the tank at a lower static head on off-peak days and reduce the static pumping head for the pump station, resulting in a minimum energy savings of 75,800 kWh/year. Additionally the wastewater treatment plant will be able to optimize operations for additional energy savings estimated at 66,200 kWh/year. Repurposing the DEC tank will provide the District with an additional 2 MGD of peaking capacity. As such, the project will allow the District to reliably add an additional 208 AFY of customer demand, without interruptions to service on peak days. In addition, reduced discharge of treated effluent will reduce pollutant loading of nitrogen by 33,500 pounds per year into San Francisco Bay.

The recycled water fill station component of the project will provide free recycled water to customers in the service area for irrigation use. In July 2015, Delta Diablo opened a pilot fill station and distributed over 35,000 gallons in the first two days of operation. Over the next two weekends, output almost doubled, with the fill station dispensing 30,000 GPD. This project will replace the existing pilot project with a permanent, standalone facility to provide recycled water for irrigation needs year-round. The fill station is anticipated to dispense about 30,000 GPD from April to October (the irrigation season), which would generate 19 AFY in additional potable water offset and reduced wastewater discharges. Construction will begin in spring 2016 and be complete in spring 2017. Delta Diablo will own, operate, and maintain all project facilities.

Anticipated Physical Benefits/Intended Outcomes: The project will enable 208 AFY of recycled water to be used to offset potable water use; increase access to recycled water by residential customers, primarily DACs; reduce energy use and greenhouse gas emissions; and reduce pollutant loading to the San Francisco Bay. The project will increase the region's drought tolerance and will directly benefit DACs in the service area by providing a free source of water for irrigation and reducing monthly water bills. This project will help increase the acceptability of recycled water in the community as California moves more toward indirect potable and direct potable reuse as a drought-tolerant water supply.

Regional Applicability: The project improves water supply reliability, reduces wastewater discharges and pollutant loading, and expands recycled water supply in the region. This project will benefit the region by reducing reliance on Delta and groundwater supplies. This is especially critical during drought conditions, when water supplies have been cut back and restrictions have been placed on uses such as landscape irrigation.

B. Project Map



C. Project Physical Benefits

Primary and secondary project physical benefits are summarized in **PSP Tables 5a and 5b**, respectively, below.

PSP Table 5a - Primary Annual Project Physical Benefits

Project Name: Project 3 - Delta Diablo Recycled Water Supply Expansion and Residential Fill Station Project

Type of Benefit Claimed: Water Supply: Recycled

Units of the Benefit Claimed: AFY

Additional Information About This Benefit: This benefit quantifies the amount of recycled water that will be available on a consistent basis with operation of the proposed backup generator and the installation of the residential fill station. This project will benefit the Delta (reduced reliance on potable supply), and provide a consistent alternative supply source for industrial and irrigation uses (reduced reliance on potable supply) without interruption on peak days.

Anticipated Useful Life of Project (years): 20 years

Year	Physical Benefits		
	Without Project	**With Project**	**Change Resulting from Project**
2017	0	208	208 AFY of additional customer demands can be met reliably year-round without interruption
Last Year of Project Life (approximately 2036)	0	208	208 AFY of additional customer demands can be met reliably year-round without interruption

Comments: The District's RWF currently produces 14,337 AFY. The installation of the emergency generator will allow the District to repurpose a large tank and serve more customers by maximizing existing distribution infrastructure and lowering energy consumption at the RWF. Repurposing the 2 MG DEC storage tank to meet peak day demands will allow the District to add 208 AFY of recycled water without interruption on peak days.

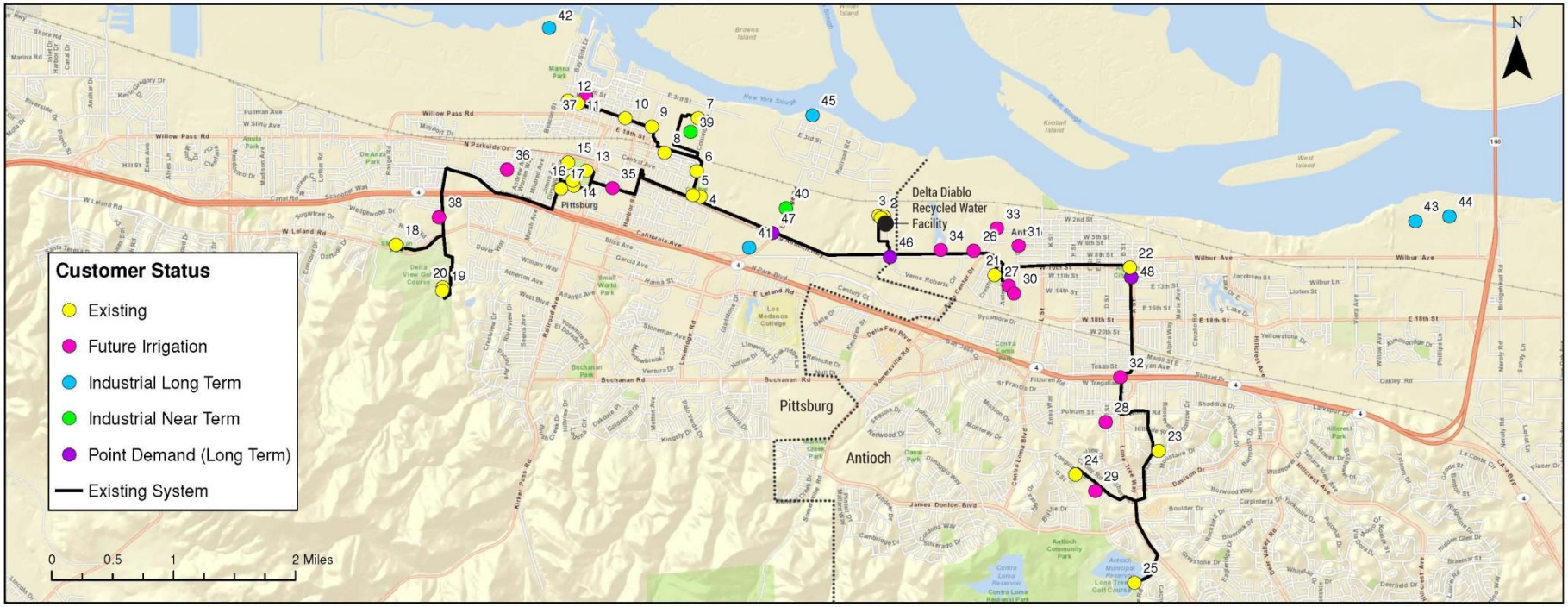
Technical Analysis of Primary Physical Benefits Claimed

1. **Explanation of the need for the project, including recent and historical conditions that provide background for benefits to be claimed.**

   The District's recycled water distribution system includes four reservoirs, which are operated to reduce peak treatment and distribution capacity requirements. One tank, the DEC tank, is instead being operated to provide redundancy in the event of an outage, as opposed to maximizing RWF output by meeting peak demands. The RWF does not have backup power, so if main utility power is interrupted, the treatment facility would not be able to produce recycled water. To ensure recycled water is available for industrial customers even in the event of an outage, Delta Diablo maintains the 2 MG DEC tank at the full operating level at all times.

   As the District's service area continues to grow to ultimate build-out, optimization of the recycled water system will be critical to maximize existing infrastructure and meet customer demands efficiently. The District is approaching maximum capacity of the existing infrastructure with peak day demands at 100% of recycled water production. Installing the emergency generator will free up storage in the existing DEC tank and allow the District to operate the DEC tank to meet peak demands. Repurposing 2 MG of existing storage will allow the District to meet an additional 2 MGD of peak demands, which is equivalent to 208 AFY of additional customer demands that can be met consistently and reliably without interruption and without the need for additional storage infrastructure. As shown on the following map, entitled Recycled Water Existing and Future Customers, the District has additional customers that they are interested in serving but are not able to serve reliably at this time, as the supply is tapped out on peak days. This includes current projects totaling 100 AFY at Pittsburg High School, Los Medanos Middle School, and the Mt. Diablo Resource Recovery Center, all of which are subject to interruption. By providing additional peaking capacity, the District will be able to serve additional future customers.

Recycled Water Existing and Future Customers



Customer List

1. RWF Service Water (3W)
2. WWTP Irrigation (Before flow meter)
3. WWTP Irrigation (After flow meter)
4. Central Park Soccer Field (RW Meter #8 - Soccer Field)
5. Central Park Irrigation (RW meter #1 - Baseball Park)
6. Columbia Linear Park (RW meter #2 - by the bend Linear Park)
7. Los Medanos Energy Center (LMEC) (Industrial)
8. East Santa Fe Linear Park (RW meter #3 - NW Linear Park)
9. 8th Street Linear Park (RW meter #4 - Harbor & 8th)
10. East 8th Street (RW meter #5 - 8th & Los Medanos)
11. W. Eighth St (RW meter #6 - 8th & West)
12. Mariner Park (RW meter #7 - PPS)
13. City Park - Booster Station and Railroad & Civic (Pittsburg RW Meter #9)
14. City Park (North) - Community Center at Civic (Pittsburg RW Meter #10)
15. City Park (West) - Baseball Field at Davi (RW Pittsburg Meter #11)
16. City Hall - City Hall at Civic (Pittsburg RW Meter #12)
17. City Hall (West) - Police Station at Davi (Pittsburg RW Meter #13)
18. Stoneman Park (Demand at Irrig. Booster PS) - (Pittsburg RW Meter #14)
19. Delta View Golf Course (DVGCR) Reservoir (Pittsburg RW Meter #15)
20. GC Tank Jockey Pump (Pittsburg RW Meter #17)
21. Fairview Park
22. Antioch City Park
23. Mountaire Park
24. Chichibu Park
25. LTGC Outlet (Lone Tree Golf Course) Reservoir
26. Babe Ruth Fields (Antioch Phase 2)
27. Antioch Little League (Antioch Phase 2)
28. Memorial Park (Antioch Phase 2)
29. Sutter Elementary School (Antioch Phase 2)
30. Antioch Fairgrounds (Antioch Phase 2)
31. Prosserville Park (On 6th St between M&O)
32. Caltrans (Hwy 4 at RW pipeline crossing)
33. Antioch Historical Society
34. DOW Wetlands
35. Pittsburg High School (Pittsburg Phase 2)
36. Parkside Elementary School (Pittsburg Phase 2)
37. Marina Walk Park
38. Rancho Medanos Junior High School
39. United Spiral Pipe
40. Waste Recycle Center and Transfer Station (WRC&TS)
41. Praxair
42. Genon - Willow Pass Generating Station
43. Genon - Marsh Landing Generating Station
44. PG&E Gateway Generating Station
45. K2 Pure Solutions
46. Point Demand - Los Medanos College and Other Customers
47. Point Demand - Loveridge Corridor
48. Point Demand - East of A St

Date: 6/7/2012

The addition of the residential recycled water fill station will have an immediate impact on the community, including DACs, by providing a free source for irrigation water. This will help the community meet the State's goals to reduce water consumption by 25% statewide and will help residential customers maintain their landscaping while keeping their water bills low. Additionally, providing recycled water for irrigation free of charge to residential customers will provide direct, immediate, and long-term drought relief for the region, reduce water supply demands on the Sacramento–San Joaquin River Delta, and supply non-potable water to more customers.

Installation of the emergency generator will ensure the RWF remains operational during times of interrupted electrical service. This will eliminate concerns over recycled water reliability and prevent recycled water customers from switching to potable water in a power outage. In addition to water supply benefits, this added reliability would allow the District to lower the normal operating level in the 2 MG DEC tank, reducing the cycling of the pumps and thereby reducing energy consumption and greenhouse gas emissions, and providing flexibility at the wastewater treatment plant.

2. Explanation of estimates of the without-project conditions.

Without the project, the District will not meet existing peak days demands and new recycled water customers cannot be added (i.e., recycled water demands would not be met), and Delta and groundwater supplies would continue to be used to meet the non-potable demand. Additionally, there would no permanent access to recycled water for residential irrigation demands and the community would continue to use Delta and groundwater supplies for this non-potable demand.

Without the emergency generator, the District will have to continue to maintain the DEC tank at the full operating level at all times; therefore, there will be no energy savings or reductions in greenhouse gas emissions.

3. Description of the methods used to estimate the primary physical benefits.

The primary physical benefit was estimated as follows: DEC tank will provide 2 MG of storage, which will allow the District to provide 2 MGD of peak day demand. As documented in the Recycled Water Demand Projections Technical Memorandum (HDR 2010):

- Peak Day = 1.2 * Peak Month/30 days
- Peak Month = (Annual Average * 2.16)/12

Using these equations, a peak day demand of 2 MGD equates to 208 AFY of additional water supply made available for additional customer demands that can be met consistently and reliably without interruption. Over the 20-year life of the project, an additional 4,160 AF of water will be made available.

The fill station will take advantage of the added capacity by immediately providing approximately 30,000 GPD to residential customers, or 19 AFY. This is calculated by assuming 30,000 GPD over the standard 210-day irrigation season.

In 2011, the District conducted an energy audit to look at energy conservation opportunities. This study identified 142,000 kWh per year of estimated electrical energy use savings by reducing the operating level of the DEC tank and repurposing the tank for peak use. This was based on lowering the tank operating level from 26 feet to 14 feet. All calculations are provided in the Report of Energy Audit – Phase 2 report prepared by Tetra Tech for Delta Diablo Sanitation District (2011).

Using the EPA's eGRID emissions factors, the carbon dioxide equivalent (CO_2e) emission rate for the (California-Mexico Power Area) CAMX subregion where the District is located is 0.661lb/kWh. Therefore, the associated CO_2e for 142,000 kWh is approximately 93,862 lbs./year, or 43 metric tons per year.

(See http://www.epa.gov/cleanenergy/documents/egridzips/eGRID2012V1_0_year09_SummaryTables.pdf.)

4. Identification of all new facilities, policies, and actions required to obtain the physical benefits.

The proposed project will need to be constructed in order to obtain the physical benefits of the project. The District already has policies and permits in place in order to use recycled water for irrigation and industrial uses, including recent approval of the recycled water fill station, so no additional actions are needed.

5. **Description of potential adverse physical effects and what is being done to mitigate those impacts.**

   This project is not expected to have adverse impacts. Because this project will include construction within the existing treatment plant, no mitigation measures are required.

6. **Description of whether the proposed project effectively addresses long-term drought preparedness goals.**

   a. **Promote water conservation, conjunctive use, reuse and recycling:** Promote the use of recycled water by providing additional reliability during peak times through the installation of the emergency generator, which allows the District to add additional customers through maximizing the use of existing distribution and storage infrastructure. The project also provides residential access to recycled water supply through the fill station.

   b. **Improve landscape and agricultural irrigation efficiencies:** Using recycled water will provide a more efficient means of applying valuable nutrients to plants and prevent the need for additional fertilizers.

   c. **Achieve long-term reduction of water use:** This project will allow the District to serve additional recycled water customers, providing a permanent reduction in potable water use.

   d. **Efficient groundwater basin management:** This project will allow the District to serve additional recycled water customers, providing a permanent alternative to groundwater use.

   e. **Establish system interties:** This project would not involve system interties.

   f. **Solutions that yield a new water supply, such as seawater desalination:** This project would not yield a new water supply.

References Cited for Primary Project Benefit

- HDR. 2010. *Recycled Water Demand Projections Technical Memorandum*. Prepared for Delta Diablo as part of the Treatment Plant Master Plan Update. April 2010.
- EPA eGRID: http://www.epa.gov/cleanenergy/documents/egridzips/eGRID2012V1_0_year09_SummaryTables.pdf
- Tetra Tech. *Report of Energy Audit – Phase 2*. Prepared for Delta Diablo. December 2011.

PSP Table 5b - Secondary Annual Project Physical Benefits			
Project Name: Project 3 - Delta Diablo Recycled Water Supply Expansion and Residential Fill Station Project **Secondary Benefit Claimed:** Water Quality Improvement **Units of the Benefit Claimed:** mg/L nitrogen reduced **Additional Information About This Benefit:** The District currently averages 60 mg/L for its domestic wastewater discharged into Newport Slough. Nitrogen loading will be reduced as a result of this project.			
Year	**Physical Benefits**		
	Without Project	**With Project**	**Change Resulting from Project**
2017	60	60	The project will prevent 33,500 pounds of nitrogen from being discharged into San Francisco Bay. The concentration of nitrogen in the water stays the same, but the volume of water discharged is reduced due to distribution of 208 AFY of recycled water from the project.
Last Year of Project Life (approximately 2036)	60	60	Over the 20-year useful life, the project will prevent a total of 670,000 pounds of nitrogen from being discharged into San Francisco Bay. The concentration of nitrogen in the water stays the same, but the volume of water discharged is reduced due to distribution of 208 AFY of recycled water from the project.
Comments: Repurposing the 2 MG storage tank to meet peak day demands will allow the District to provide 208 AFY of recycled water to additional customers and reduce wastewater discharges into San Francisco Bay. The installation of the emergency generator will allow the District to reach more customers by maximizing existing distribution infrastructure and lowering energy consumption at the District's recycled water facility.			

Technical Analysis of Secondary Physical Benefits Claimed

1. **Explanation of the need for the project, including recent and historical conditions that provide background for benefits to be claimed.**

   The District treats wastewater to tertiary recycled water standards based on the recycled water demands of the customers. The remaining wastewater flow is treated to secondary standards and discharged into the San Francisco Bay. By increasing the use of recycled water, the District is able to reduce wastewater treatment plant discharges by an equivalent amount and decrease nutrient loading in the bay.

2. **Explanation of estimates of the without-project conditions (e.g., the levels of the physical benefits in the future, without the project, but with other planned projects).**

   Without the project, new recycled water customers cannot be served and Delta and groundwater supplies would continue to be used to meet non-potable demand while wastewater treatment plant flows are discharged to the San Francisco Bay.

3. **Description of the methods used to estimate the primary physical benefits.**

   The District monitors nitrogen levels in the wastewater at the treatment plant. Currently, the plant is averaging about 60 mg/L of nitrogen. By reducing the amount of water discharged into San Francisco Bay by 208 AFY, the District will reduce nitrogen in its discharge by 33,500 pounds per year for the life of the project, starting in 2017

when the project is constructed. Over the 20-year life of the project, 677,000 fewer pounds of nitrogen will be discharged to San Francisco Bay.

The conversion from concentration to loading is provided below:

$$\frac{lbs}{year} = \frac{\frac{mg}{L} x \frac{8.245lb}{MG}}{\left(\frac{mg}{L}\right)} x \frac{0.325851\ MG}{AF} x\ AFY$$

4. **Identification of all new facilities, policies, and actions required to obtain the physical benefits (e.g., any City policies or procedures that need to be established in order for the benefits to be realized).**

   The proposed project will need to be constructed in order to obtain the physical benefits of the project. The District already has policies and permits in place in order to use recycled water for irrigation and industrial uses, including recent approval of the recycled water fill station, so no additional actions are needed.

5. **Description of potential adverse physical effects and what is being done to mitigate those impacts.**

   This project is not expected to have adverse impacts. Because this project will include construction within the existing treatment plant, no mitigation measures are required.

6. **Description of whether the proposed project effectively addresses long-term drought preparedness goals.**

   a. **Promote water conservation, conjunctive use, reuse and recycling:** Promote recycled water by providing additional reliability during peak times through the installation of the emergency generator, which will allow the District to serve additional customers through maximizing the use of existing distribution and storage infrastructure. The project also provides residential access to recycled water supply through the fill station.

   b. **Improve landscape and agricultural irrigation efficiencies:** Using recycled water will provide a more efficient means of applying valuable nutrients to plants and prevent the need for additional fertilizers.

   c. **Achieve long-term reduction of water use:** This project will allow the District to serve additional recycled water customers, providing a permanent reduction in potable water use.

   g. **Efficient groundwater basin management:** This project will allow the District to serve additional recycled water customers, providing a permanent alternative to groundwater use.

   h. **Establish system interties:** This project would not involve system interties.

   i. **Solutions that yield a new water supply, such as seawater desalination:** This project would not yield a new water supply.

D. Direct Water-Related Benefit to a DAC

In April 2015, the Governor of California mandated water conservation statewide, including the use of conservation pricing and prohibitions on water use. The Contra Costa Water District has implemented temporary tiered rates for their service area, which overlaps with Delta Diablo's service area and includes a number of DACs. According to DWR's DAC Mapping Tool data, Delta Diablo's service area encompasses approximately 34,491 acres, of which 10,472 acres are DACs; 30% of the District's service area includes DACs (census block groups).

The project improves water supply reliability, reduces wastewater discharges and pollutant loading, and expands recycled water supply. This benefits the region by reducing reliance on Delta and groundwater supplies. This is especially critical during drought conditions, when water supplies have been cut back and restrictions have been placed on uses such as landscape irrigation.

The project will directly benefit DACs within the District's service area in the cities of Pittsburg and Antioch, and portions of Bay Point, by providing a free source of water for irrigation and reducing monthly water bills. The District serves a population of over 200,000 residents.

DACs have been actively engaged through the District's notices regarding the free residential fill station and documentation provided on the District's website (http://deltadiablo.org/residents/recycled-water). The pilot residential fill station program attracted over 100 residential customers from the DACs of Antioch and Pittsburg in the first two days of operation, providing over 35,000 gallons of free recycled water. The District anticipates that the permanent residential fill station will be very popular as a free water source for the DACs in Antioch, Pittsburg, and Bay Point.

E. Project Performance Monitoring Plan

PSP Table 6 – Project Performance Monitoring Plan Project 3 - Delta Diablo Recycled Water Supply Expansion and Residential Fill Station Project			
Proposed Physical Benefits	**Targets or Milestones**	**Measurement Tools and Methods**	**Evaluation**
Additional recycled water availability	1. 20–40 people attending each residential fill station training 2. Add 3–5 new recycled water irrigation customers Targets to be achieved in 1–3 years	1. Track the number of participants at training events 2. Meter recycled water distribution from the fill station 3. Track the number of additional recycled water customers served by the system	Monthly review/reporting of recycled water use, including residential fill station use. Increase in recycled water use will be equivalent to potable water savings. If project targets are not met, increase customer outreach and expand operation hours of residential fill station, and expedite new recycled water connections.
Decreased nitrogen loading in San Francisco Bay	Decreased wastewater discharges to San Francisco Bay Targets to be achieved in 1–5 years	Meter recycled water use – all recycled water use is wastewater that is not being discharged to San Francisco Bay	Monthly reporting of recycled water distribution. If project targets are not met, increase customer outreach and expand operation hours of residential fill station, and expedite new recycled water connections.
Reduced energy consumption	Reduced energy usage by 142,000 kWh/year Target to be achieved within 1 year of generator operation	Meter power use at the DEC raw water pump station	Annual review/reporting of energy demand of recycled water pump station. Decreased energy consumption will show savings. If project targets are not met, reevaluate system operations to ensure maximum use of existing facilities.

F. Cost-Effectiveness Analysis

PSP Table 7 evaluates whether the physical benefits provided by the project are provided at the least possible costs.

PSP Table 7 – Cost-Effectiveness Analysis	
Project name: Project 3 - Delta Diablo Recycled Water Supply Expansion and Residential Fill Station Project	
Question 1	***What are the types of benefits provided? Explain in as much detail as possible:*** The installation of the emergency generator will provide 208 AFY of additional recycled water supply by allowing the District to repurpose an existing 2 MG recycled water storage tank to meet peak-day demand and by adding a residential recycled water fill station to provide free access to recycled water for residential customers in the service area, which are primarily DACs.
Question 2	***Have alternative methods been considered to achieve the same types and amounts of physical benefits as the proposed project been identified?***
	If yes, list the methods (including the proposed project) and estimated costs. Yes, the Recycled Water Master Plan looked at a number of alternatives to optimize and maximize the recycled water system to meet peak demands, including building additional storage tanks, pump stations, and pipelines. An additional 0.9 MG recycled water tank was estimated to cost $2,765,000 for construction alone. This project will allow 2 MG of existing storage to be repurposed to meet peak demands by adding a generator and maximizing use of the existing facilities.
Question 3	***Is the proposed project the least cost alternative?*** This project is the least-cost alternative because it maximizes the use of existing storage facilities to optimize system operations, allowing additional peak recycled water demands to be met without additional distribution system infrastructure. This alternative will also reduce the energy demands of the recycled water pump station and the recycled water facility, resulting in more efficient water distribution and lower operating costs in addition to reduced greenhouse gas emissions. With a 20-year project life, this project is estimated to cost $360/AF, which is extremely cost-effective.
Comments:	*References Cited* RMC Water and Environment (RMC). 2013. Recycled Water Master Plan: A Title XVI Feasibility Study Report. Prepared for Delta Diablo. June 2013. Tetra Tech. Report of Energy Audit – Phase 2. Prepared for Delta Diablo. December 2011. HDR. 2010. Recycled Water Demand Projections. Prepared for Delta Diablo as part of the Treatment Plant Master Plan Update. April 2010.

PROJECT 4 – GRANT ADMINISTRATION

A. Project Description

Project Goal: The goal of the grant administration task is to ensure that IRWM grant funds are properly managed and administered in accordance with DWR guidelines and requirements. The East Contra Costa County 2015 IRWM proposal consists of four projects.

Project Description: The Contra Costa Water District (CCWD) will administer the 2015 grant funds and respond to DWR's reporting and compliance requirements associated with the grant administration. CCWD will act in a coordination role by: disseminating grant compliance information to the project managers responsible for implementing the projects contained in this agreement; obtaining and retaining evidence of compliance (e.g., reports, monitoring compliance documents, etc.); obtaining data for progress reports from individual project managers; assembling and submitting progress reports to the State; and coordinating all invoicing and payment of invoices. Key tasks are described below.

Grant Administrator and Grant Recipient: CCWD is the lead agency representing East Contra Costa County's nine cities and unincorporated communities and the nine agencies in the East Contra Costa County IRWM Region. CCWD is highly experienced in grant administration, and has dedicated staffing to oversee administration of grant funds, if awarded.

Oversight and Coordination Committee: The Local Project Sponsors and CCWD will meet in person or by conference call, as needed, to review progress/quarterly reports, resolve grant reimbursement or invoicing issues, and resolve outstanding matters. In addition, the CCWD Grant Manager will provide grant oversight and coordination with all Local Project Sponsors, ensuring completeness of reporting and invoicing and ensuring that project progress is being made according to schedule and concomitant with progress reports and field visits.

Local Project Sponsor MOUs: The Local Project Sponsor Memorandums of Understanding (MOUs) between CCWD and each Local Project Sponsor will ensure that matching funds are committed and grant requirements are satisfied, which will reduce risk exposure to CCWD in executing a grant agreement with the State on behalf of the Local Project Sponsors. All agreements will have similar general conditions, but each agreement will also be tailored to the specific funding and grant requirements applicable to that project. Generally, Local Project Sponsor MOUs will address issues affecting a specific project. MOUs with Local Project Sponsors will be established by CCWD staff as described below:

- Negotiate and finalize Local Project Sponsor MOUs with each Local Project Sponsor that will receive IRWM grant funding, and obtain approval from the CCWD Board and the governing body of each Local Project Sponsor. Each Local Project Sponsor will be expected to execute such an agreement before reimbursement is requested or distributed.
- Each Local Project Sponsor Agreement will include standard formats for reporting project progress and making reimbursement requests, dispute resolution, and other conditions as specified in the Grant Agreement between CCWD and DWR.

A discussion of project physical benefits, planned project monitoring measures, and cost-effectiveness analysis has not been provided as these components are not applicable to the grant administration task.