



Proposition 50, Chapter 8

Integrated Regional Water Management Grant Program

IMPLEMENTATION GRANT ROUND 2, STEP 1



Attachment 1: East Contra Costa County Functionally Equivalent Integrated Regional Water Management Plan

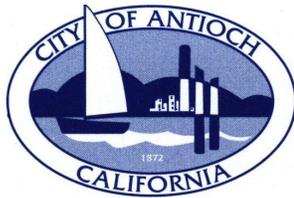


JULY 2007



East Contra Costa County Functionally Equivalent Integrated Regional Water Management Plan

Brought to You By:



City of Antioch

City of Brentwood



*Delta Diablo
Sanitation District*

Diablo Water District



**DIABLO
WATER
DISTRICT**



Contra Costa County

*Contra Costa
Water District*



*Ironhouse
Sanitary District*

*Natural Heritage
Institute*



City of Pittsburg

Prepared by

RMC

East Contra Costa County Functionally Equivalent Integrated Regional Water Management Plan

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- A-3** Contra Costa Water District. *Delta Region Drinking Water Quality Management Plan*, 2005.
- A-4** East Contra Costa Habitat Conservation Plan Association. *Draft East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan*, 2005.
- A-5** East County Water Management Association. *Phase II East County Water Supply Management Study*, 1996.

Appendix B Project Technical and Economic Feasibility Documents

- B-1** CALFED Bay-Delta Program. CALFED Bay-Delta Program Ecosystem Restoration Program Plan Volumes I and II, 2000.
- B-2** CALFED Bay-Delta Program. CALFED Bay-Delta Program Levee System Integrity Program Plan, 1999.
- B-3** CALFED Bay-Delta Program. CALFED Rock Slough Water Quality Improvement Project (Carollo Engineers 2003).
- B-4** City of Antioch. Basis of Design Report - Water Treatment Plant Solids Handling Facilities and Plant Expansion, 2005.
- B-5** City of Pittsburg. Award Consultant Contract for Engineering Services Associated with Site Selection and Design of a New Municipal Well, 2005.
- B-6** Contra Costa County. 1995 Marsh Creek Mercury Study, 1995.
- B-7** Contra Costa Water District. Ten-Year Capital Improvement Program for Fiscal Years 2005 – 2014, 2004.
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- B-18** Ironhouse Sanitary District. Beneficial Use Impact Study, Final Report, Ironhouse Sanitary District, Oakley, California, 2003.
- B-19** Ironhouse Sanitary District. Final Environmental Impact Report, Ironhouse Sanitary District Wastewater Facilities Plan and Delta Environment Science Center, 1994.
- B-20** Ironhouse Sanitary District. Ironhouse Sanitary District Wastewater Facilities Plan Update, 2005.
- B-21** Kirker Creek Watershed Management Planning Group, Contra Costa Resource Conservation District. Kirker Creek Watershed Management Plan, 2004.
- B-22** Levine, Jessie and Rosalyn Stewart. Fall-Run Chinook Salmon Habitat Assessment: Lower Marsh Creek, Contra Costa County, CA, 2004.
- B-23** Marsh Creek Fish Passage Workgroup. Draft Memorandum of Understanding Establishing a Coordinated Approach to Restoring Fish Passage for Anadromous Salmonids in Marsh Creek through Modification or Removal of the Marsh Creek Drop Structure, 2004.
- B-24** Natural Heritage Institute. Corridor Width Report, Parcel Inventory, and Conceptual Stream Corridor Master Plan for Marsh, Sand, and Deer Creeks in Brentwood, CA, 2002.
- B-25** Natural Heritage Institute. *Dutch Slough Tidal Marsh Restoration Preliminary Opportunities and Constraints Report*, 2004.
- B-26** Natural Heritage Institute. Dutch Slough Tidal Marsh and Floodplain Restoration Project (presentation), 2004.
- B-27** Natural Heritage Institute. Marsh Creek Delta Preliminary Conceptual Restoration Plan, 2002.
- B-28** San Francisco Bay Area Regional Water Recycling Program (BAWRRP). Recycled Water Master Plan, 1999.

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Adoption Signature Page

IN WITNESS WHEREOF, the parties hereto have adopted this Functionally Equivalent Integrated Regional Water Management Plan.

CITY OF ANTIOCH

Dated: 7-15-05

By: 
Phillip L. Harrington, Director of Public Works

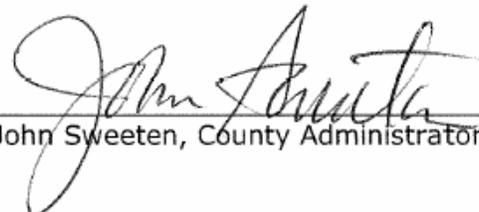
CITY OF BRENTWOOD

Dated: 7/13/05

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CONTRA COSTA COUNTY

Dated: 7/12/05

By: 
John Sweeten, County Administrator

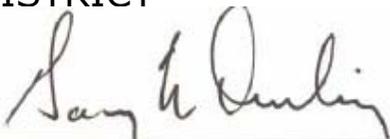
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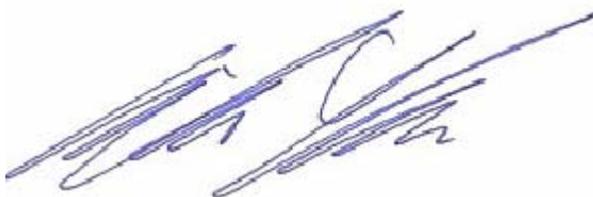
DELTA DIABLO SANITATION DISTRICT

Dated: 7-1-05

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Gary W. Darling, General Manager

DIABLO WATER DISTRICT

Dated: 7/12/05

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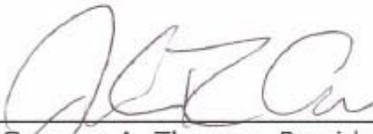
IRONHOUSE SANITARY DISTRICT

Dated: 7/08/05

By: 
Tom Williams, General Manager

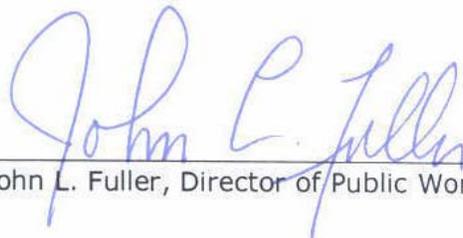
NATURAL HERITAGE INSTITUTE

Dated: 7/12/05

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Gregory A. Thomas, President
John Cain for GAT

CITY OF PITTSBURG

Dated: 7/8/05

By: 
John L. Fuller, Director of Public Works

Acronyms and Abbreviations

ABAG	Association of Bay Area Governments
AF	Acre-feet
AFY	Acre-feet per Year
BARWRP	Bay Area Regional Water Recycling Program
BASIC	Bay Area Security Information Collaborative
BAWAC	Bay Area Water Agencies Coalition
BBID	Byron Bethany Irrigation District
BMPs	Best Management Practices
CALFED	California Bay-Delta Program
CCC	Contra Costa County
CCC FC&WCD	Contra Costa County Flood Control and Water Conservation District
CCWD	Contra Costa Water District
DDSD	Delta Diablo Sanitation District
DRDWQMP	Delta Region Drinking Water Quality Management Plan
DFG	Department of Fish and Game
DWD	Diablo Water District
DWR	Department of Water Resources
ECCID	East Contra Costa Irrigation District
ECWSMS	East County Water Supply Management Study
FWSS	Future Water Supply Study
ISD	Ironhouse Sanitary District
LOMU	Letter of Mutual Understanding
IRWMP	Integrated Regional Water Management Plan
M&I	Municipal and Industrial
MOU	Memorandum of Understanding
NHI	Natural Heritage Institute
NPDES	National Pollutant Discharge Elimination System
NPS	Non-Point Source
SBA	South Bay Aqueduct
SCVWD	Santa Clara Valley Water District
SWMP	Stormwater Management Plan
SWP	State Water Project
TDS	Total Dissolved Solids
USD	Union Sanitary District
WTP	Water Treatment Plant

Foreword

East Contra Costa County (“East County”) is a rapidly growing and biologically rich region on the south-western shore of the Sacramento-San Joaquin Delta. It is straddled at the transition between the Bay Area and the Central Valley Bioregions, yet it is part of neither region. It is geographically isolated from its neighbors by Mt. Diablo and its foothills that bound it on the west and south and by the labyrinth of Delta waterways that lie to the north and east.

Its land and waters support a diverse population, a booming economy, and host of sensitive species and habitats. Although it is a relatively isolated region with a distinct set of challenges and opportunities, activities in East County have ramifications for the entire California water supply system. With the exception of some groundwater, the entire water supply derives from the Delta and all lands drain back to the Delta.

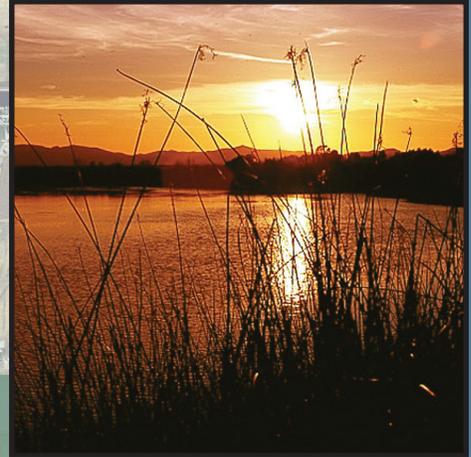
The region includes some of the oldest settlements and water projects in the state, but is home to some of newest and fastest growing communities. The task of modernizing the water-related infrastructure to serve booming population growth is a daunting challenge, but this task also provides an opportunity to create a more integrated system designed to achieve a broader set of water-related objectives.

In response to these challenges, over a dozen different jurisdictions and institutions have joined together in various forums to create a safer, more reliable, and environmentally friendly water management system. For the last decade, the water and wastewater agencies of east Contra Costa County have worked collaboratively to integrate management initiatives and infrastructure in the interest of increasing water supply reliability. More recently, Contra Costa County and Contra Costa Flood Control District joined together with local cities and districts to develop and implement a comprehensive Stormwater Management Plan to protect the beneficial uses of the Delta water system. Finally, the County, many cities, water agencies, and local districts have been working collaboratively with state and federal agencies to develop an innovative habitat conservation plan to preserve endangered species and have launched several ambitious ecosystem restoration projects.

This document brings together all of these initiatives into one shared vision where all interested jurisdictions work together toward a common set of objectives. Under this vision, and in this region – water supply, water quality protection, and storm water management are one and the same. Groundwater, surface water, and reclaimed water are managed as one interconnected system. Further, projects conceived and developed to serve multiple interrelated objectives are the norm, not the exception.



Executive Summary



EXECUTIVE SUMMARY

The East County agencies have a rich history of regional water management planning.

The agencies of East County included in, and supporting this Functionally Equivalent IRWMP represent all of the water and wastewater agencies in East County, as well as Contra Costa County and the Natural Heritage Institute. These agencies have a long history of regional water resources planning, facilitating the ongoing, integrated planning process.

Through their history of regional planning, the East County agencies have identified regional water management objectives that address their common water management challenges.

The East County agencies share common water supply, water quality, and environmental challenges. All of the East County agencies are located within the boundaries of the statutory Delta, the largest estuary on the west coast of North and South America. As such, they recognize the importance of protecting, restoring, and enhancing this environmentally sensitive ecosystem. In addition, while the East County agencies are not projecting future water supply shortfalls under normal hydrologic conditions, the rapidly growing population in the region makes meeting future water supply needs a challenge in dry years.

Through development of the Phase II East Contra Costa Water Supply Management Plan, the Future Water Supply Study, the Habitat Conservation Plan, the Stormwater Management Plan, the Delta Region Drinking Water Quality Management Plan, and other regional planning efforts, the agencies have developed a set of regional objectives for water management focusing specifically on the areas of Water Supply, Water Quality, Groundwater Management, Ecosystem Restoration, Flood Control and Implementability designed to address the region's common challenges.

A wide range of projects spanning multiple water management strategies has been identified to meet the regional objectives.

A diverse array of water management strategies and approaches was considered to meet the regional objectives and therefore address the region's common challenges. Employing a variety of different water management strategies provides a greater benefit by addressing all aspects of the challenges associated with meeting objectives while providing redundancy. A large selection of projects was identified, based on the ability of projects to meet the regional objectives and provide multiple benefits. Projects and water management strategies selected for inclusion are presented in **Table ES-1**.

Table ES-1: Projects and Water Management Strategies Included in Plan

Project	Water Conservation	Ecosystem Restoration	Environmental & Habitat Protection & Improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation & Public Access	Stormwater Capture & Management	Water Quality Protection & Improvement	Water Recycling	Wetlands Enhancement & Creation	Conjunctive Use	Desalination	NPS Pollution Control	Watershed Planning	Water & Wastewater Treatment
Alternative Intake Project				✓					✓							
Antioch Recycled Water Implementation				✓			✓		✓	✓						✓
Antioch Water Treatment Plant Solids Handling Facilities			✓		✓			✓	✓	✓						✓
Beacon West Well Head Arsenic Treatment				✓		✓			✓							✓
Caltrans Recycled Water Implementation				✓			✓		✓	✓					✓	
CCWD Canal Improvement Project			✓	✓	✓				✓					✓		
Brentwood Chloramination of Wells				✓		✓			✓							✓
Brentwood Irrigation Controllers	✓			✓					✓							
Brentwood Non-Potable Water Distribution System - Phase II				✓					✓	✓						✓
Brentwood Non-Potable Water Distribution System – Phase III				✓					✓	✓						✓
Brentwood Surface Water Treatment Facility Phases I and II				✓					✓							✓
Brentwood Wastewater Treatment Plant Expansion – Phase II									✓							✓
Pittsburg Groundwater Study, Well Site Selections, and Design and Construction of two New Municipal Wells and development of a Groundwater Management Plan				✓		✓			✓							
DDSD Feasibility-Level Desalination Plant				✓					✓				✓			✓
Diablo Water District Well Utilization Project Phase 1 and 2				✓		✓			✓							
Dutch Slough Tidal Marsh Restoration – Phase 1		✓	✓		✓		✓	✓	✓		✓			✓		
East Antioch Creek Marsh Restoration Project		✓	✓		✓		✓				✓					
East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP)		✓	✓		✓		✓		✓		✓			✓	✓	

Project	Water Conservation	Ecosystem Restoration	Environmental & Habitat Protection & Improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation & Public Access	Stormwater Capture & Management	Water Quality Protection & Improvement	Water Recycling	Wetlands Enhancement & Creation	Conjunctive Use	Desalination	NPS Pollution Control	Watershed Planning	Water & Wastewater Treatment
Habitat and Watershed Protection/Restoration to Jump Start the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan		✓	✓		✓		✓		✓		✓			✓	✓	
Ironhouse Sanitary District Wastewater Treatment Plant Upgrade/Expansion Project		✓	✓	✓		✓			✓	✓						✓
Jersey Island 3,000-foot Cross Levee				✓	✓				✓							
Jersey Island Levee Improvement				✓	✓				✓							
Kellogg Sedimentation Basin Project			✓		✓				✓							
Knightsen Bio-filter Project					✓			✓	✓		✓			✓		
Marsh Creek Delta and Tidal Marsh Restoration		✓	✓		✓						✓					
Marsh Creek Fish Passage Project		✓					✓				✓					
Marsh Creek Reservoir Rehabilitation		✓	✓		✓		✓	✓	✓		✓					
Mount Diablo Mercury Mine Remediation (Marsh Creek Watershed)								✓	✓							
Pinn Brothers Marsh Creek Riparian Restoration Project		✓	✓		✓		✓	✓	✓		✓			✓		
Pittsburg Recycled Water Implementation				✓			✓		✓	✓					✓	✓
Subsidence mitigation on Jersey Island Blind Point area				✓	✓				✓							
Willow Park Marina Well Head Arsenic Treatment				✓		✓			✓							✓

Short-term priority projects balance agency interests with regional objectives.

Regional projects that improve water supply reliability and water quality, reduce dependence on imported water, assist in achieving the regional objectives, provide multiple benefits, and eliminate or reduce pollution in sensitive habitat areas and areas of special biological significance were identified as short- or long-term. Short-term projects were identified as those projects that were most cost-effective and ready to proceed. A detailed prioritization process was developed to prioritize the short- and long-term projects. Through this prioritization, the East County agencies identified ten projects as highest priority for short-term regional implementation. These projects are:

- Alternative Intake Project
- Antioch Recycled Water Implementation
- City of Antioch Water Treatment Plant Solids Handling Facilities
- City of Brentwood Surface Water Treatment Facility Phases I and II
- CCWD Canal Improvement Project
- Diablo Water District Well Utilization Project Phase 1 and 2
- Dutch Slough Tidal Marsh Restoration – Phase I
- Habitat and Watershed Protection/Restoration to Jump Start the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan
- Ironhouse Sanitary District Wastewater Treatment Plant Upgrade/Expansion Project
- Pittsburg Recycled Water Implementation
- City of Pittsburg Groundwater Study, Well Site Selections, and Design and Construction of two New Municipal Wells and development of a Groundwater Management Plan

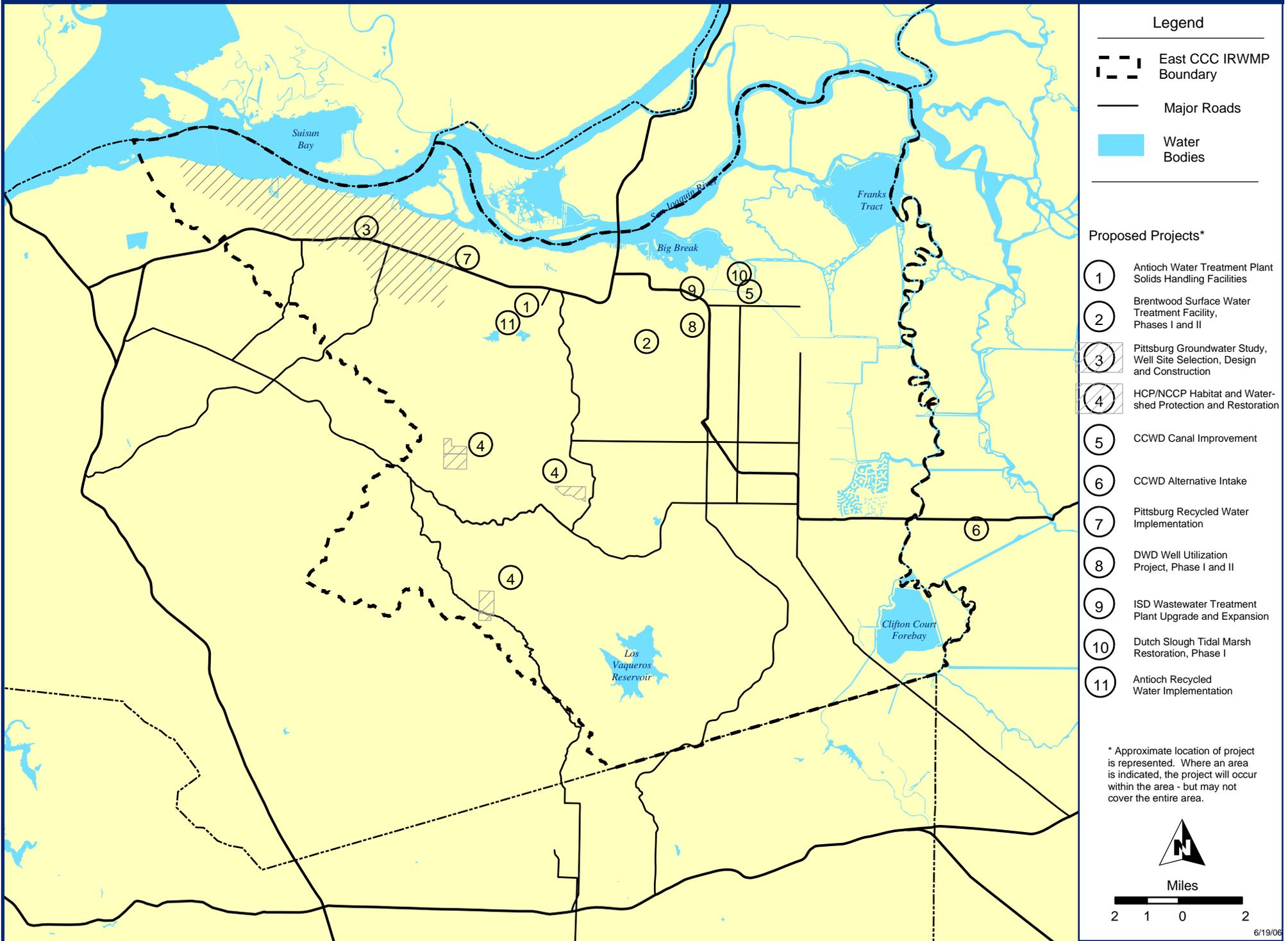
Locations of these short-term, high priority projects are shown on **Figure ES-1**.

Implementation of the Plan will provide multiple benefits through regional integration.

This Functionally Integrated IRWMP will be implemented through implementation of a series of short- and long-term projects and programs. Implementation of each of the projects included in the Functionally Equivalent IRWMP will be the responsibility of the respective lead agencies. In addition, the East Contra Costa County Regional Water Management Group will be responsible for periodically reviewing overall Plan performance and making adjustments to objectives, priorities, and projects as necessary.

A wide array of benefits is expected to result from Plan implementation, including improved water supply reliability, improved water quality, increased public health and safety protection, environmental and wetlands restoration, enhancement and creation, improved public access, and improved NPS pollution control. In addition, many specific benefits are expected to accrue to the disadvantaged communities located in the Pittsburg and Antioch areas, including improved irrigation of public parks, improved water supply reliability and improved water quality. Further benefits to disadvantaged communities include free public access to the Delta shoreline established as part of the Dutch Slough project. The environmental benefits associated with Plan implementation, similarly, are expected to far outweigh any potential impacts. Potential impacts are primarily temporary construction impacts, while an array of ecosystem creation and restoration, as well as sensitive species and habitat protection projects have been included.

Figure ES-1: Locations of Short-Term, High Priority Projects in East County



The Functionally Equivalent IRWMP integrates previous regional planning efforts into a cohesive plan for a sustainable future.

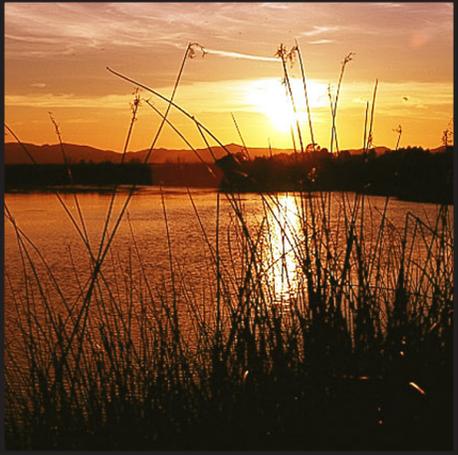
This Functionally Equivalent Plan is not intended to supersede prior local and regional planning efforts, but rather to coalesce them into a blanket regional water resources management plan for East County.

The projects and programs included as part of this Plan are all rooted in previous local and regional planning efforts and serve to address the various water supply, water quality and ecosystem objectives identified for the region.

Extensive stakeholder outreach efforts have already been conducted as part of the plans and studies comprising the foundation of this document. In addition, ongoing and planned stakeholder outreach processes are expected to help pave the way for successful plan implementation. The East County agencies recognize that joining together through regional cooperation can help them to realize greater benefits than individual planning alone.

Through implementation of these projects, the East Contra Costa Regional Water Management Association continues to strive to provide reliable sources of high quality water to their customers while maintaining the highest standards of environmental stewardship.

Implementation of this Functionally Equivalent Plan represents the next step along the road to a more sustainable future – but it doesn't stop there. East County Agencies recognize that the development of integrated, multi-benefit projects is a dynamic process. These agencies are continuing to work together as part of a collaborative process in an effort to identify additional projects - beyond those included within this Functionally Equivalent Plan - that will address the region's water management needs.



Chapter 1

Introduction

1 INTRODUCTION

Water agencies, wastewater agencies, flood control districts, and watershed management groups within the Eastern portion of Contra Costa County (East County) have a long history of cooperative planning for the region. In the early 1990s, the following agencies joined together as the East County Water Management Association to develop Phases I and II of the East County Water Supply Management Study, a comprehensive water management plan (included as **Appendix A-5** of this document):

- City of Antioch
- City of Brentwood
- Byron-Bethany Irrigation District
- Town of Discovery Bay Community Services District (formerly Contra Costa County Sanitation District No. 19)
- Contra Costa County Water Agency
- Contra Costa Water District
- Delta Diablo Sanitation District
- Diablo Water District
- East Contra Costa Irrigation District
- Ironhouse Sanitary District
- City of Pittsburg

This group continues to coordinate on water management issues for the region, holding regular meetings. This document is intended to show how the various water management planning efforts within the region constitute an Integrated Regional Water Management Plan both in content and intent. The members of the East County Water Management Association are either participating in, or have indicated support of this effort. In addition, the Natural Heritage Institute, Contra Costa County, and the Contra Costa Flood Control and Water Conservation District are participating in this effort. The Letter of Agreement between participating and supporting agencies, and letters of support for this effort from external agencies, are included in **Appendix C-7**.

1.1 Purpose

This document is intended to serve as a Functionally Equivalent Integrated Regional Water Management Plan (IRWMP) for the East Contra Costa region, tying together the following regional water management plans (included in **Appendix A**):

- *Phase II East County Water Supply Management Study, 1996 (ECWSMS)*. Developed by eleven East County agencies, the East County Water Supply Management Study is a comprehensive regional assessment of water demands and supplies, treatment and delivery options, water supply alternatives, and recommendations and implementation strategies for regional water management.
- *Stormwater Management Plan, 1999 (SWMP)*. The Stormwater Management Plan, developed by Contra Costa County in conjunction with the Contra Costa Flood Control and Water Conservation District and local cities and districts, serves as the basis for the Contra Costa Clean Water Program's National Pollutant Discharge Elimination System (NPDES) Permit application to the Central Valley and San Francisco Bay Regional Water Quality Control Boards.

- *Future Water Supply Study Final Report, 1996, and Future Water Supply Study 2002 Update, 2002 (FWSS)*. The Future Water Supply Study (updated in 2002) contains a detailed analysis of the future supply and water needs for the Contra Costa Water District service area, including Eastern Contra Costa County.
- *Delta Region Drinking Water Quality Management Plan, 2005 (DRDWQMP)*. The Delta Region Drinking Water Quality Management Plan was developed jointly by Contra Costa Water District, the City of Stockton, and Solano County Water Agency (the three largest urban water users within the Delta region) with the goal of understanding existing and future water quality conditions at the urban intakes within the Delta, identifying challenges and issues confronting agencies diverting water from the Delta, and developing projects and programs at the local, regional, and statewide level to address these issues and ensure that in-Delta agencies can meet their water quality goals in the future.
- *Draft East Contra Costa County Habitat Conservation Plan and Natural Community Conservation Plan, 2005 (HCP)*. The East Contra Costa County Habitat Conservation Plan represents a major regional planning effort aimed at preserving and enhancing native habitats that support endangered and sensitive species while providing a regional incidental take permit under the Federal Endangered Species Act (FESA) and California Endangered Species Act (CESA).

1.2 Document Organization

The Functionally Equivalent IRWMP is organized according to the Integrated Regional Management Grant Program Guidelines established by the State Water Resources Control Board adopted on November 18, 2004, as follows:

- 1. Introduction.** This chapter describes the intent of the Functionally Equivalent IRWMP to serve as an umbrella planning document to integrate the numerous regional planning efforts in place in East County.
- 2. Background.** This chapter provides a description of the water, wastewater, and other agencies involved in the development of this document and provides a detailed description of the East County region.
- 3. Water Management.** This chapter discusses the region’s water management objectives and strategies in place to meet these objectives.
- 4. Regional Plan Implementation.** This chapter discusses the general plan of action for implementing the regional plan; including data management, financing, relation to local planning, and stakeholder involvement.
- 5. Summary.** This chapter provides general conclusions and commentary on the key themes of this document.
- 6. References.** This chapter provides a listing of references used in the development of this document.

Document Organization

This functional area document is organized according to Appendix A of the Integrated Regional Management Grant Program Guidelines (November 18, 2004) as follows:

<i>A. Regional Agency of Regional Water Management Group.....</i>	Chapter 2
<i>B. Region Description.....</i>	Chapter 2
<i>C. Objectives.....</i>	Chapter 3
<i>D. Water Management Strategies...</i>	Chapter 3
<i>E. Integration.....</i>	Chapter 3
<i>F. Regional Priorities.....</i>	Chapter 3
<i>G. Implementation.....</i>	Chapter 4
<i>H. Impacts and Benefits.....</i>	Chapter 4
<i>I. Technical Analysis and Plan Performance.....</i>	Chapter 4
<i>J. Data Management.....</i>	Chapter 4
<i>K. Financing.....</i>	Chapter 4
<i>L. Statewide Priorities.....</i>	Chapter 4
<i>M. Relation to Local Planning.....</i>	Chapter 4
<i>N. Stakeholder Involvement.....</i>	Chapter 4
<i>O. Coordination.....</i>	Chapter 4

Callout boxes have been included throughout the document to link report sections to requirements included in the Grant Program Guidelines.

Functionally Equivalent Documents

Callout boxes have been included in each section to indicate the portions of the Appendix A documents supporting this Functionally Equivalent Plan that contain the information required to address the Appendix A guidelines.