ATTACHMENT 6 – PROPOSAL

San Gabriel and Lower Los Angeles Rivers Watershed
IRWM Implementation Grant, Step 1

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Section 1 – Proposal Overview

1.1 REGIONAL WATER MANAGEMENT GROUP

The Watershed Conservation Authority (WCA) is submitting this implementation proposal on behalf of the Regional Water Management Group for the San Gabriel and Lower Los Angeles Rivers Watershed (Regional Group). The WCA is a joint powers entity of the San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy (RMC) and the Los Angeles County Flood Control District (LACFCD).

In November 2004, the WCA formed the Regional Group that would work together to develop an Integrated Regional Water Management (IRWM) Plan for the San Gabriel and Lower Los Angeles Rivers Watershed Region (Region), as well as coordinate for the submission of planning and implementation grant applications under the Proposition 50, Chapter 8 IRWM Program.

The Regional Group is comprised of the following agencies and organizations:

REGIONAL GROUP MEMBER	DESCRIPTION OF AGENCY / ORGANIZATION
Amigos de Los Rios	Non-profit organization that seeks to enhance urban neighborhoods within disadvantaged Southern Californian communities. Amigos' mission is to create sustainable open spaces, protect the environment, and strengthen community life in order to benefit current and future generations.
California Coastal Conservancy	State agency that, in partnership with coastal cities and counties and nonprofit organizations, improves public access to the coast, protects and enhances coastal wetlands and watersheds, restores urban waterfronts and resolves coastal land use conflicts.
Central Basin Municipal Water District	Agency that purchases imported water from the Metropolitan Water District of Southern California (MWD) and wholesales the water to 24 cities, mutual water companies, investor-owned utilities, and private companies located within a 227-square mile service area.
City of El Monte	Located in the San Gabriel Valley, El Monte is the ninth largest city in Los Angeles County and has an ethnically diverse population. Located in both the San Gabriel River and Los Angeles River watersheds, El Monte is active in improving the recreational opportunities along the river corridors. El Monte's median household income qualifies it as a disadvantaged community as defined by the State of California.
City of Long Beach	Long Beach is the fifth largest City in the State of California. The City occupies a land area of approximately 52 square miles and services a population of approximately 481,000. The City provides a full range of municipal services, including both a water and sanitation department. The City operates and maintains a deep-water harbor, several beaches, and marinas. Long Beach's median household income qualifies it as a disadvantaged community as defined by the State of California.

County of Los Angeles Department of Public Works	Agency responsible for the design, construction, operation, maintenance, and repair of sewers, water supply, flood control and water conservation facilities throughout the County of Los Angeles. Public Works acts on behalf of the Los Angeles County Flood Control District.
Gateway Cities Council of Governments	The goal and intent of the Council is one of voluntary cooperation among the cities for the collective benefit of cities in southeast Los Angeles County. The council serves as an advocate in representing the members of the Gateway Cities Council of Governments at the Regional, State and Federal levels on issues of importance to southeast Los Angeles County.
Los Angeles and San Gabriel Rivers Watershed Council	Non-profit organization of community groups, governmental agencies, businesses and academia working cooperatively to preserve, restore, and enhance the many beneficial uses of the Los Angeles River and San Gabriel River watersheds ecosystem through education, research, planning, and mediation.
Mountains Recreation and Conservation Authority	Local governmental public entity that is a partnership between the Santa Monica Mountains Conservancy, the Conejo Recreation and Park District and the Rancho Simi Recreation Park District. The MRCA is dedicated to the preservation and management of local open space and parkland, watershed lands, trails, and wildlife habitat.
San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy	State conservancy whose mission includes the protection and enhancement of open space and habitat to provide low-impact recreation and educational uses, wildlife habitat restoration and protection, and watershed improvements within the San Gabriel River and Lower Los Angeles Rivers Watershed area.
Sanitation Districts of Los Angeles County	Agency that operates 11 wastewater treatment facilities, 10 of which are classified as water reclamation plants. These facilities serve approximately five million people in 78 cities and unincorporated areas within the County of Los Angeles.
Tree People	Non-profit organization whose focus is to raise environmental awareness, restore watersheds and fragile habitats, and address urban issues such as water and energy conservation, flood protection, and stormwater pollution.
Water Replenishment District of Southern California	Agency that manages groundwater in the Central and West Coast Basins for nearly four million residents in the County of Los Angeles.
Watershed Conservation Authority	Joint powers entity between the RMC and LACFCD whose focus is to provide multiple benefits such as open space, habitat restoration, watershed improvements, and recreational opportunities in the San Gabriel and Lower Los Angeles Rivers Watershed Region.

Several of the agencies and organizations named above have approved a Memorandum of Understanding (MOU) proposing to set up a governance structure, develop an IRWM Plan, and make regional decisions in areas related to integrated water management. These agencies and organizations are currently in the process of seeking formal adoption of this MOU, which is included in Attachment 2. The commitment of the Regional Group members is further exemplified by their commitment of over $400,000 to date to continue the development of the IRWM Plan for this Region.

The following agencies and organization have provided letters to the State (attached to this proposal) indicating their support of this IRWM implementation proposal. The specific attachment numbers are listed following the agency/organization names.

- Amigos de Los Rios (Att10_IG1_DACInfo_2of4)
- Central and West Basin Municipal Water Districts (Att6_IG1_Proposal_2of7)
- City of El Monte (Att10_IG1_DACInfo_3of4)
- City of Long Beach (Att10_IG1_DACInfo_4of4)
- County of Los Angeles Department of Public Works (Att6_IG1_Proposal_3of7)
- Los Angeles and San Gabriel Rivers Watershed Council (Att6_IG1_Proposal_4of7)
- Rivers and Mountains Conservancy (Att6_IG1_Proposal_5of7)
- Sanitation Districts of Los Angeles County (Att6_IG1_Proposal_6of7)
- San Gabriel River Water Committee (Att6_IG1_Proposal_7of7) for Morris Dam Water Supply Enhancement Project

The development of IRWM planning for this Region is part of a long-term strategy to coordinate water resource and watershed management planning efforts across the larger Los Angeles bioregion, defined for these purposes as the watersheds of the San Gabriel River, Los Angeles River, Ballona Creek, Dominguez Channel, and Santa Monica Bay from Arroyo Sequit to the Palos Verdes peninsula. Across the Los Angeles bioregion, substantial coordination has taken place among the agencies and organizations in developing IRWM Plans and in the identification of integrated water management projects. As projects identified within this proposal also provide a benefit to areas outside this Region, the Regional Group is committed to working cooperatively with other established Regional Water Management Groups so coordination occurs across the Los Angeles bioregion.

1.2 OVERVIEW OF REGION

The IRWM Plan will cover the San Gabriel and Lower Los Angeles Rivers Watershed Region, shown in Figure 6-1[1] on the following page, which has been defined as the complete San Gabriel River Watershed along with the easternmost subwatersheds of the Los Angeles River Watershed, including the subwatersheds of the Rio Hondo, Compton Creek, and the Lower Los Angeles River. Over 90 percent of the San Gabriel and Lower Los Angeles Rivers Watershed Area lies within Los Angeles County, with the balance including a western portion of Orange County and a small part of San Bernardino County. The Region includes 64 cities as well as unincorporated parts of Los Angeles and Orange Counties. The Region falls primarily under the jurisdiction of the Los Angeles Regional Water Quality Control Board (Region 4), with a small portion within the Santa Ana Regional Water Quality Control Board's jurisdiction (Region 8).

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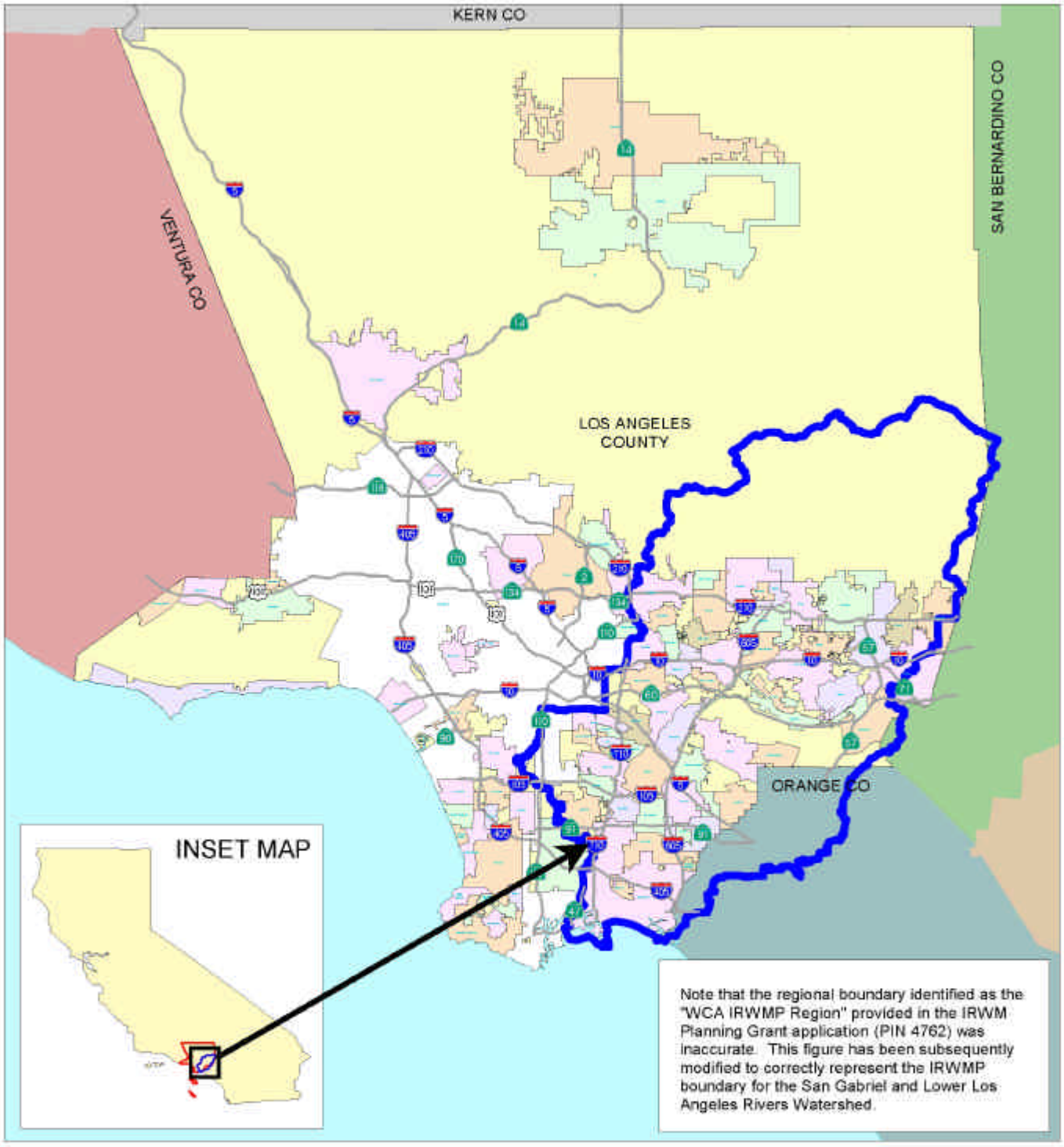
[1] *It should be noted that Figure 6-1, which identifies the Regional boundary, differs from the figure identified as the "WCA IRWMP Region" provided in the IRWM Planning Grant application (PIN 4762). The boundary included in the Planning Grant application was the WCA jurisdictional boundary, not the San Gabriel and Lower Los Angeles Rivers Watershed IRWM Regional boundary. Consistent with the narrative descriptions in the Planning Grant application and the title of the Region, the intention of the WCA and the Regional Group is for the IRWM Plan to cover only the San Gabriel and Lower Los Angeles Rivers Watershed. Any references to areas outside the San Gabriel and Lower Los Angeles Rivers Watershed within the Planning Grant application for this Region were inadvertent and should be disregarded.*

San Gabriel and Lower Los Angeles Rivers Watershed
Integrated Regional Water Management Plan
PIN 5956



DEPARTMENT OF PUBLIC WORKS
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REGIONAL BOUNDARY

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SAN GABRIEL AND LOWER LOS ANGELES RIVERS WATERSHED REGION

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The boundaries of this IRWM Plan Region are based on an interlinked hydrologic system that has long characterized the relationship between the adjacent San Gabriel River and Los Angeles River Watersheds. Factors defining these borders are reflected in the dual functions of the Rio Hondo, enabling it to serve as a key link between these two watersheds; and by underlying groundwater basins that are also shared by both watersheds.

Today, the Rio Hondo is a major tributary of the Los Angeles River; but, prior to 1868, its channel once served as the main bed of the San Gabriel River. Flood control channelization of the Rio Hondo captured tributaries that once formed the western tributaries of the San Gabriel River. Although now a Los Angeles River tributary, the Rio Hondo also carries out a water conservation function of the San Gabriel River. Channels have been constructed which bring water from the San Gabriel River to the Rio Hondo to be percolated into groundwater at spreading facilities located in the Los Angeles River Watershed. As a result of this tangled history, groundwater under the Rio Hondo still flows largely toward the San Gabriel River, while its surface waters are funneled into the lower Los Angeles River.

The groundwater basins in this area extend beyond the boundaries of the surface watersheds they underlie. The boundaries of the Main San Gabriel Basin, for example, includes the upper San Gabriel River Watershed and the eastern portion of the Los Angeles River Watershed. Similarly, the Central Groundwater Basin and West Coast Groundwater Basin underlie portions of both watersheds. These basins made productive groundwater recharge possible, which has historically enabled the many cities and unincorporated parts of eastern Los Angeles County to be less dependent upon imported water compared to other portions of western Los Angeles County.

Additional details regarding the Region, including descriptions of major water related infrastructure, water supply and water quality issues, land use, environmental resources and ecological processes, population, and demographics are contained in the Framework IRWM Plan which is included in Attachment 3 in this implementation proposal.

1.3 GOALS AND OBJECTIVES

The purpose of this proposal is to seek grant funding to initiate the implementation of integrated water management projects, consistent with the goals and objectives identified during the Region's IRWM planning process. Initial IRWM planning objectives have been defined by the Regional Group and are discussed in Section 4 of the Framework IRWM Plan, which is included as Attachment 3 of this implementation proposal. These objectives were derived from various stakeholder-driven watershed management planning efforts that have provided the foundation for IRWM planning within the Region.

The table below identifies these objectives and will be further refined by the Regional Group through Steering Committee meetings and additional stakeholder input as the IRWM Plan for the Region continues to develop. The components of this implementation proposal strongly address the IRWM objectives listed below.

WATER MANAGEMENT FOCUS AREAS	OBJECTIVES
Water Supply Reliability and Water Quality Protection and Improvement	• Maximize use of water sources • Protect and preserve water quality • Implement Total Maximum Daily Loads that are established or under development • Implement Regional Water Quality Control Board Watershed Management Initiative chapters, plans, and policies • Implement the SWRCB's Non-Point Source Program Plan • Implement a wide array of Best Management Practices to optimize local water resources and reduce dependence on imported water while increasing beneficial water uses available to the public • Maximize use of seasonally discounted imported water • Optimize water resources to reduce dependence on imported water
Groundwater Management and Conjunctive Use	• Provide basin replenishment to reduce dependence on imported water • Develop storage programs to increase reliability and reduce basin operating cost to reduce dependence on imported water • Implement conjunctive use programs and projects to reduce dependence on imported water
Stormwater Capture and Management, Surface Storage, and Flood Management	• Implement sediment clean up and removal • Improve flood protection • Maximize opportunities to capture local water in wet years to reduce dependence on imported water
Watershed Management, Habitat Enhancement, and Recreation	• Encourage multi-objective planning and projects • Involve the public through education and outreach programs • Coordinate watershed planning across jurisdictions and boundaries • Improve habitat quality, quantity, and connectivity • Improve access to open space and recreation for all communities • Establish riverfront greenways to cleanse water, hold floodwaters and extend open space • Develop coordinated watershed monitoring programs for water quality and ecosystem health • Implement watershed management plans • Preserve and restore coastal wetland ecosystems • Preserve and restore stream corridors and wetland ecosystems in coastal watersheds • Recover native habitat and species diversity • Integrate wetlands recovery with other public objectives • Promote education and compatible access related to coastal wetlands and watersheds • Advance the science of wetlands restoration and management in southern California • Provide accessible parks for underserved neighborhoods of Los Angeles County

WATER MANAGEMENT FOCUS AREAS	OBJECTIVES
Water Recycling, Water Reclamation, and Water Conservation	• Maximize water recycling opportunities to reduce dependence on imported water • Maximize water conservation opportunities to reduce dependence on imported water • Maximize water reclamation opportunities to reduce dependence on imported water

1.4 PROJECT PRIORITIZATION

Several multi-objective plans that exist within the Region address water management. Watershed Management Plans, Resource Conservation Plans, and Urban Water Management Plans are examples of the Region's efforts to develop integrated approaches to water management.

Currently, numerous projects are listed in these various multi-objective planning documents; however, until the Proposition 50, Chapter 8 IRWM Program was established, no mechanism was in place to consolidate and prioritize these projects on a regional scale. Based on IRWM criteria, the Regional Group developed a Project Identification Form to solicit projects from Regional stakeholders that met the objectives of the IRWM grant program. A call for projects was made in February 2005 that resulted in 33 multi-objective projects submitted for the Region. These projects are identified in the table below. A sample Project Identification Form follows this table.

COMPLETE PROJECT LIST FOR THE REGION

PROJECT NAME	SUBMITTING AGENCY	TOTAL COST
Alhambra Wash Naturalization	Amigos de los Ríos	$7,737,500
Arcadia Wash Naturalization	Amigos de los Ríos	$14,020,615
Armstrong Multiuse Grounds	Los Angeles County Flood Control District	$7,118,000
Bell Riverfront Greenway	Los Angeles County Flood Control District	$915,000
Citrus Spreading Grounds Modification Project	Los Angeles County Flood Control District	$203,000
Colorado Lagoon Water, Sediment, Habitat, Restoration Master Plan	Long Beach Water Department	$6,917,820
DeForest Wetland Habitat Restoration	Long Beach Parks, Recreation, and Marine	$7,905,055
Duck Farm	Watershed Conservation Authority	$15,000,000
El Dorado Park Lakes Water Usage and Wetlands Restoration	Long Beach Parks, Recreation, and Marine	$12,471,109
El Monte Storm Drain Dayligthting/Green Infrastructure	City of El Monte/Amigos de los Ríos	$5,940,000
Emerald Necklace-Alhambra Wash to Eaton Wash	Amigos de los Ríos /City of El Monte	$1,892,008
Emerald Necklace-Eaton Wash to Peck Park	Amigos de los Ríos /City of El Monte	$5,270,124
Emerald Necklace-Peck Park to SG River	Amigos de los Ríos /City of El Monte	$1,311,979
Emerald Necklace-SG River to Walnut Creek	Amigos de los Ríos /City of El Monte	$1,769,163

Full Capture Trash Removal Devices	Los Angeles County Flood Control District	$7,640,000
I-105 Dewatering Wells Beneficial Uses Project	Water Replenishment District	$24,000,000
Invasive Weed Control in Riparian Habitat	LA & SG Rivers Watershed Council	$232,000
Large Landscape Conservation/ Runoff Reduction Management and Educational Program	Central Basin Municipal Water District	$1,555,500
Low Flow Diversion Systems	Los Angeles County Flood Control District	$7,640,000
Montebello Forebay Attenuation and Dilution Studies	Sanitation Districts of Los Angeles County	$2,400,000
Morris Dam Water Supply Enhancement Project	Los Angeles County Flood Control District	$12,827,000
Peck Park Wetlands and Enhanced Recharge Project	Los Angeles County Flood Control District	$10,400,000
Peck Water Conservation Park	City of El Monte/Amigos de los Ríos	$8,886,885
Rio Hondo Coastal Spreading Grounds Vertical Drains	Los Angeles County Flood Control District	$1,140,000
Seawater Barrier Supply Facilities Improvements	Los Angeles County Flood Control District	$3,060,000
SG River-Regional Spreading Grounds Telemetry Systems	Los Angeles County Flood Control District	$2,280,000
South Compton Creek Greenway and Bike Trail	Los Angeles County Flood Control District	$1,400,000
Southeast Water Reliability Project Phase I	Central Basin Municipal Water District	$15,230,720
Southeast Water Reliability Project Phase II	Central Basin Municipal Water District	$27,856,666
Well #12 Installation	Walnut Park Mutual Water Company	$1,140,000
Whittier Narrows Water Reclamation Plant UV Disinfection Facilities	Sanitation Districts of Los Angeles County	$6,550,000
Whittier Narrows Conservation Pool Improvements	Water Replenishment District	$3,966,200
Wrigley Greenbelt	Los Angeles County Flood Control District	$2,387,000
	TOTAL	**$229,063,350**

INTEGRATED REGIONAL WATER MANAGEMENT PLAN (Prop 50, Ch. 8)
San Gabriel and Lower Los Angeles Rivers Watershed Plan Area
Project Identification Form

Lead Agency Information

Agency Name:	
Address:	
Contact Name:	
Telephone:	E-Mail:
Fax:	Web Site:

Summary of Proposed Project Information

Project Title:	
Proposed Start Date:	Proposed Completion Date:
Proposed CEQA Completion Date:	
Location (Long. & Lat.):	Sub Watershed
Project Description:	
Primary Objectives Addressed by the Project:	
Water Management Strategies Addressed: (Check all that Apply)	
☐ Ecosystem Restoration*	☐ Wetlands Enhancement and Creation*
☐ Environmental Habitat Protection and Improvement*	☐ Conjunctive Use
☐ Water Supply Reliability*	☐ Desalination
☐ Flood Management*	☐ Imported Water
☐ Groundwater Management*	☐ Land Use Planning
☐ Recreation and Public Access*	☐ NPS Pollution Control
☐ Storm Water Capture and Management*	☐ Surface Storage
☐ Water Conservation*	☐ Watershed Planning
☐ Water Quality Protection and Improvement*	☐ Water and wastewater treatment
☐ Water Recycling*	☐ Water transfer

*These strategies must be addressed to meet minimum IRWM Plan standards

Fiscal Summary

Category	**Planning**	**Implementation**	**Match Contribution**
Personnel, Consultants			☐ In Kind $ _____
Construction & Materials			☐ Cash $ _____
Other (Describe)			☐ Other Grants $_____
Totals			

Estimated Total Budget (Request & Match): $_____
Estimated Annual O & M Budget: $_____

1. How does your project develop or conserve local water resources?

2. How does this project address water reliability?

3. How does your project protect, improve or enhance water quality?

4. How does your project incorporate all other water management strategies checked above? (excluding items 1, 2 & 3)

5. What is the status of your project readiness? (check as appropriate)

Item	Complete (Specify Date)	In process (Specify Est. Comp. Date)	Not initiated
Conceptual Plans	☐	☐	☐
Land Tenure	☐	☐	☐
Preliminary Plans	☐	☐	☐
CEQA/NEPA	☐	☐	☐
Permits	☐	☐	☐
Construction Drawings	☐	☐	☐

6. Identify the regional or strategic planning document that identifies this project.

7. Describe the level of commitment of partner agencies to the project. Identify end user commitments if appropriate.

8. If the project is in an area of special biological significance please describe how these areas will be protected and/or enhanced. Does it enhance or restore wildlife habitat, in particular that of threatened or endangered species? Will this project have any detrimental biological impacts?

9. How will project success be measured? Describe both qualitative and quantitative measures. If a water quality monitoring plan will be employed, describe the constituents that will be measured, frequency and duration of monitoring including pre and post project monitoring.

10. Is there an adaptive management plan in place, or under development, to address post project implementation operational variances?

11. How will data for the project be tracked? Describe how data will it be made available to other agencies and or other stakeholders.

12. Does the project provide a direct benefit to disadvantaged communities? What percentage of your service region is disadvantaged and how does this compare to the total regional population? Will the 10% matching funds requirement pose a hardship to this disadvantages community?

13. What percentage of the project funding has been secured?

14. Stakeholder Involvement: Please describe the stakeholder involvement in this project.

15. Need: Describe how this project will address long term regional water management needs and discuss how the project will meet regional economic, environmental and fiscal needs and what the impacts will be if the project is not implemented.

Required Attachments - Refer to:

1. Project Schedule/Timeline including all major milestones.
2. Cost Estimate of major project elements including the identification of major funding sources.

Completed Project Identification Forms for all 33 of the projects are included in Appendix B of the Framework IRWM Plan, which is included in Attachment 3 of this proposal. These projects represent a wide range of water management strategies and provide strong evidence of the Region's readiness to implement projects consistent with the IRWM Grant Program.

Based on the State's Proposal Solicitation Package for Implementation Grants, the WCA also established a Project Screening Tool that would evaluate each project's consistency with IRWM criteria. This form is included in Appendix C of the Framework IRWM Plan, in Attachment 3, and details the criteria evaluated and the points available for each criteria. This tool was utilized to quantitatively and objectively evaluate each project, consistent with the criteria established in the IRWM Grant Program. Some of the ranking criteria used included the water management strategies addressed, schedule and project readiness, CEQA compliance, data management, funding match, compliance with local planning efforts, stakeholder involvement, disadvantaged community benefits, project need, geographic equity, etc.

Based on the Project Screening Tool, as well as a consensus-driven approach within the Regional Group to establish those projects that are best suited for this first round of Proposition 50, Chapter 8 funding, the WCA ranked all the projects submitted by stakeholders. Based on these rankings, the Regional Group prioritized these projects and established ten regional integrated projects that are submitted for funding through this implementation proposal. These prioritized projects are included in the table on the following page and are defined as "Tier 1" projects. Although these projects have been individually ranked using the Project Screening Tool, as well as further prioritized using factors to establish Regional equity, the Regional Group is submitting all ten projects as one unit that, in conjunction with one another, best meet the goals and objectives of Proposition 50, Chapter 8. The integration of these projects will also meet the IRWM planning goals and objectives identified in Section 1.3 above and will aid in the implementation of the IRWM Plan for this Region.

The remaining 23 projects, identified as "Tier 2" projects, are not being submitted for funding for this round of Proposition 50, Chapter 8 funding; however, we anticipate these projects to be strong candidates for the second round of Proposition 50, Chapter 8 funding, or other Federal, State, or local grant programs in the future. It is also likely that another project solicitation will occur in the future to identify additional IRWM projects that will implement the IRWM Plan for this Region.

As indicated above, the prioritized Tier 1 projects that form this implementation proposal are listed below, along with a brief description of each project. These projects are further defined in Section 2 of this Attachment, consistent with the requirements identified in the Proposal Solicitation Package.

PRIORITIZED TIER 1 IMPLEMENTATION PROJECTS

NO.	PROJECT NAME	AGENCY / ORGANIZATION	DESCRIPTION	TOTAL COST	FUNDING REQUEST
1	Southeast Water Reliability Project, Phase 1 Water Recycling	Central Basin Municipal Water District	Constructing a recycled water line from San Jose Creek WRP to distribute recycled water to users in Pico Rivera and Montebello	$15.2 Million	$7.6 Million
2	Whittier Narrows Water Reclamation Plant UV Disinfection Facilities	Sanitation Districts of Los Angeles County	Modifying the process of tertiary treatment at the WNWRP from chloramination to UV disinfection	$6.6 Million	$3.3 Million
3	Peck Water Conservation Park	City of El Monte/ Amigos de Los Rios	Enhancing Peck Park through an improved trails network, demonstration garden, native planting, improved access points, educational resources, etc.	$8.9 Million	$8.0 Million
4	Morris Dam Water Supply Enhancement	Los Angeles County Flood Control District	Lower the operational pool behind Morris Dam by upgrading the dam's control structures to allow more water to be released for recharge at downstream spreading grounds	$12.8 Million	$9.0 Million
5	El Dorado Park Lakes Water Usage and Wetlands Restoration	City of Long Beach Department of Parks, Recreation, and Marine	Treating and utilizing reclaimed water for lakes, creating wetland habitat in detention basin, daylighting storm drain, native planting, etc.	$12.5 Million	$11.2 Million
6	Whittier Narrows Conservation Pool	Water Replenishment District	Increasing the water conservation pool behind Whittier Narrows Dam to conserve an additional 2,900 AF annually	$4.0 Million	$3.6 Million
7	Invasive Weed Control in Riparian Habitat	LA/SG Rivers Watershed Council	Arundo and exotic eradication at 4 locations in the San Gabriel Valley	$230,000	$200,000
8	Large Landscape Conservation / Runoff Reduction Management and Educational Program	Central Basin Municipal Water District	Installing weather-based irrigation controllers at 500 locations in the watershed, establishing a rebate program, developing 5 demonstration gardens	$1.6 Million	$1.2 Million
9	Montebello Forebay Attenuation and Dilution Studies	Sanitation Districts of Los Angeles County	Hydrogeologic studies examining the fate and transport of a disinfection byproduct, NDMA, as it mixes with surface and groundwater	$2.4 Million	$1.2 Million
10	Full Capture Trash Removal Devices	Los Angeles County Flood Control District	Installing 2 full capture devices in Compton Creek watershed to comply with the LAR Trash TMDL	$3.6 Million	$2.4 Million
			TOTAL	**$67.7 Million**	**$47.7 Million**

The Tier 1 project locations are identified in the figure on the following page. Note that many projects cover a large geographic area. In these cases, the approximate center of the project area, or area of influence, is identified. Therefore, although it appears from the figure that many projects are within the center of the overall Region, the actual project location, as well as the regional influence of these projects, is significantly expanded beyond this location.

San Gabriel and Lower Los Angeles Rivers Watershed
IRWM Implementation Grant, Step 1
PIN 5956

DEPARTMENT OF PUBLIC WORKS
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REGIONAL BOUNDARY

PROPOSED IMPLEMENTATION PROJECTS

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TIER 1 IMPLEMENTATION PROJECTS

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1.5 RELATIONSHIP BETWEEN PROPOSAL AND IRWM PROGRAM

The Tier 1 projects that comprise this implementation proposal strongly address the IRWM goals and objectives that are identified in Section 1.3 of this Attachment, as well as meet nearly all of the water management strategies that have been identified in the IRWM Grant Program. The table on the following page identifies the water management strategies that are addressed by each component project within this implementation proposal, including those components defined as Tier 2 that are not seeking funding at this time.

PROJECT NAME	AGENCY/ ORGANIZATION	WATER MANAGEMENT STRATEGIES																			
		Ecosystem Restoration	Environmental and Habitat Protection and Improvement	Water Supply Reliability	Flood Management	Groundwater Management	Recreation and Public Access	Stormwater Capture and Management	Water Conservation	Water Quality Protection and Improvement	Water Recycling	Wetlands Enhancement and Creation	Conjunctive Use	Desalination	Imported Water	Land Use Planning	NPS Pollution Control	Surface Storage	Watershed Planning	Water and Wastewater Treatment	Water Transfers
TIER 1 PROJECTS																					
El Dorado Park Lakes Water Usage and Wetlands Restoration	Long Beach PRM	X	X	X		X	X	X	X	X	X	X		X	X	X	X		X	X	
Full Capture Trash Removal Devices	LACFCD	X	X							X							X				
Invasive Weed Control in Riparian Habitat	Watershed Council	X	X		X		X		X	X											
Large Landscape Conservation/Runoff Reduction Management Program	Central Basin MWD		X	X			X		X	X					X		X		X		
Montebello Forebay Dilution and Attenuation Studies	LACSD			X		X			X	X	X				X					X	
Morris Dam Water Supply Enhancement Project	LACFCD		X	X	X	X	X	X	X	X			X		X			X			
Peck Water Conservation Park	El Monte/ Amigos	X	X				X		X	X	X						X		X		
Southeast Water Reliability Project, Phase I Water Recycling Project	Central Basin MWD			X						X	X				X					X	
Whittier Narrows Conservation Pool	WRD			X		X		X	X	X					X						
Whittier Narrows Water Reclamation Plant	LACSD		X	X		X			X	X	X	X	X		X				X	X	
TIER 2 PROJECTS																					
Alhambra Wash	Amigos	X	X	X	X		X	X	X	X	X	X	X			X	X	X	X		
Arcadia Wash	Amigos		X	X	X	X	X	X	X	X	X						X		X		
Armstrong Multiuse Grounds	LACFCD	X	X		X		X	X	X	X											
Bell Riverfront Greenway	LACFCD	X	X				X		X	X											
Citrus Spreading Grounds Modification Project	LACFCD			X		X			X	X											
Colorado Lagoon Water, Sediment, Habitat, Restoration Master Plan	Long Beach Water	X	X		X		X	X		X		X					X		X		
DeForest Wetland Habitat Restoration	Long Beach PRM	X	X	X			X	X	X	X		X			X	X	X			X	
Duck Farm	WCA	X	X	X			X		X	X		X					X		X		
El Monte Storm Drain Daylighting/Green Infrastructure	El Monte/ Amigos		X	X			X	X	X	X						X	X		X		
Emerald Necklace-Alhambra Wash to Eaton Wash	Amigos/ El Monte	X	X	X	X	X	X	X	X	X	X					X	X		X		
Emerald Necklace-Eaton Wash to Peck Park	Amigos/ El Monte	X	X	X	X	X	X	X	X	X	X					X	X		X		
Emerald Necklace-Peck Park to San Gabriel River	Amigos/ El Monte	X	X	X	X	X	X	X	X	X	X					X	X		X		
Emerald Necklace-San Gabriel River to Walnut Creek	Amigos/ El Monte	X	X	X	X	X	X	X	X	X	X					X	X		X		
I-105 Dewatering Wells Beneficial Uses Project	WRD			X		X		X	X	X					X						
Low Flow Diversion Systems	LACFCD									X							X				
Peck Park Wetlands and Enhanced Recharge Project	LACFCD	X	X	X	X	X	X	X	X	X		X			X		X		X		
Rio Hondo Coastal Spreading Grounds Vertical Drains	LACFCD			X		X		X	X		X				X						
San Gabriel River-Regional Spreading Grounds Telemetry Systems	LACFCD			X		X			X												
Seawater Barrier Supply Facilities Improvements	LACFCD			X		X			X	X	X				X					X	
South Compton Creek Greenway and Bike Trail	LACFCD	X	X				X		X	X									X		
Southeast Water Reliability Project, Phase II	Central Basin MWD			X							X				X					X	
Well #12 Installation	Walnut Park Mutual Water			X											X						
Wrigley Greenbelt	LACFCD	X	X				X		X	X											

Section 2 of this Attachment specifically identifies how each Tier 1 project included in this proposal addresses the individual water management strategies identified. Two of the primary components of the IRWM Grant Program are the protection of source water within the region and the improvement in water quality; therefore, these elements are defined in more detail in Sections 1.6 and 1.7 below.

1.6 REGIONAL SOURCE WATER PROTECTION

Available water resources within the Region include three main sources: local surface and groundwater supplies, imported surface water, and reclaimed water. Imported water is water transported to the Region via the California Aqueduct/State Water Project and the Colorado River. Reclaimed water is treated wastewater from local water reclamation plants (WRPs). These resources supply municipal, industrial and agricultural irrigation demands, support riparian and water-based habitat, and provide recreational and aesthetic value to the area.

Over the years, a highly complex inter-connected network of facilities has been developed, which involves the transport, storage and conveyance of surface flows, imported sources, groundwater and recycled water. Some of these facilities serve multiple purposes including water supply, flood hazard mitigation, recreation and habitat. Groundwater basins are the primary means for long-term water storage in the Region and are recharged through natural soil percolation, engineered spreading grounds and injection wells. Surface water reservoirs in the San Gabriel Mountains also provide critical shorter-term storage functions.

Within the Region, numerous agencies play a role in supplying water. These include regional and subregional wholesale water supply agencies and recycled water producers, and numerous local water retailers.

Regional and subregional water wholesale agencies include the following:

- Central Basin Municipal Water District (CBMWD),
- Metropolitan Water District of Southern California (MWD),
- Municipal Water District of Orange County (MWDOC),
- San Gabriel Valley Municipal Water District (SGVMWD),
- Upper San Gabriel Valley Municipal Water District (USGVMWD),
- Three Valleys Municipal Water District (TVMWD),
- West Basin Municipal Water District (WBMWD).

Retail water supply is provided to residential, commercial, and industrial clients through many different local providers, including cities, special districts, and investor-owned utilities.

Sources of recycled water in the Region include the Sanitation Districts of Los Angeles County, the City of Los Angeles, and the Central and West Basin Municipal Water Districts. Recycled water is delivered through arrangements with wholesale and retail water agencies.

The Region has experienced a very rapid growth within the past 100 years. The population of the Region is over 10% of the population of the State of California and is projected to experience similar growth over the next century. As local water resources are limited and as demand will continue to increase throughout the western United States, it is critical for regions to conserve local supplies.

1.6.1 Regional Projects

Several of the projects within this proposal protect source water and reduce the need for imported supplies by increasing local conservation and/or reducing the use of potable water,

where feasible. When implemented in conjunction with one another, the various components of this proposal will have a significant impact on source water protection for this region.

The table below highlights the various components of this implementation proposal and describes its positive impact on source water protection. The projects are defined in greater detail within the sections identified below.

PROJECT NAME	ADDRESSING SOURCE WATER PROTECTION	REFERENCE SECTION IN ATTACHMENT 6
El Dorado Park Lakes Water Usage and Wetlands Restoration	Project will treat reclaimed water to Title 22 standards and utilize the treated water in two on-site lakes. The reclaimed water will replace the current usage of 400 acre-feet of potable water for this purpose. Project will also remove concrete and other impermeable surfaces on-site to increase groundwater recharge.	Section 2.1
Invasive Weed Control in Riparian Habitat	Project will conserve water through the removal of Arundo Donax, and other exotic species, that consume two to three times more groundwater than native vegetation.	Section 2.3
Large Landscape Conservation/ Runoff Reduction Management and Educational Program	Project will conserve local water resources by installing weather-based irrigation controllers at 500 locations within the Region. These controllers will reduce the amount of dry-weather runoff generated by large landscaped areas and conserve approximately 500 acre-feet of water each year.	Section 2.4
Morris Dam Water Supply Enhancement Project	Project will lower the operational pool behind Morris Dam by upgrading the dam's control structures to allow more water to be released for recharge at downstream spreading grounds. Project will allow for an addition 5,720 acre-feet of water to be conserved annually.	Section 2.6
Peck Water Conservation Park	Project will conserve local water by utilizing native plants for landscaping and recycled water for irrigation. A drought-tolerant demonstration garden will be developed to educate park users on low water use landscaping systems.	Section 2.7

Southeast Water Reliability Project, Phase I Recycling	By constructing a recycled water line from San Jose Creek Water Reclamation Plant, this project will utilize recycled water and reduce the usage of potable water of irrigation uses.	Section 2.8
Whittier Narrows Conservation Pool	This project will increase the water conservation pool behind Whittier Narrows Dam through various infrastructure modifications. The increased pool would allow approximately 2,900 acre-feet of additional storage behind the dam that would be recharged annually within spreading grounds in the Montebello Forebay.	Section 2.9
Whittier Narrows Water Reclamation Plant UV Disinfection Facilities	By modifying the disinfection process at the Whittier Narrows WRP from chloramination to UV disinfection, this project will eliminate the production of N-Nitrosodimethylamine (NDMA). By eliminating NDMA production, a greater amount of the treated wastewater effluent may be locally recharged within the Montebello Forebay.	Section 2.10

1.7 WATER QUALITY PROTECTION AND IMPROVEMENT

Surface water quality within the Region varies widely within the different reaches and tributaries of the principal rivers. In most areas, the water has been significantly degraded by decades of polluted urban runoff, illegal dumping, aerial deposition and other sources. Pollutants from a wide variety of residential, commercial, and industrial land uses have impaired water quality primarily in the middle and lower portions of the watershed areas, which lie below the San Gabriel Mountains.

1.7.1 San Gabriel River Watershed

Impairments to the San Gabriel River Watershed include nitrogen components and related effects, trash, metals, historic pesticides, coliform, chlorides, and PCBs. Currently, the only completed TMDL plan is the East Fork Trash TMDL. Other TMDLs planned for development over the next several years include bacteria, nutrients, metals, and abnormal fish histology.

The San Gabriel River has two impaired reaches, as well as impaired tributaries, appearing in the California 2002 Section 303(d) list of Water Quality Limited Segments that do not meet water quality standards. The associated constituents or pollutants for reaches in the current 303 (d) list include:

- Coyote Creek (entire stretch of main stem) – Abnormal fish histology, algae, coliform, copper, lead, selenium, zinc
- San Gabriel River, Reach 1 (from below 91 freeway to 405 freeway, below the confluence of Coyote Creek) – Abnormal fish histology, algae, coliform
- San Gabriel River, Reach 2 (below Whittier Narrows dam to below 91 freeway) – Coliform, copper, lead, zinc

- San Jose Creek, Reach 1 (from confluence with Puente Creek to confluence with San Gabriel River) – Algae, coliform
- San Jose Creek, Reach 2 (from top of main stem to confluence with Puente Creek) – Algae, coliform
- Walnut Creek (from Puddingstone Reservoir to confluence with Big Dalton Wash, excludes last stretch of Walnut Creek to the San Gabriel River confluence) – pH, toxicity

1.7.2 Rio Hondo Watershed

The quality of water in the Rio Hondo subwatershed is also threatened by point source and non-point source pollution from multiple land uses. These include industrial, commercial, high-density and single family residential, recreational use, and equestrian uses. As a result, a number of individual water bodies or their reaches within the Rio Hondo watershed are among those designated as impaired water bodies on the State's 303(d) list because of impairments such as trash, copper, lead, zinc, ammonia, pH, and coliform bacteria. Two of these impaired reaches are on the Rio Hondo: The associated constituents or pollutants for reaches in the current 303 (d) list include:

- Legg Lake – ammonia, copper, lead, odors, pH, trash
- Monrovia Canyon Creek – lead
- Rio Hondo, Reach 1 (from confluence with LA River to Santa Ana Freeway) – copper, high coliform count, lead, pH, trash, zinc
- Rio Hondo, Reach 2 (at Rio Hondo Spreading Grounds) – high coliform count

1.7.3 Lower Los Angeles River and Compton Creek Watersheds

According to the Los Angeles Regional Water Quality Control Board, (Watershed Management Initiative, Chapter IV, October 2004 version), the majority of the Los Angeles River Watershed is considered impaired due to a variety of point and non-point sources. Point sources of discharges to surface waters include treatment facilities for municipal and industrial wastewaters. Currently, about 77 percent of the total base flow in the Los Angeles River is from tertiary treated effluent from the Tillman and Glendale Treatment Plants, which are located upstream of the Lower Los Angeles River.

This assessment of water quality in the overall Los Angeles River Watershed is also particularly true of the Lower Los Angeles River Watershed. The Lower Los Angeles River Watershed is impacted by pollutant runoff from a variety of residential, industrial and other land uses within its own boundaries and from major upstream pollutant inputs that originate in flows from upper portions of the Los Angeles River Watershed. These include the upstream water treatment facilities identified above. This area will also be impacted by flows from the Rio Hondo, a tributary of the Lower Los Angeles River.

Impaired water bodies in the Lower Los Angeles River Watershed appearing on the California 303(d) list include reaches on the Lower Los Angeles River as well as Compton Creek. The associated constituents or pollutants for reaches in the current 303 (d) list include:

- Los Angeles River, Reach 1 (Estuary to Carson Street) – cadmium, copper, lead, zinc, pH, aluminum, ammonia, high coliform count, nutrients (algae), scum/foam unnatural
- Los Angeles River Reach 2 (Carson Street to Figueroa Street) – lead, ammonia, high coliform count, nutrients (algae), odors, oil
- Compton Creek – copper, lead, pH, high coliform count

Completed TMDLs include trash (2001) and nutrients (2004). Currently scheduled TMDLs are metals (fiscal year 2004/05), historic pesticides (fiscal year 2007/08), and coliform (fiscal year 2007/08).

1.7.4 Watershed Management Initiative Chapters, Plans, and Policies

The Watershed Management Initiative Chapters, plans, and policies (WMI) identify priorities and resource needs across programs at a watershed and regional level. Regional priorities and additional resource needs from the perspective of each Regional Water Quality Control Board are identified. The WMI is intended to be a strategy for integrating and managing human and fiscal resources, including existing and newly evolving programs and mandates. The WMI is designed to integrate various surface and groundwater regulatory programs while promoting cooperative, collaborative efforts within the watershed. The WMI was developed by the nine Regional Water Quality Control Boards, the State Water Resources Control Board, and United States Environmental Protection Agency.

This implementation proposal strongly addresses the principles established in the WMI. Attachment 12 of this proposal provides specific examples of how the components of this proposal meet the WMI Chapter, Plans, and Policies.

1.7.5 Regional Projects

Several of the components of this implementation proposal address water quality protection and improvement in both surface and groundwater. In some cases, these projects address current TMDLs; in other cases, they address TMDLs currently in development.

The table below identifies these water quality projects and describes each project's impact on the protection or improvement on the water quality in the Region. The projects are defined in greater detail within the sections identified below.

PROJECT NAME	ADDRESSING WATER QUALITY	WATERBODIES AFFECTED	REFERENCE SECTION IN ATTACHMENT 6
El Dorado Park Lakes Water Usage and Wetlands Restoration	This project will daylight a storm drain to filter runoff from a 100-acre adjacent shopping center. Trash capture devices will also be employed. In addition, the project will establish functioning wetland habitat to within an on-site basin to improve the quality of water discharging to Coyote Creek.	Coyote Creek and San Gabriel River	Section 2.1
Full Capture Trash Removal Devices	This project will install two full capture trash removal devices within the Compton Creek Watershed to comply with the Los Angeles River Watershed Trash TMDL.	Compton Creek and Los Angeles River	Section 2.2

Large Landscape Conservation/ Runoff Reduction Management and Educational Program	By reducing the amount of dry-weather runoff originating from large landscaped areas within the Region, this project will reduce the pollutant loads, including nutrients and bacteria, that flow into the waterways.	San Gabriel River, Rio Hondo, Los Angeles River, and other tributaries	Section 2.4
Montebello Forebay Attenuation and Dilution Studies	This hydrogeologic study will analyze the attenuation/dilution of various constituents with drinking water standards, including the fate and transport of N-Nitrosodimethylamine (NDMA), from the effluent of three water reclamation plants. Project will evaluate the water quality characteristics of the constituents as it mixes with surface and groundwater.	San Gabriel River, Rio Hondo, Los Angeles River, and other tributaries	Section 2.5
Peck Water Conservation Park	This project will employ Best Management Practices to treat runoff from parking areas as well as utilize native plants to improve the quality of water entering Peck Lake. Educational signage and kiosks pertaining to water quality improvement will also be included as part of the project.	Rio Hondo	Section 2.7
Whittier Narrows Water Reclamation Plant UV Disinfection Facilities	By modifying the disinfection process at the Whittier Narrows WRP from chloramination to UV disinfection, this project will eliminate the production of N-Nitrosodimethylamine (NDMA), ammonia, cyanide, and other pollutants harmful to aquatic life.	Rio Hondo and Los Angeles River	Section 2.10

1.7.6 NPS Pollution Control Management Measures

Section 6217(g) of the Coastal Zone Act Reauthorization Amendments of 1990 requires EPA to publish, "guidance for specifying management measures for sources of nonpoint pollution in coastal waters." "Management measures" are defined in section 6217(g)(5) as:

“economically achievable measures for the control of the addition of pollutants from existing and new categories and classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint

pollution control practices, technologies, processes, siting criteria, operating methods, or other alternatives".

The following Management Measures are addressed by this proposal:

- Watershed Protection Management Measures will be applied through site restoration activities, reducing impermeable surfaces, adding native plants, and enhancing riparian corridors for projects such as El Dorado Park Lakes Water Usage and Wetland Restoration, Peck Water Conservation Park, and Invasive Weed Control in Riparian Habitat.

- Existing Development Management Measures will be applied by establishing programs to reduce runoff volumes and pollutants from existing developments, such as Large Landscape Conservation/Runoff Reduction Management and Full Capture Trash Removal Devices.

- Pollution Prevention Management Measures will be applied through the development of educational programs and demonstration sites that outreach to stakeholders on issues related to nonpoint source pollution, such as Large Landscape Conservation/Runoff Reduction Management, Peck Water Conservation Park, and El Dorado Park Lakes Water Usage and Wetland Restoration.

- Construction Projects Management Measures will be applied by addressing erosion and sediment control during construction of all the projects.

- Operation and Maintenance Management Measures will be applied by controlling pollutant loads from entering surface waterbodies for all of the projects.

1.8 PROJECT LINKAGES AND RELATION TO PLANS

This implementation proposal is part of a larger effort to develop integrated, multi-benefit projects for the Region. All of the components of this implementation proposal are linked to other projects within the Region or are part of a larger regional plan. Many of the projects have a direct correlation to another project within this implementation proposal itself. Examples of these project and plan linkages are shown in the table below. All projects in this list are consistent with the watershed improvement principles identified in Common Ground, the San Gabriel and Los Angeles Rivers Watershed and Open Space Plan. This Plan was developed by the California Resources Agency, the Rivers and Mountains Conservancy, and the Santa Monica Mountains Conservancy, and has been adopted by over 60 cities in the San Gabriel and Lower Los Angeles Rivers Watershed Region. The implementation of the projects listed below will provide multiple benefits and will help to meet the Region's IRWM objectives.

PROJECT NAME	PROJECT LINKAGES	RELATION TO PLANS
El Dorado Park Lakes Water Usage and Wetlands Restoration	Long Beach Water Department Water Conservation Program	San Gabriel River Corridor Master Plan, Nature Center Master Plan
Full Capture Trash Removal Devices	Compton Creek Pump Station Wetlands (future project)	Los Angeles River Trash TMDL, Compton Creek Watershed Management Plan

Invasive Weed Control in Riparian Habitat	Whittier Narrows Conservation Pool, San Gabriel River Discovery Center, Emerald Necklace Trail/Park Network	Consistent with San Gabriel River Corridor Master Plan and Rio Hondo Watershed Management Plan
Large Landscape Conservation / Runoff Reduction Management and Educational Program	This project will be implemented throughout Central and West Basin Municipal Water District's jurisdictional area	2000, 2005 Urban Water Management Plan, MWD's 5-Year Conservation Strategy Plan
Montebello Forebay Attenuation and Dilution Studies	Whittier Narrows Water Reclamation Plant	NPDES permits for the San Jose Creek, Pomona, and Whittier Narrows Water Reclamation Plants
Morris Dam Water Supply Enhancement	Peck Water Conservation Park	San Gabriel River Corridor Master Plan
Peck Water Conservation Park	Emerald Necklace Trail / Park Network, Peck Park Wetlands and Enhanced Recharge Project	Rio Hondo Watershed Management Plan
Southeast Water Reliability Project, Phase 1 Water Recycling	Southeast Water Reliability Project, Phase 2, Central Basin Water Recycling System	Central Basin Water Recycling Master Plan
Whittier Narrows Conservation Pool	Invasive Weed Control in Riparian Habitat, Whittier Narrows Water Reclamation Plant UV Disinfection Facilities	WRD's Strategic and 5-Year Capital Improvement Plan, Los Angeles County Drainage Area Water Conservation and Supply Santa Fe – Whittier Narrows Dam Feasibility Study
Whittier Narrows Water Reclamation Plant UV Disinfection Facilities	Montebello Forebay Dilution and Attenuation Studies, Whittier Narrows Conservation Pool	NPDES permits for San Jose Creek and Pomona Water Reclamation Plants

1.9 PROPOSAL CONSISTENCY WITH CALFED OBJECTIVES

This implementation proposal will help meet the objectives of the CALFED Bay-Delta Program. The mission of the CALFED Program is to develop a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta System. The four specific program goals identified in the CALFED Programmatic Record of Decision (August 28, 2000) are to:

- Provide good water quality for all beneficial uses
- Improve and increase aquatic and terrestrial habitats and improve ecological functions in the Bay-Delta to support sustainable populations of diverse and valuable plant and animal species

- Reduce the mismatch between Bay-Delta water supplies and current and projected beneficial uses dependent on the Bay-Delta system
- Reduce the risk to land use and associated economic activities, water supply, infrastructure and the ecosystem from catastrophic breaching of Delta levees

Although this Region does not directly lie within the San Francisco Bay-Sacramento/San Joaquin Delta, activities within this highly populated Southern California region can have a marked impact on the Bay-Delta. By increasing local water supply through conservation and recycling, this Region will reduce the reliance on imported water from the Bay-Delta region. This effort will help the Bay-Delta region in meeting its local water supply, water quality, and ecological needs. The projects outlined in Section 1.6.1 of this Attachment provide a direct benefit to the Bay-Delta region through the protection of local sources of water.

As the projects outlined in this proposal are implemented, the Regional Group and the individual project leads will work to employ the "Solution Principles" outlined in the CALFED Programmatic Record of Decision. These principles include the following:

- Reduce Conflicts in the System
- Be Equitable
- Be Affordable
- Be Durable
- Be Implementable
- Have No Significant Redirected Impacts

Attachment 12 of this proposal further discusses the CALFED objectives and provides examples of how the components of this proposal help to meet them.

1.10 PROPOSAL COMPONENTS

Section 2 of this Attachment includes detailed information regarding the ten components of this implementation proposal. The following items are addressed within Section 2 for each of the individual components:

- General Project Information (Agency, Cost, Schedule)
- Project Description
- Location
- Goals and Objectives
- Water Management Strategies
- Consistency with IRWM Plan and/or other Regional Planning Documents
- Stakeholder Involvement
- Regional Economic, Environmental, and Fiscal Impacts
- Scientific Basis
- Relation to other Grant Funded Projects
- Critical Impacts if Project is not Implemented
- Disadvantaged Community Benefits
- Monitoring and Adaptive Management
- State and Federal Political Districts

The ten proposal components will be implemented and coordinated within the Regional Group to ensure that the projects will support one another to the maximum extent. This coordinated approach between the Regional Group members has already been initiated as a result of the integration that is the key component of the Proposition 50, Chapter 8 grant program. The WCA, acting as the Regional Lead Agency, will continue to support and coordinate the various components of this proposal to ensure maximum benefit to the resources of this Region and the State of California.

Section 2 – Regional Projects

This Section provides detailed descriptions of the various regional projects that are components of the implementation proposal for the San Gabriel and Lower Los Angeles Rivers Watershed Region. The following table identifies these projects and the Regional Water Management Group agencies and organizations that are the project leads for the individual components included in this application.

SECTION	PAGE	PROJECT NAME	AGENCY / ORGANIZATION
2.1	26	El Dorado Park Lakes Water Usage and Wetlands Restoration	City of Long Beach Department of Parks, Recreation, and Marine
2.2	34	Full Capture Trash Removal Devices	Los Angeles County Flood Control District
2.3	41	Invasive Weed Control in Riparian Habitat	Los Angeles and San Gabriel Rivers Watershed Council
2.4	47	Large Landscape Conservation/Runoff Reduction Management and Educational Program	Central Basin Municipal Water District
2.5	55	Montebello Forebay Attenuation and Dilution Studies	Sanitation Districts of Los Angeles County
2.6	61	Morris Dam Water Supply Enhancement Project	Los Angeles County Flood Control District
2.7	69	Peck Water Conservation Park	City of El Monte / Amigos de Los Rios
2.8	83	Southeast Water Reliability Project, Phase I Water Recycling	Central Basin Municipal Water District
2.9	91	Whittier Narrows Conservation Pool	Water Replenishment District of Southern California
2.10	96	Whittier Narrows Water Reclamation Plant UV Disinfection Facilities	Sanitation Districts of Los Angeles County

2.1 EL DORADO PARK LAKES WATER USAGE AND WETLANDS RESTORATION

Project Lead: City of Long Beach Parks, Recreation, and Marine
Total Project Cost: $12,470,109
Grant Funding Requested: $11,223,999
Schedule: July 2006 to January 2012

2.1.1 Project Description

This project is described in the following four elements:

A. Water Conservation

This element involves the replacement of 400 acre-feet of potable well water used annually to maintain the Regional Park and Nature Center Lakes with reclaimed water. Currently, the amount of reclaimed water that is available is greater than what is needed, and greater than what is projected to be needed in the future. This treated water is discharged into the San Gabriel River just downstream of El Dorado Park. The proposal is to replace the potable well

water that is now pumped into the lakes with treated reclaimed water. The reclaimed water will be treated by a nano-filtration process to improve its quality for use in open water bodies. Two nano-filtrations systems would be utilized, one for the 345-acre regional park and one for the 100-acre Nature Center.

B. Habitat Restoration

The continuous supply of treated reclaimed water flowing into the lakes and streambeds will enable riparian habitats to be created through the removal of concrete and re-planting with native plants. Existing concrete edges along the lakes will also be removed and replaced with native planting. Turf will be replaced with native freshwater wetlands in the park area where a storm drain will be intercepted. In the south end of the park where the Nature Center is located, a flood detention basin will also be enhanced with wetland habitat.

C. Water Quality Improvements

The major water quality improvement is daylighting a storm drain located at the 100-acre Town Center Shopping Center that currently crosses the regional park to discharge into the San Gabriel River. These improvements will include trash collection devices and treatment wetlands. Dry season flows will be supplemented by nano-filtered reclaimed water. Following the water quality treatment wetlands, habitat-supporting wetlands will also be created along the edge of the San Gabriel River. The constant flow of the lake waters (Element B) and the wetland treatment of the storm flows from the Nature Center (Element D) will help improve water quality in the area.

D. Habitat Creation

The final element is the creation of a wetland habitat on 29.5 acres of a flood detention basin that has historically been maintained to have minimal vegetation. This includes 7.5 acres of City property and 22 acres of Southern California Edison property south of the Nature Center. This is adjacent to the confluence of the San Gabriel River and Coyote Creek. Overflows from the Nature Center now flow through this area to Coyote Creek. The proposal is to flood this area with the water flowing from the Nature Center Lakes and to ensure the quality of the discharge water through wetlands treatment.

A conceptual figure identifying the project improvements follows Section 2.1.13 of this Attachment.

2.1.2 Location

The project is located in the lower San Gabriel River watershed, near the confluence of the San Gabriel River and Coyote Creek. The approximate longitudinal and latitudinal coordinates are –118° 05’ 13” and 33° 48’ 51”, respectively.

2.1.3 Goals and Objectives

A primary objective of the project is water conservation. The existing six lakes consume 400-acre feet of potable water per year through transpiration and leaks into the ground through cracks in the lake liners. The current water used will be replaced with desalinated reclaimed wastewater. The available reclaimed water currently exceeds demand and is discharged to the San Gabriel River and eventually the ocean. This project desalinates the reclaimed water to make it usable in the lakes.

A secondary project objective is to restore riparian habitat in 365 acres of existing turf fields and in the 100-acre Nature Center that was planted 30 years ago with a majority of non-native trees, now in decline. The project will remove exotics and replant with natives and clustering plants into habitat groupings.

Finally, the project will utilize non-peak storm flows and urban runoff from a shopping center to create a new wetland area and filter that runoff through a marsh system before discharging the runoff to the San Gabriel River as cleaner water.

2.1.4 Water Management Strategies

The proposed project implements the IRWM Program's water management strategy objectives in the following ways:

Water Supply Reliability / Water Conservation / Water Recycling / Groundwater Management / Desalination / Water and Wastewater Treatment

The project enhances water supply reliability by replacing the annual use of 400 acre-feet of potable groundwater to maintain water levels in artificial lakes through the use of excess reclaimed water. The project will implement water recycling, reclamation and conservation objectives by recycling reclaimed water to replace the use of and hence conserve potable groundwater. It will also be a demonstration project for additional uses of reclaimed water, thereby encouraging its further use.

One of the major sources of water for the Los Angeles Region is the supply of groundwater. Groundwater is the source of approximately one-half of the domestic water supply provided by the Long Beach Water Department. This project will conserve 400 acre-feet of that groundwater annually by using reclaimed water instead of potable groundwater in the artificial lakes in El Dorado Regional Park and Nature Center.

Water Quality Protection and Improvement / NPS Pollution Control / Stormwater Capture and Management

The water bodies affected are the Park and Nature Center lakes, the San Gabriel River and Coyote Creek. The Park and Nature Center lakes are in unhealthy conditions due to excessive levels of nitrogen in the water, higher than desirable temperatures, turbidity, and reduced dissolved oxygen. The water quality in the lakes will improve through the various treatment measures implemented.

The project improves the quality of the water discharged into the San Gabriel River and Coyote Creek by intercepting a storm drain from a 100-acre shopping center, filtering it for trash and then further cleansing it through a treatment wetland before discharge. A second overflow discharge from the Nature Center will also be improved with a treatment wetland. Finally, the project also improves the water quality of the artificial lakes through the desalination of the reclaimed water (through nano-filtration) entering the lakes and replacing an artificially maintained constant water level with a constantly flowing water body.

This project will aid in NPDES compliance and will be an important demonstration project to replicate for current and future TMDLs.

Ecosystem Restoration / Environmental Habitat Protection and Improvement / Wetlands Enhancement and Creation

The project will enhance habitat objectives by replacing artificially maintained turf, concrete channels and concrete walkways, and barren flood detention basins with native riparian and marsh habitats adjacent to the San Gabriel River and Coyote Creek wildlife corridors.

The project will also protect the lake habitat from excessive nitrogen loading, depleted oxygen and excessive heat now occurring due to the closed system design currently in place. The project will result in the abundance and diversity of wildlife, particularly native species.

Watershed Planning / Recreation and Public Access

The project will increase Recreational Use and Public Access by developing unused or occasionally used sections of this public park with trails and educational displays. Also, 22 acres of a storm detention basin will be converted to park wetlands with controlled public access. The park will be enhanced with an environmental education program, including self-guided and guided tours.

2.1.5 Consistency with IRWM Plan and other Regional Planning Documents

The project is identified in the San Gabriel River Corridor Master Plan. The City of Long Beach was an active stakeholder in the development of this plan.

The project is also consistent with the majority of the IRWM objectives that have been identified in the Regional Objectives table in Section 4.2 of the Framework IRWM Plan, Attachment 3, of this implementation proposal.

2.1.6 Stakeholder Involvement

The two prime stakeholders, the Long Beach Water Department and the Long Beach Department of Parks, Recreation and Marine, will serve as the water provider and site stewards, respectively.

Citizen stakeholders have been involved from the inception of the project development. In February 2002, over 125 people attended a planning workshop for the Nature Center Master Plan. Two follow-up meetings involving 30-35 citizens each, as well as significant involvement from the Friends of the Nature Center, the Audubon Society and Sierra Club members were held. The final plan was adopted by the City's Parks and Recreation Commission.

A feasibility study is underway to expand the concept developed in the Nature Center Master Plan to the entire park. Public meetings were held in December 2004 and February 2005 on the project concept with approximately 40 attendees at each meeting. An additional community meeting was held by a neighborhood association with approximately 70 citizens attending. In June 2005, the plan was approved by the Parks and Recreation Commission.

A technical advisory committee including County of Los Angeles Department of Public Works, Rivers and Mountains Conservancy, Los Angeles Regional Water Quality Control Board, California Department of Fish and Game, U.S. Army Corps of Engineers and Water Replenishment District have met twice with the project consultants to provide input on the project.

2.1.7 Regional Economic, Environmental, and Fiscal Impacts

The Los Angeles Basin has continued rapid population growth for 130 years and similar rapid growth is predicted far into the future. Obtaining adequate water to support the population is one of the continuing critical issues for the region. As imported water resources are reduced, either the price of water will rise, or regional or federal agencies may decide to supply one area and reduce supplies to others. This pattern will cause water to be diverted from agricultural uses to supply the urban population, reducing statewide employment and economic viability in the agricultural industry.

Based on supply and demand, the cost of water will rise in the region. This will tax the regional economy, lowering job creation and economic well-being. As more of each resident's and business' budget goes to pay for water, less funds will be available for local needs and more will go to out-of-region suppliers. Therefore, it is critical to implement projects addressing water supply and conservation in order to minimize this negative impact on our economy.

Using reclaimed water as proposed for this project enables the region to conserve more water, thereby increasing the overall water supply.

Historically, the region has sought to maximize available housing and commercial development. This has had a devastating effect on native plants and animals since open space has been depleted and replaced with infrastructure such as roads, buildings, and storm drains. Intense development and population growth in the basin impacts other regions as well since migration routes are severed. This project will help ease that devastation by restoring a small area of that habitat. The benefits of that small habitat replacement will be multiplied by the fact that most of it will be wetland enhancement, a habitat specifically tied to interregional migrations, and by its location along the San Gabriel River and Coyote Creek corridors, two corridors critical in regional plans to reconnect fragmented surviving native habitats.

2.1.8 Scientific Basis

The scientific basis for the project is the research that has been done by Diem X. Vuong and others for the Long Beach Water Department in the use of nano-filtration technology. Mr. Vuong has conducted two years of research in the operation of nano-filtration technology for purifying groundwater for domestic drinking water using patented processes for desalination. The habitat restoration elements of the project will be based on the research by Kimble Garrett at the Los Angeles County Natural History Museum and others involved in native plant and animal communities in the Los Angeles Basin.

2.1.9 Relation to other Grant Funded Projects

The scope of the project is based on the El Dorado Regional Park Wetlands Feasibility Study funded by the Rivers and Mountains Conservancy. Implementation of the project will include related work funded through the Rivers and Streams Restoration funds from Proposition 12 and El Dorado Nature Center Renewal funding from the Rivers and Mountains Conservancy from California Proposition 40.

Although they are not grant funded, this project is related to two important ongoing water conservation programs. The first is the Long Beach Water Department's water conservation program. The Water Department is identifying its largest water users and analyzing the amount of water used by each to identify appropriate conservation approaches. The second program involved Long Beach Water Department prioritizing the City of Long Beach's water uses. The water saving aspects of this project are a direct result of that targeting and analysis. This program is ongoing with the use of irrigation water in the street medians as the next target.

The habitat restoration parts of the project resulted from the analysis done for the Nature Center Master Plan, a smaller scale plan that grew to encompass the full project proposed. However, it is also related to efforts and discussions developed in the San Gabriel River Corridor Master Plan.

2.1.10 Critical Impacts if Project is not Implemented

If this project is not implemented, the City of Long Beach will continue to use well water to fill the artificial lakes in El Dorado Regional Park and Nature Center. As water becomes more expensive, at some point the City would stop filling the lakes with water and allow them to dry up. This would further reduce the wetland habitats for indigenous and migrating species. Further, this demonstration of the use of nano-filtration technology to broaden the use of reclaimed water would not occur; therefore, agencies and organizations throughout the State will not have the opportunity to observe the application of this technology. This, in turn, would hinder the decision making progress regarding the use of the technology. In addition, the cost of water will increase due to the need for imported water.

2.1.11 Disadvantaged Community Benefits

The City of Long Beach as a whole is a disadvantaged community. The 2000 U.S. Census indicated the median household income in Long Beach was $37,270, less than the $37,994 that is the 80% of the statewide median income. All residents will benefit from the project by the reduced need for the Long Beach Water Department to pump groundwater or purchase imported water. The project would benefit the City by reducing long-term water costs for El Dorado Regional Park and Nature Center, enhancing Park and Nature Center lake water quality, providing an expanded range of native habitats in the park, increasing the size of the Nature Center, and increasing the amount of environmental education opportunities in the regional park.

No survey of the users of El Dorado Park and Nature Center has been conducted to determine where visitors reside or their economic status. Given that the park is located in the northeast corner of the City, three quarters of the park's service radius is outside of the City of Long Beach. With the easiest regional access to the park being from the I-605 Freeway, we believe that most visitors are from Lakewood, Bellflower, Artesia, Cerritos, La Palma, Hawaiian Gardens, Cypress and Los Alamitos. As a whole these cities have a mix of middle income and disadvantaged populations; therefore, we estimate that approximately 50 percent of the park users would be from disadvantaged households.

2.1.12 Monitoring and Adaptive Management

Water quality will be sampled at the two discharge locations, one at the San Gabriel River and one at Coyote Creek, for all TMDL and permit requirements. Water quality will also be measured at the nano-filtration systems on a continuous basis to ensure the proper operation of the systems. Additional testing will be done for project evaluation over the first five years to evaluate the functioning of the treatment wetlands and to determine changes in lake water chemistry as the water progresses through the lakes and wetland systems. Water supply measurements will be based on Long Beach Water Department meter readings.

In addition, the City and its Water Department will conduct a five-year post construction monitoring program. The purpose of the monitoring is to analyze changes in water chemistry throughout the system and the success of the introduced restoration species and the wildlife distribution throughout the park as a result of these changes. Attendance in the park will also be monitored as well as changes in the use of the park by visitors.

The project's success will be measured using the following methods:

- The reduction in potable water used will be metered and evaluated monthly by the Long Beach Water Department.
- The improvement in the quality of the water diverted from the storm drain and sent through the constructed wetland will be determined over a five-year period by comparing samples to baseline data collected during design.
- Habitat reestablishment will be measured through weekly monitoring of plant health and the Audobon Society's ongoing bird inventory will allow before and after comparisons of bird species in the area.
- The health of the lake and stream habitats will be determined by consistently monitoring the water quality.
- The number of visitors using the new recreational trails throughout the new wetland areas will be counted by recreational staff.
- The overall park usage will be measured by the number of cars entering the park.

Although wetland habitat management is a new issue for the Department of Parks Recreation and Marine (PRM), PRM does manage eight other native habitat areas, including two fresh

water wetlands. PRM also has 30 years of experience managing the Nature Center in El Dorado Park, including the freshwater lakes. This experience combined with the advice of the California Department of Fish and Game and consultant support has increased PRM's understanding and capabilities in wetland habitat management.

PRM wholeheartedly accepts the adaptive management philosophy and utilizes it in the habitat areas thet currently maintain. The development of a management plan will be requiremed of the construction contractor, along with one-year of site establishment maintenance.

Dissemination of habitat monitoring data will be through PRM's website. Presentations will be made to interested organizations on request. Water use data and wetland water quality monitoring data will also be posted on their website.

2.1.13 State and Federal Political Districts

The El Dorado Park Lakes Water Usage and Wetlands Restoration project is located within the following political districts:

- Congressional District: 46th
- State Assembly District: 54th
- State Senate District: 27th


Conceptual Habitat Restoration
Riparian Vegetation
Created Pond
Native Grassland
Coastal Sage Scrub
Native Woodland
Pond Island
N
W
E
S
0
1,000
Feet

2.2 FULL CAPTURE TRASH REMOVAL DEVICES

Project Lead: Los Angeles County Flood Control District
Total Project Cost: $3,575,000
Grant Funding Requested: $2,400,000
Schedule: May 2005 to October 2009

2.2.1 Project Description

The State Water Resources Control Board (SWRCB) has developed a Total Maximum Daily Load (TMDL) designed to attain the water quality standards for trash in the Los Angeles River. The TMDL specifies the maximum amount of trash that a waterbody can receive and still meet water quality standards. The purpose of the project is to install devices at two locations within the Compton Creek watershed to capture and retain all particles greater than 5 mm before they reach Compton Creek, and eventually the Los Angeles River and Pacific Ocean. These devices will be designed to handle the peak flow rate resulting from a one year, one hour storm. These devices meet the full capture criteria established by the SWRCB in conjunction with the adopted Los Angeles River Trash TMDL.

Two locations have been selected to install these devices. The first is located within the unincorporated County community of Rancho Dominguez. This site is tributary to Compton Creek (via Compton Creek Pump Station), just upstream of its confluence with the Los Angeles River. The second site is located within the unincorporated County community of East Compton. The subwatershed tributary to this location includes portions of the City of Compton. This site is also tributary to Compton Creek and the Los Angeles River.

The project is to place single full capture devices, or series of devices, along a single storm drain to combine both treatment and bypass capabilities in one structure. The units ensure removal of both fine and suspended solids along with trash and debris. The project would reduce the amount of trash discharged into the Los Angeles River and its downstream beaches and harbor in order to improve water quality, enhance aesthetics in the River, and improve its beneficial uses.

These full capture devices will also help in meeting a portion of other current and future TMDLs for the Los Angeles River watershed by also removing some degree of other pollutants, such as metals and bacteria.

2.2.2 Location

The project is located in the Compton Creek watershed, within the unincorporated County communities of Rancho Dominguez and East Compton. The approximate longitudinal and latitudinal coordinates for the Rancho Dominguez and East Compton locations are –118° 12’ 39” and 33° 51’ 26”, and –188° 12’ 22” and 33° 53’ 16”, respectively.

A figure identifying the approximate location of the trash removal devices follows Section 2.2.13 of this Attachment.

2.2.3 Goals and Objectives

The project goals include:

- Protecting and preserving water quality
- Complying with the TMDL requirements established by the SWRCB
- Protecting stream corridors and ecosystems
- Enhancing aesthetics along river corridors

A primary objective of this project is to meet the trash TMDL requirements to reduce the amount of trash discharged into the Los Angeles River, major tributaries, and its downstream harbor and beaches. Along with improving water quality, this project will enhance the aesthetic value of the River and improve its beneficial uses. Installation of these trash removal devices will enable the Los Angeles County Flood Control District (District) to capture and retain all particles greater than 5 mm generated from the tributary subwatershed before reaching Compton Creek.

The reduction of trash in the Los Angeles River ultimately will lead to improved water quality and protection of aquatic life and habitat, expansion of opportunities for public recreational areas, enhancement of public interest in the rivers, public participation in restoration activities, support of the vision of the river as a scenic amenity, and enhancement of the quality of life of area residents.

The full capture devices will assist in achieving the overarching goal of the CALFED Bay-Delta Program to restore ecological health by removing trash from the impaired waterways of Compton Creek and the Los Angeles River. In addition, the SWRCB identified four major objectives in their NPS Implementation Plan. The third objective was to promote the implementation of Management Measures and use of Management Practices for the NPS component of TMDLs or in CWA section 303(d) listed water bodies in order to improve water quality. The full capture devices will help in meeting the Los Angeles River Trash TMDL.

2.2.4 Water Management Strategies

The proposed project implements the IRWM Program's water management strategy objectives in the following ways:

Water Quality Improvement and NPS Pollution Control

The receiving water body for these projects is Compton Creek, which then drains to the Los Angeles River and finally to the Los Angeles Harbor and Pacific Ocean. Seven beneficial uses have been identified for Compton Creek. Each of the beneficial uses will be more fully realized with the installation of the full capture trash removal devices. The beneficial uses and their status is listed below:

Code	Beneficial Use	Status of Use
MUN	Municipal and Domestic Use	Potential
GWR	Ground Water Recharge	Existing
REC1	Water Contact Recreation	Existing, Access Prohibited
REC2	Non-Contact Recreation	Existing
WARM	Warm Freshwater Habitat	Existing
WILD	Wildlife Habitat	Existing
WET	Wetland Habitat	Existing

The trash removal devices will address the water quality issue of trash by meeting full capture requirements. The devices also have the added benefit of removing a large percentage of the oils and grease that enter the system as well as significantly addressing total suspended solids (TSS) water quality issues.

The trash removal devices will meet the full capture trash removal criteria established by the Regional Water Quality Control Board (RWQCB) in conjunction with the adopted Los Angeles

River Trash TMDL. The trash removal devices will also be used as part of a treatment train that will enable the Region to address future TMDL requirements, such as those for metals and bacteria.

The District will manage and operate the new devices. An adaptive management process will be used while carrying out those responsibilities to ensure that the individual devices operate as efficiently and effectively as possible with regard to the benefits they provide. Based on monitoring results, the project treatment systems along with maintenance procedures will be adjusted, if necessary.

Ecosystem Restoration and Environmental and Habitat

Preventing trash form being deposited into Compton Creek and the Los Angeles River will reduce the negative impact of urban runoff on downstream habitat areas. One of the project locations is upstream of a future treatment wetlands system that the Districts is planning to develop at the Compton Creek Pump Station. These devices will be installed upstream of the earthen bottom portion of the Los Angeles River, its estuary, harbor, and the Pacific Ocean. By removing trash and other pollutants from the upstream storm drain, the quality of habitat and marine life within these waterbodies will be improved.

2.2.5 Consistency with IRWM Plan and other Regional Planning Documents

The full capture trash removal devices will help to meet the current trash TMDLs established for the Los Angeles River and its major tributaries. The project sites are located within the Compton Creek Watershed, a sub-watershed of the Los Angeles River Watershed. Both Compton Creek and the Los Angeles River have been listed as impaired by the Los Angeles RWQCB.

The Los Angeles RWQCB's Watershed Management Initiative Chapter – December 2001 identifies several impairments within the Los Angeles River Watershed, including trash. The Chapter also identifies several major issues of concern within the watershed, including the management of storm water quality. The full capture trash removal devices will help to meet these priorities identified by the Watershed Management Initiative Chapter.

The full capture trash removal devices can be used to meet future TMDL requirements such as TSS and oils and grease. They will also assist in address metals and bacteria. The devices could also be used as part of a stormwater treatment train to meet all of the water quality objectives. One of the project locations will aid in the pre-treatment of storm and nuisance flow water entering a future water quality and habitat wetlands that is planned by the District.

The full capture trash removal devices meet the criteria established by the RWQCB in conjunction with the adopted Los Angeles River Trash TMDL. Maintenance will include the removal of the captured materials when the devices become 70 to 85 percent full. The District estimates that removal of the captured material will be required two to four times a year.

The project is also consistent with many of the IRWM objectives that have been identified in the Regional Objectives table in Section 4.2 of the Framework IRWM Plan, Attachment 3, of this implementation proposal.

2.2.6 Stakeholder Involvement

The District, along with co-permittees in the Los Angeles River watershed, is committed to reducing the trash within the river and its tributaries. The District has worked closely with stakeholders in the region to develop strategies to comply with TMDL and NPDES requirements. The District, along with co-permittees, formed the Los Angeles River Watershed Management Committee in which bi-monthly committee meetings are held to discuss issues of

concern related to the MS-4 Stormwater Permit. This project and the technology proposed will be presented to the Los Angeles River Watershed Management Committee in order to facilitate broader knowledge of these new technologies and promote their implementation in other areas as well.
As the project is entirely within unincorporated County community areas, the District will be fully responsible for the operation and maintenance of the devices and no other commitments are needed from other agencies. A portion of the City of Compton is within the subwatershed that drains to these devices; therefore, the project also aids the City of Compton in meeting their TMDL objectives. The District will coordinate with neighboring cities and area residents prior to construction of the project to address any concerns and to secure any permits, if applicable.

2.2.7 Regional Economic, Environmental, and Fiscal Impacts

Trash has been identified by the RWQCB as a primary pollutant impairing the beneficial uses of the Los Angeles River, its tributaries, and its downstream beaches. Removing pollutants from the stormwater will enhance water quality in rivers, beaches, and harbors; therefore, people will want to live in these areas, which will result in an increase in property values and business opportunities.

By preventing trash from being deposited into the Los Angeles River and removing trash from stormwater runoff and tributary storm drains, the District will prevent a negative impact to the downstream habitat and natural areas. This project will improve the overall quality of life for area residents and enhance the downstream environment.

These full capture devices will also enable the Region to address future TMDL requirements, such as metals and bacteria. This project will comply with the Los Angeles River Trash TMDL, established to correct that water quality problem.

2.2.8 Scientific Basis

The full capture unit uses the available energy of the storm flow to create a balanced hydraulic system to cause a natural separation between the solids and fluids. In addition to an internal swirl concentrating process, the continuous circulating flow over the perforated separation screen prevents the trash from blocking the flow of water through the screen. A channeling weir prevents the flow of water from entering the storm drain and diverts it into the separation chamber. Pollutants are captured inside the separation chamber while the water passes through the separation screen. The natural vortex in the separation chamber separates suspended and fine sediments and leaves them in the center of the chamber for eventual setting in the sump. Because of the washing vortex, the patented separation screen will not become blocked and screened liquid passes through. After flowing beneath the oil baffle, screened flow discharges from the unit. The unit provides a unique non-blocking screening system with no moving parts.

The following pollutant load reductions were taken from the US EPA website and are for one of the typical full capture trash removal devices.

- **Trash** - “The [technology] was developed to effectively capture and retain trash and debris in storm water runoff. The design… does capture and retain 100% of the trash, debris and particulates in storm water larger than the minimum screen aperture size (0.048 – 0.185 inch), as well as a very high percentage (>90%) of material down to 1/3 of the screen aperture.”

- **TSS** – “Independent laboratory tests…indicate that the…unit traps virtually 100% of particulate material ½ the aperture size and >90% of the particulates 1/3 the aperture size.

A 2400-micron (0.096-inch) screen achieved 95% removal of particles of 800 micron (coarse sand) and 50% removal of particles of 475 micron (medium sand)."

- **Oils and Grease** – "[The] units are not specifically designed nor have been extensively tested for removal of oil and grease; however, oil and grease attached to floating debris (styrofoam, etc) and attached to sediments will be captured and retained. The design features of the separation chamber will retain floating oil and provides an area where sorbent material can be applied and dispersed to achieve maximum contact with floating and emulsified oil and grease. Dr. Michael Stenstrom at UCLA, a national expert on the subject of oil and grease in storm water, has performed tests on this method of applying sorbent material in the… unit… Preliminary results show that greater than 80% of the oil and grease was picked up by the sorbent, when oil and grease were applied at 25 mg/l."

The District conducted 2 years of baseline monitoring for trash in the Los Angeles River Watershed. The results of the baseline monitoring showed the ratio of man-made trash to the total debris loading to be small. Assuming the same trash generation rates for commercial, industrial, and high density single family residential land use type, the same annual rainfall amounts as those measured in the 2002-2004 baseline trash study, and that it would be technically feasible to install a full capture system in drains that receives flows from those land use types, up to 764 tons per year of trash would be captured in the Los Angeles River watershed.

2.2.9 Relation to other Grant Funded Projects

These projects do not have a direct relationship to another grant funded project. However, by improving the quality of water generated from this area, the project will directly benefit a future treatment wetlands project that the District is proposing immediately downstream of one of the full capture project locations. The District will be seeking grant funding in the future for this project.

The project will also improve the overall aesthetics of the Compton Creek area, which will benefit residents using the Compton Creek bike trail. A portion of this trail was funded through Proposition 12 and 40 funds.

2.2.10 Critical Impacts if Project is not Implemented

If this project is not implemented, the urban runoff generated from the Compton Creek watershed will continue to convey the same degree of trash to the River, beaches, and harbor, which will negatively impact aesthetics and downstream habitat, limit public uses of the downstream waterbodies, and impair the beneficial uses of Compton Creek and the Los Angeles River.

2.2.11 Disadvantaged Community Benefits

The drainage areas that will be addressed by the full capture trash removal devices include portions of the disadvantaged communities of the City of Compton, and the unincorporated communities of Rancho Dominguez and East Compton. These projects will improve the aesthetics in the area, address public health issues, assist in meeting TMDL requirements, and improve the river's function as an open space resource without additional cost to the local communities.

2.2.12 Monitoring and Adaptive Management

Upon project implementation, the Flood Control District maintenance forces will properly monitor, operate, and maintain these facilities. An adaptive management process will be used while carrying out those responsibilities to ensure that the implemented project will be operated

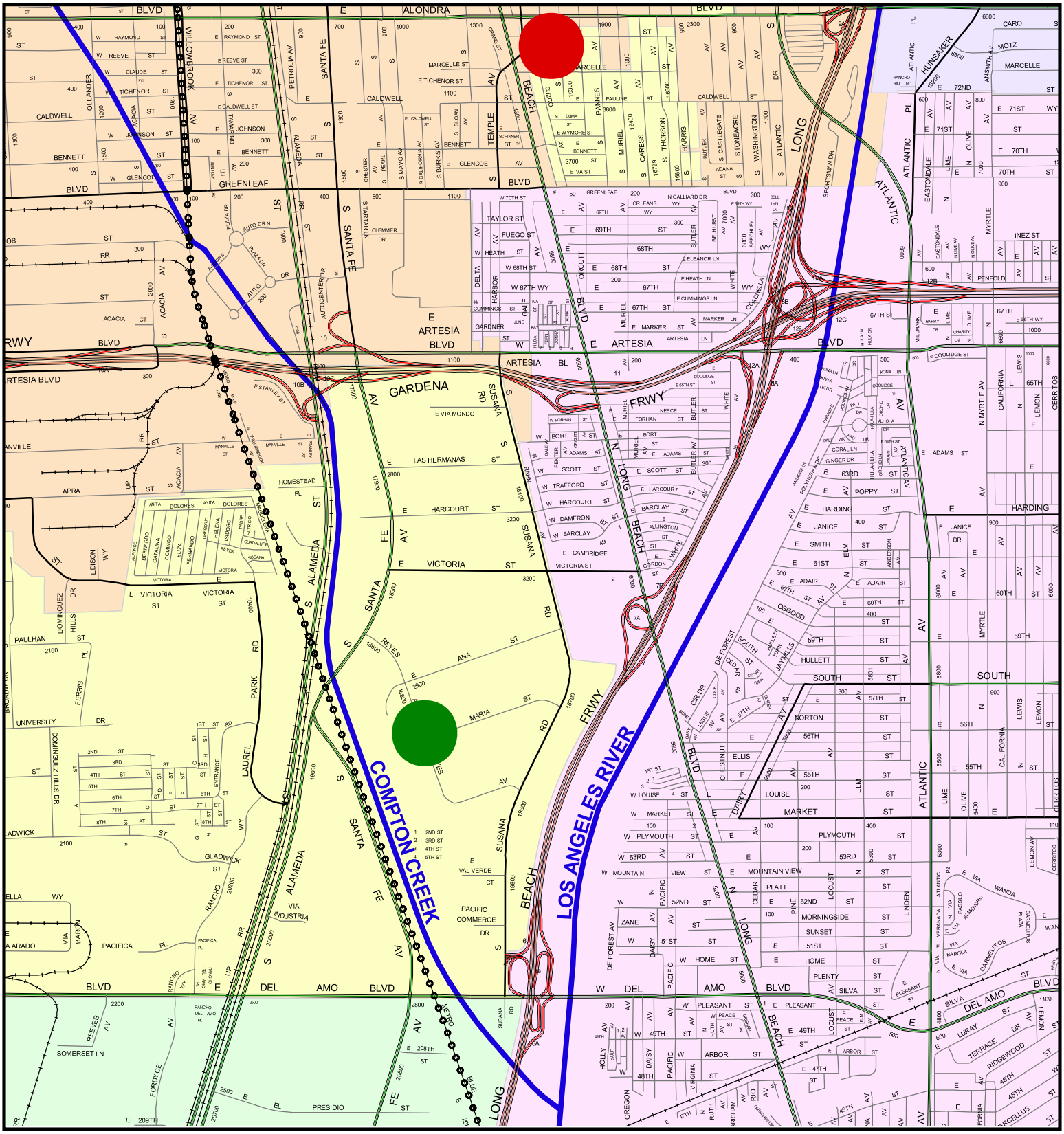
as efficiently and effectively as possible with regard to the benefits it provides. Through the monitoring results, the project treatment systems can be adjusted, if necessary, along with maintenance activities and operational guidelines and procedures.

The water supply improvements will be measured by compliance monitoring. The District will be monitoring the installed full capture devices and weighing the amount of trash collected by the devices. The trash data will be continuously collected and tabulated by the District and will be reported to the RWQCB. The District has already conducted baseline monitoring for trash and developed a compliance monitoring plan for the trash TMDL that is under review by the RWQCB.

2.2.13 State and Federal Political Districts

The Full Capture Trash Removal Devices project is located within the following political districts:

- Congressional District: 37th
- State Assembly District: 55th
- State Senate District: 25th



FULL CAPTURE TRASH REMOVAL DEVICES
Project Location Map

- East Compton Site

- Rancho Dominguez Site

July 11, 2005

2.3 INVASIVE WEED CONTROL IN RIPARIAN HABITAT

Project Lead: Los Angeles and San Gabriel Rivers Watershed Council
Total Project Cost: $232,000
Grant Funding Requested: $202,000
Schedule: July 2006 to January 2012

2.3.1 Project Description

The Invasive Weed Control Project will restore natural riparian habitat and enhance surface water flow to percolation basins in San Gabriel Valley. The proposed project will remove 25 net acres of Arundo at an average cost of $8000/net acre at the following locations:

- Upper Walnut Creek – 0.5 acre
- Bonelli Regional Park -- 0.5 acre
- San Gabriel River channel at Whittier Narrows -- 10 acres
- North side of crossover channel by Whittier Narrows Dam, east of Rosemead Blvd. -- 7 acres
- Rio Hondo riparian corridor at Whittier Narrows, north of San Gabriel Blvd. -- 7 acres (if similar grant proposal for Arundo clearance and trash removal submitted by Los Angeles Conservation Corps is not funded).

Additionally, this project will restore natural riparian habitat using selective herbicide applications which, without biomass removal, and will control other invasive exotic plants -- including castor bean, Ailanthus, passion vine, small fan palms, small eucalyptus, tamarisk, perennial pepperweed, milk thistle, tree tobacco, fountain grass -- at locations listed above as well as Santa Fe Dam Basin, San Gabriel River Channel in Azusa, and Eaton Canyon Park.

Two figures identifying the locations of the invasive weed control sites follow Section 2.3.13 of this Attachment.

2.3.2 Location

The project is located in the San Gabriel River Watershed and the Rio Hondo subwatershed, which is part of the larger Los Angeles River watershed. The project will be implemented at four locations in the San Gabriel Valley. The approximate longitudinal and latitudinal coordinates are:

Location	Longitude	Latitude
Upper Walnut Creek	34° 5' 28.70"	117°49' 31.36"
Bonelli Regional Park	34° 5' 38.77"	117°47' 33.83"
San Gabriel River channel at Whittier Narrows	34° 1' 46.44"	118° 2' 47.92"
North side of crossover channel by Whittier Narrows Dam	34° 1' 24.53"	118° 4' 25.95"
Rio Hondo riparian corridor at Whittier Narrows	34° 2' 20.89"	118° 4' 28.87"

2.3.3 Goals and Objectives

The primary goal of this project is to halt the invasion of exotic weed species along riparian corridors at various locations within the region.

2.3.4 Water Management Strategies

The proposed project implements the IRWM Program's water management strategy objectives in the following ways:

Ecosystem Restoration / Environmental Habitat

Native plant species will be preserved by removing Arundo and exotic trees and vines. By removing Arundo and exotic vegetation, fire hazards will reduced.

Water Conservation

Water will be conserved through the removal of dense Arundo infestations that consume two to three times more groundwater than native vegetation. Removing exotic vegetation reduces demand on groundwater in riparian areas, which, in turn, increases available supply for other uses. By preventing re-infestation of exotics, long-term groundwater supplies will be protected from over-consumption in riparian areas.

Water Quality Protection and Improvement

Water quality is improved by removing poisonous castor bean seeds from the riparian environment.

Recreation and Public Access / Flood Management

Public access at these recreational areas will be improved as a result of the clearing of dense Arundo. The clearing of dense Arundo and exotic trees and vines also increases flood protection along the river corridors through the removal of these obstructions.

2.3.5 Consistency with IRWM Plan and other Regional Planning Documents

Although this project is not specifically identified in an existing plan the region, the general approach to remove invasive species is recognized and specifically identified in many area plans, including the San Gabriel River Corridor Master Plan and the Rio Hondo Watershed Management Plan.

The project is also consistent with many of the IRWM objectives that have been identified in the Regional Objectives table in Section 4.2 of the Framework IRWM Plan, Attachment 3, of this implementation proposal. Some of these objectives are as follows.

- Maximizes use of water sources
- Provides basin replenishment to reduce dependence on imported water
- Improves flood protection
- Improves habitat quality, quantity, and connectivity
- Improves access to open space and recreation for all communities
- Recovers native habitat and species diversity
- Promotes education and compatible access related to coastal wetlands and watersheds

2.3.6 Stakeholder Involvement

Past progress reports related to Arundo removal have been sent to Team Arundo Angeles and Los Angeles County Weed Management Area. These stakeholders will be informed and consulted with during the development and implementation of this project. All property owners, including U.S. Army Corps of Engineers, County of Los Angeles Department of Parks and

Recreation, and the Los Angeles County Flood Control District, support the project's goals and objectives.

2.3.7 Regional Economic, Environmental, and Fiscal Impacts

This project will reduce the demand on groundwater by removing exotic vegetation. Timely removal and monitoring will ensure that the exotics do not reappear in the long term. This project benefits the environment by enhancing and restoring wildlife habitat (including positively impacting small populations of least bell's vireo) and by removing exotic vegetation. The project has no detrimental biological impacts. The approach used for exotics removal is very cost-effective and will reduce the need for additional fire management or more costly removal efforts later as exotics continue to spread.

2.3.8 Scientific Basis

Arundo and other exotic vegetation displaces native habitat and consumes considerably more water than native riparian vegetation. Arundo reproduces easily and will spread or be reintroduced to downstream areas through stream transport. Previous Arundo control work in the San Gabriel Valley has not been coordinated on a regional scale, so currently some Arundo is still present in the upper portions of the watersheds (e.g., upper Walnut Creek). Within the Whittier Narrows basin, previously cleared areas are subject to future re-infestation from Arundo still growing a short distance upstream.

The proposed project will close the gaps in past Arundo control efforts, resulting in complete eradication within most of the Whittier Narrows basin along the San Gabriel River channel and the crossover channel ending at Rosemead Boulevard, and along the Rio Hondo channel down to San Gabriel Boulevard. After project completion, approximately 35 net acres of Arundo will remain in the lowest portion of Whittier Narrows basin, west of Rosemead Boulevard and south of San Gabriel Boulevard.

Most of the previous habitat restoration work has not involved the removal of exotic trees, shrubs and vines, other than Arundo. The proposed project will target other aggressive invasive weeds in the remaining natural riparian areas of the San Gabriel Valley, where long-term control or eradication is feasible.

2.3.9 Relation to other Grant Funded Projects

The invasive weed removal site located along the Rio Hondo, north of San Gabriel Boulevard, is also the location of the first improvement project along the Rio Hondo, Bosque del Rio Hondo. This park was funded through County of Los Angeles Proposition A funds. There are also several projects currently in development that are adjacent to the Whittier Narrows invasive weed removal locations. These include restoration improvements to Lario Creek and the San Gabriel River Discovery Center, which will also include a treatment wetlands. The Lario Creek project has received funding through Proposition 40 and the California Department of Water Resources' Urban Streams Restoration Program. Finally, the removal of exotic vegetation within the Whittier Narrows area will directly support the Whittier Narrows Conservation Pool project that is also included in this implementation proposal. The removal of exotic vegetation that consume large volumes of water will further increase the amount of water that will be conserved within the Whittier Narrows Conservation Pool.

2.3.10 Critical Impacts if Project is not Implemented

If the project is not implemented, invasive exotic weed populations will continue to expand and displace native riparian vegetation. Results include reduced groundwater supply, increased fire hazard, reduced public access to open space areas, and reduced wildlife habitat.

2.3.11 Disadvantaged Community Benefits

The sites within the Whittier Narrows area are immediately adjacent to Rosemead and South El Monte, which are categorized as disadvantaged communities. This project will benefit disadvantaged residents by providing temporary employment for "at-risk" young adults with the Los Angeles Conservation Corps.

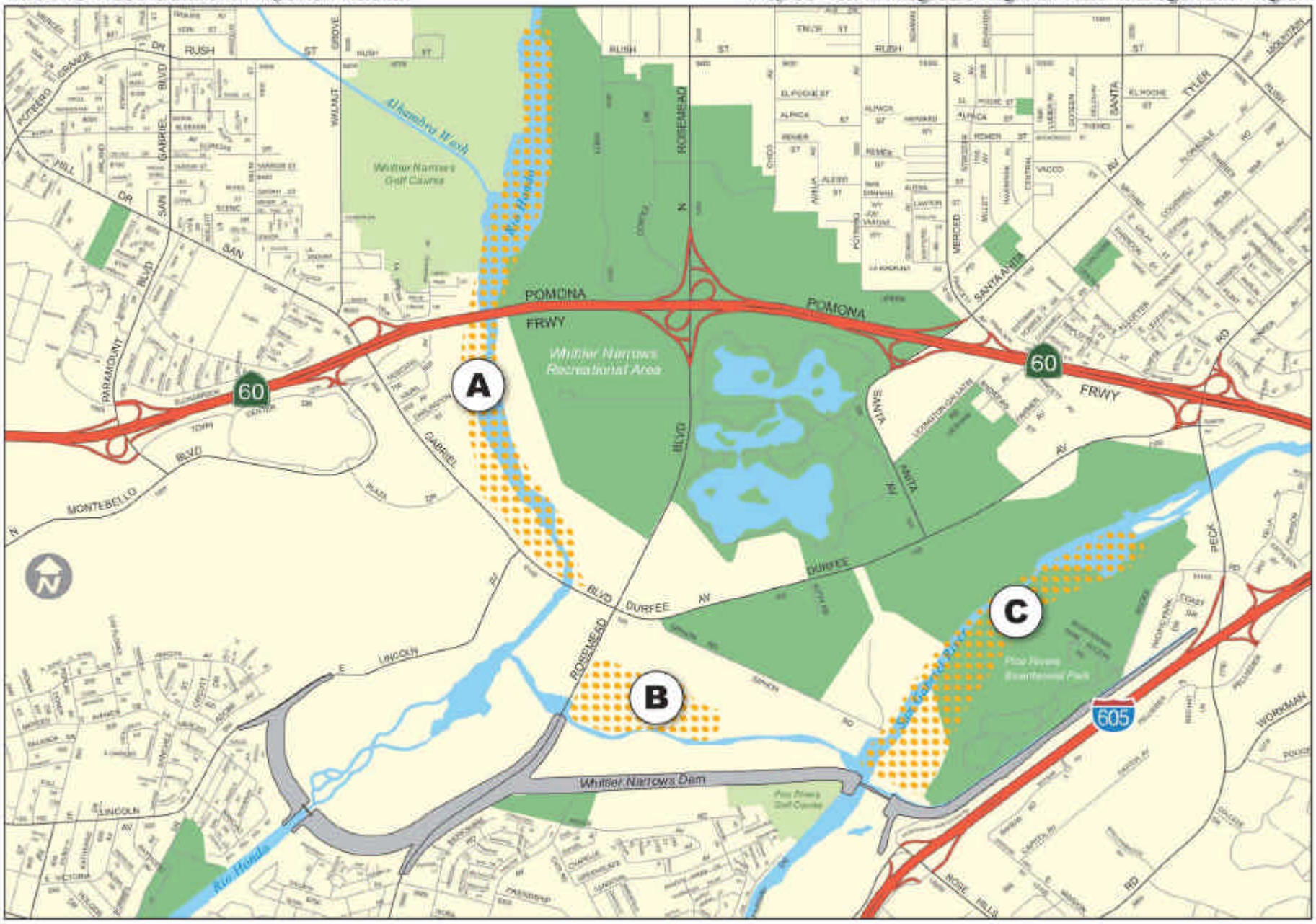
2.3.12 Monitoring and Adaptive Management

Treated areas will be monitored for regrowth and re-treated as needed. Progress will be tracked through field visits. Progress reports will be e-mailed to stakeholders and posted on the Watershed Council's website. Project success will be measured by the number of wildland acres newly cleared of the targeted weed species, along with the amount of land that remains clear of regrowth.

2.3.13 State and Federal Political Districts

The Invasive Weed Control in Riparian Habitat project is located within the following political districts:

- Congressional Districts: 26th, 32nd, 38th
- State Assembly Districts: 49th, 58th, 59th
- State Senate Districts: 29th, 30th



Project Areas at Whittier Narrows

0 0.2 0.4
Miles

Road data created by Thomas Bros. Maps, 2004. Hydrology and parks data created by GDT, 2004.

Invasive Weed Control in Riparian Habitat

Prop 50 - Ch. 8 Integrated Regional Water Management Program

Project Areas at Bonelli Park

0 0.2 0.4
Miles

Road data created by Thomas Bros. Maps, 2004. Hydrology and parks data created by GDT, 2004.

2.4 LARGE LANDSCAPE CONSERVATION / RUNOFF REDUCTION MANAGEMENT AND EDUCATIONAL PROGRAM

Project Lead: Central Basin Municipal Water District
Total Project Cost: $1,555,500
Grant Funding Requested: $1,240,500
Schedule: December 2005 to December 2010

2.4.1 Project Description

The purpose of this project is to address runoff problems and reduce outdoor water usage by 20 to 50 percent. This is to be achieved by installing 500 weather-based irrigation controllers at landscape sites of one acre or greater.

The purpose of this project is to address runoff problems and reduce outdoor water usage by 20 to 50 percent by providing weather-based irrigation controllers and management solutions. The water savings will have a significant financial impact on high-end water, delaying the need for new water supplies at a cost far below that of obtaining those new supplies. A total of 500 weather-based irrigation controllers will be installed on large landscape sites of 1 acre or greater. An estimated 1 acre-foot of water can be conserved for each acre of land. Therefore, a total of 500 acre-feet of water will be conserved through this project annually. The project will result in greater water supply reliability and reduce the need for imported water.

Rebates will be given to targeted residential customers in order to motivate them to purchase and install weather-based irrigation controllers. By offering 1,000 rebates to targeted residents throughout this project's focus area, an additional 52 acre-feet of outdoor savings will be achieved each year. 30 landscape workshops will be developed and conducted by the Central Basin Municipal Water District (Central Basin), in conjunction with the cities and local stakeholders, to disseminate information about the irrigation controllers and other topics.

Central Basin in conjunction with cities and other stakeholders will develop five demonstration gardens to be located throughout the Region. The gardens will be used in conjunction with the landscape workshops to educate the public about water-efficient gardening and irrigation systems and to encourage the public to develop their own water-efficient gardens.

Landscape projects have been considered in many of the long-term water management plans as programs that can conserve water and reduce runoff. The workshop component of this project will help educate the public on issues associated with water supply reliability (reducing the need for imported water) and protecting the local watersheds from dry-weather pollutant impacts. Residents will now have the knowledge and tools to make a positive impact.

2.4.2 Location

The project is located within various areas within the San Gabriel River Watershed and the Rio Hondo subwatershed, which is part of the larger Los Angeles River Watershed. The approximate longitudinal and latitudinal coordinates are 118°W 17’ and 33°N 50’, respectively.

A figure indicating Central Basin’s service area where this program will be implemented follows Section 2.4.13 of this Attachment.

2.4.3 Goals and Objectives

The primary objectives of this project are to conserve water, improve water quality, and provide the public with the tools necessary to reach the goals of this project. The various stakeholders

will work together to meet the objectives of the project. An estimated 20 to 50 percent of irrigated water will be conserved through the installation and management of landscape weather-based irrigation controllers, thus reducing imported water needs. Also, up to 70 percent of water runoff will be reduced at the targeted areas by using proven scientific irrigation cycle and soak methods. The program will be tracked in order to determine the effectiveness of the weather-based irrigation controllers and will provide water reduction data. The project will include large landscapes (one acre and greater) and other areas that contribute to high water usage and runoff pollution. The targeted landscape sites will include large landscapes sites such as schools, parks, home owner associations, business parks, facility landscapes and street medians.

The project will also target the top residential water users with a minimum of 1,500 square feet of irrigated landscaping and provide them with workshops and rebates to install weather-based irrigation controllers. The objective is to motivate the public to install hardware and develop practices that will conserve water and reduce runoff.

The "landscape garden" workshops will provide the public with information on various subjects, including: gardening with native plants, garden design, irrigation system tune-ups, weather-based irrigation controllers (rebates), and information on the State's water supply and water quality issues. Several demonstration gardens will be developed in conjunction with the cities and statekholders to showcase “real-life” water-efficient plants and irrigation systems.

2.4.4 Water Management Strategies

The proposed project implements the IRWM Program’s water management strategy objectives in the following ways:

Water Supply Reliability / Water Conservation / Imported Water

Local water resources will be conserved by installing a water management system made up of 500 two-way centralized automatic scheduling evapotranspiration (ET) (also know as weather-based) sensor irrigation controllers and by providing ongoing water management services for the customers and local governmental agencies. The irrigation controllers contain ET and rain sensors that capture the local weather conditions for a specific micro climate at each site. Plants and turf will be provided the right amount of water based on real time (ET) and programming correct cycle and soak time intervals; thereby conserving an estimated 20 to 50 percent of water use. This project will help reduce agencies’ dependence on imported water.

Residential customers will be motivated to purchase and install weather-based irrigation controllers as a result of being offered rebates for purchasing them. Residents will learn more about these controllers by attending the landscape workshops. Based on prior studies, 47 gallons per day can be saved by installing weather-based irrigation controllers at residential sites that are 1,500 square feet and greater. Therefore, an additional 52 acre-feet of water can be saved annually.

The water management system relies on ET or weather data. Thus, the volume of water used is constant with a standard deviation. The standard deviation would be the variation in the ET but the water supply would be based on the acreage of landscape under cultivation. The volume of water reduced to handle a drought could be shifted to less sensitive plant material which would scientifically save water and the cost of the plant material replacement. The reduction in water demand will reduce the need to import water, thus increasing water reliability.

Water Quality Protection and Improvement / NPS Pollution Control

Previous studies demonstrate a potential of up to 70 percent reduction in the volume of runoff. By targeting large landscape sites that are 43,000 square feet (approximately 1 acre) or greater, the top residential water users, urban runoff will be reduced significantly. This strategy will slow the total migration of pollutants in the waterways and reduce the nutrients from the landscape from entering the waterways. The landscape classes will also help educate the public regarding water supply and water quality issues affecting their local waterways and watershed. This would help in order to comply with the Nutrient TMDL for the Los Angeles River Watershed.

Many previous efforts to develop feasible treatment of runoff in the watershed by natural treatment systems have failed to meet their goals. The principal downfall is that the volume of water requires a large amount of land. The cost of land in California limits this option. Since this water management system is expected to reduce the volume of runoff by up to 70 percent, small wetlands can be developed in a cost-effective manner. Therefore, runoff reduction as a result of this project will help improve the water quality of the local waterways.

The water management system monitors turf fields and steep slope areas. The system controls the water flow every day of every month to reduce the damage of NPS pollution by preventing excess runoff.

Watershed Planning / Recreation and Public Access

Water management systems increase the efficiency of the landscape management. The public benefits from cost reductions due to lower water bills and less labor required to maintain the controllers. By installing this weather-based irrigation system, less fertilizer will be needed and more parks and playgrounds will be available for children.

The water management system can provide documentation of the water usage through electronic files that are downloaded into servers. The data can be used by the private and public sector to help manage their water needs.

Environmental Habitat Protection and Improvement

Water management systems affect the amount of runoff. Runoff is the principal carrier of pollution. This pollution migration can be reduced by 70 percent, as proven by previous studies, thus reducing the pollutant loading on downstream habitat and wetlands.

2.4.5 Consistency with IRWM Plan and other Regional Planning Documents

The overall goals of drought-proofing the region and reducing imported water needs are identifed by Central Basin as part of the 2000 Urban Water Management Plan (UWMP). Landscape projects to address these goals are described in the 2005 UWMP, which is currently being updated in 2005.

Also, Central Basin and several of the local water purveyors are signatories to the Memorandum of Understanding (MOU) of the California Urban Water Conservation Council (CUWCC). As a signatory to the MOU, Central Basin along with various water providers throughout the watershed, are committed to implementing the 14 Best Management Practices (BMPs). BMP #5 deals with conserving water in large landscapes and BMP #7 deals with providing the public with conservation education. Therefore, this project is helping to meet the goals of the state.

In addition, Central Basin has been a participant in the development of Metropolitan Water District's (MWD) Five-Year Conservation Strategy Plan (Plan). The Plan's goal is to conserve 1.1 million acre-feet of water by 2025. This goal will be achieved by continuing current conservation efforts and by developing and implementing new programs. The weather-based irrigation controllers have been identified in the Plan as one of the devices that will be used to conserve water in outdoor landscaping. The Plan also mentions that in order to accomplish this goal, co-funding partnerships will need to be developed. This Plan is to be adopted in 2005.

This project is also consistent with many of the IRWM objectives that have been identified in the Regional Objectives table in Section 4.2 of the Framework IRWM Plan, Attachment 3, of this implementation proposal.

2.4.6 Stakeholder Involvement

Agencies recognize that weather-based irrigation controllers with centrally managed capabilities help to conserve water and reduce runoff. Central Basin held a Proposition 50 Workshop where many of the cities and water purveyors expressed interest in partnering on regional projects. Also, many cities and water providers do not have the resources to develop and apply for landscape programs and have expressed interest in being part of a larger regional approach. Central Basin is currently working with its partners to identify suitable sites for the installations. As part of the integrated approach, Central Basin will work closely with stormwater agencies and environmental groups to target impaired waterways and help address TMDL compliance.

Since Central Basin is a Member Agency of MWD, Central Basin is able to receive various levels of funding for landscape projects. The cost-sharing provided by MWD has been leveraged in this project to increase the cost-effectiveness and overall impact.

Since its inception in 1952, Central Basin has built positive relationships with cities, water purveyors, environmental groups, non-profits and local stakeholders. Central Basin partners with many of the stakeholders to implement local and regional conservation programs. For example, Central Basin is currently implementing a water-free urinal program. It is working with local parks, schools, cities and businesses to install the devices. Many of these contacts are the same ones that Central Basin will work with in implementing this project.

Through limited funding from MWD, Central Basin has already experienced success with installing a few weather-based irrigation controllers at parks and cities. Parks, cities, and schools have been very receptive to installing these types of weather-based controllers that are centrally managed. They see the water savings, runoff reduction, and maintenance reduction benefits. Central Basin is very confident in working with its stakeholders to ensure success of this regional project.

2.4.7 Regional Economic, Environmental, and Fiscal Impacts

This project has many regional and local benefits. Regionally, this project will provide 20 disadvantaged communities located throughout the San Gabriel and Lower Los Angeles Rivers Watershed with an opportunity to participate. Central Basin has also partnered with the regional water provider, MWD, who will provide a cost-share for the purchase and installation of the weather-based irrigation controllers. The reduction in water use will help MWD reduce the amount of water imported from Northern California and the Colorado River. The reduction in urban runoff will also improve water quality of the local waterways and ocean. By reducing the runoff, which carries pollutants, this project will help reduce the total pollutant loading, thus helping to comply with TMDLs.

Locally, this project will provide incentives, in the form of rebates, and education to the public. Those who participate in the program will help the environment and also receive direct benefits, such as improving their landscaping and reducing their water bills by conserving water.

Through the landscape classes, Central Basin plans on disseminating information about the water supply and water quality issues associated with urban runoff as well as information on all the other regional projects occurring throughout the watershed.

This project helps meet long-term regional water management needs by providing both hardware and education. By providing weather-based irrigation controllers to large landscape customers, this project immediately begins to conserve water that will continue well into the future. Also, by providing landscape classes and rebates for residential controllers, this project is motivating the public to install weather-based irrigation controllers, plant native plants, and install drip irrigation, all of which contribute to conserving water, increasing water supply reliability and reducing runoff. By promoting the use of weather-based irrigation controllers, this project will help the Region meet the long-term water management goals of the IRWM Plan.

2.4.8 Scientific Basis

This project uses scientific principles and methods developed to provide landscaping with the exact amount of water needed. This is accomplished by evaluating the irrigation system and landscaping, and inputting all the relevant factors into the system software. The system software will automatically perform thousands of calculations to determine the exact amount of water needed based on many input factors, such as: plant type, soil type, irrigation heads, flow rates, precipitation rate, etc. It will also use real time weather conditions captured by a local weather sensor to adjust the watering cycles. The system is found to conserve between 20 to 50 percent water and to reduce runoff by up to 70 percent. Runoff is reduced by irrigating based on cycle and soak methods. The system knows the type of soil conditions at each station and irrigates accordingly to reduce runoff.

A figure including a process diagram and sample data editor page for the irrigation controllers follows Section 2.4.13 of this Attachment (after the Central Basin service area figure).

2.4.9 Relation to other Grant Funded Projects

This project does not have a direct relation to other grant funded projects.

2.4.10 Critical Impacts if Project is not Implemented

If this project in not implemented, parks, schools, cities, and other large landscapes will continue to waste water through inefficient systems. An estimated 500 acre-feet per year will not be conserved and runoff that contributes to non-point source pollution will continue to pollute the local watersheds. Funding is greatly needed to implement this regionally integrated project. Also, the landscape workshops and demonstration gardens are needed to provide face-to-face and hands-on instruction on water-efficient gardening and irrigation systems.

2.4.11 Disadvantaged Community Benefits

13 of the 24 cities located in the Central Basin have an annual household income below $38,000. These 13 disadvantaged cities account for a majority of Central Basin's regional service area. Therefore, this project will provide a direct benefit to those cities. The public will benefit from this project by receiving irrigation controllers and education that will help reduce their dependence on imported water and improve the water quality of their local watershed.

The public will also benefit as a result of local parks using the weather-based irrigation system, thereby making them more usable.

2.4.12 Monitoring and Adaptive Management

The system software will produce water-use reports to document the amount of water that is being used which will be compared to historical water usage in order to quantify the water savings. As part of this program, reports will be provided to the State. The water conservation and scientific cycle and soak methods will have a direct relation to reducing runoff. By irrigating based on soil type and water infiltration rates, runoff will be reduced dramatically. Field inspections will be conducted to document the runoff reduction. Also, runoff reduction measuring devices will be installed at several locations to measure the amount of runoff reduction that can be attributed to the project.

Both quantitative and qualitative reports will be provided through this project. Quantitative reports will show the water reductions from both the large landscape and residential irrigation controller components, and qualitative reports will show the positive impacts on public behavior of the landscape garden workshops and demonstration gardens.

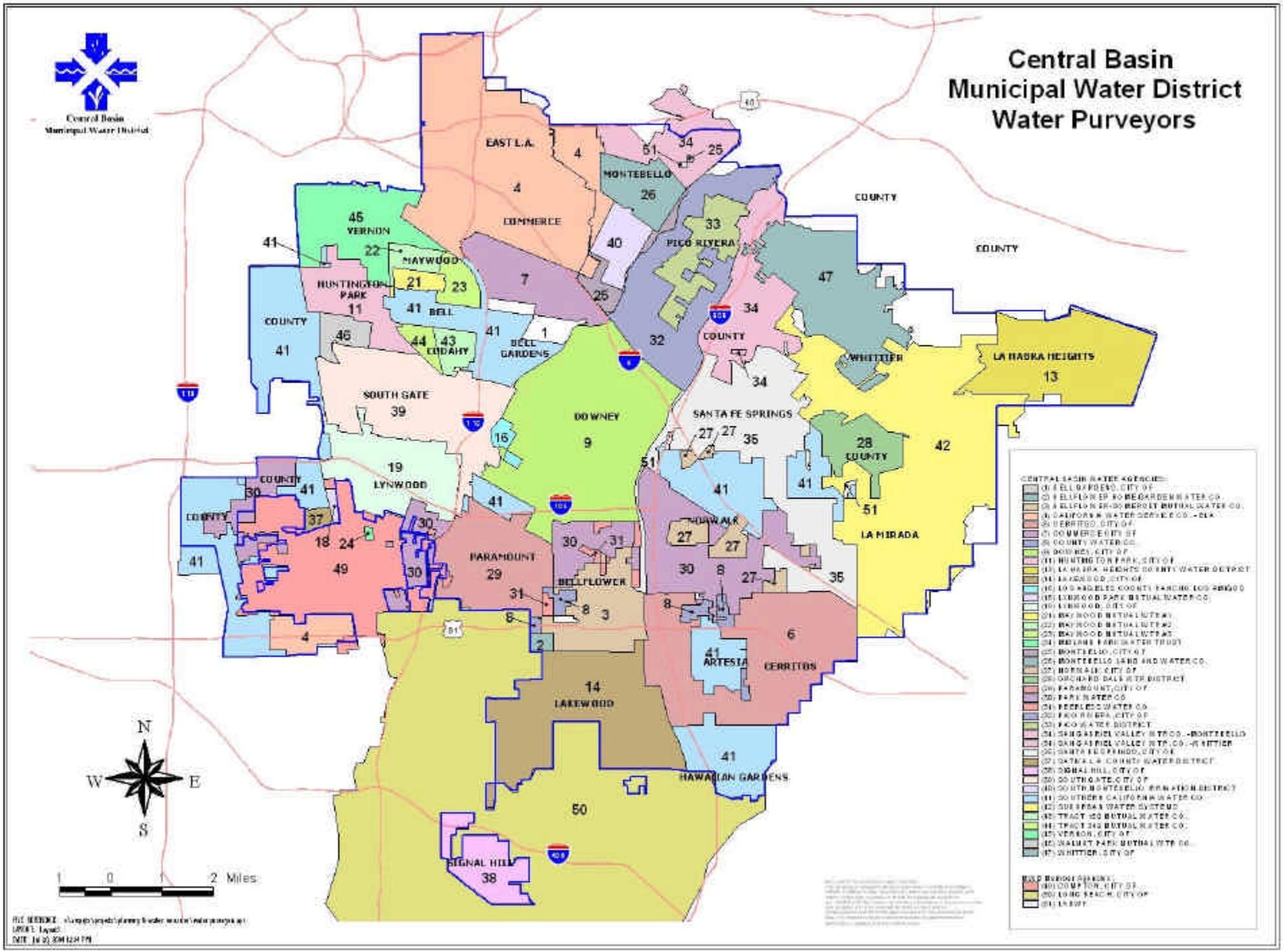
The project success will be measured using several tools. The system software records water use information every minute for each controller. The water meters are also used to measure flow rates and are compared to the water flows at each valve. Water usage reports will be generated to quantify water usage and be measured against prior water usage. Also, the project will be evaluated on an annual basis to make any needed adjustments in order to achieve program success. In addition, pre and post customer surveys will be provided at the landscape workshops to measure public knowledge before and after participating in the workshop.

Water use information will be stored and recorded into a database which compiles the information on a minute-by-minute basis. The information will be compiled into monthly reports and these monthly reports will be made on a macro level for the entire region and on a micro level (customer). Upon proper approvals, the information can also be placed on a website for other agencies to review. The conditions of the program will require agencies to provide Central Basin and the funding partners with access to customer and water usage data. Central Basin will provide water usage and runoff reduction reports to the California Department of Water Resources, the State Water Resources Control Board and other stakeholders.

2.4.13 State and Federal Political Districts

The Large Landscape Conservation/Runoff Reduction Management and Educational Program is located within the following political districts:

- Congressional District: 37th
- State Assembly District: 28th
- State Senate District: 55th


Central Basin
Municipal Water District
Water Purveyors
EAST L.A.
COMMERCE
MONTEBELLO
PICO RIVERA
VERNON
MAYWOOD
HUNTINGTON PARK
BELL
CUDAHY
BELL GARDENS
SOUTH GATE
DOWNEY
SANTA FE SPRINGS
WHITTIER
LA HABRA HEIGHTS
LYNWOOD
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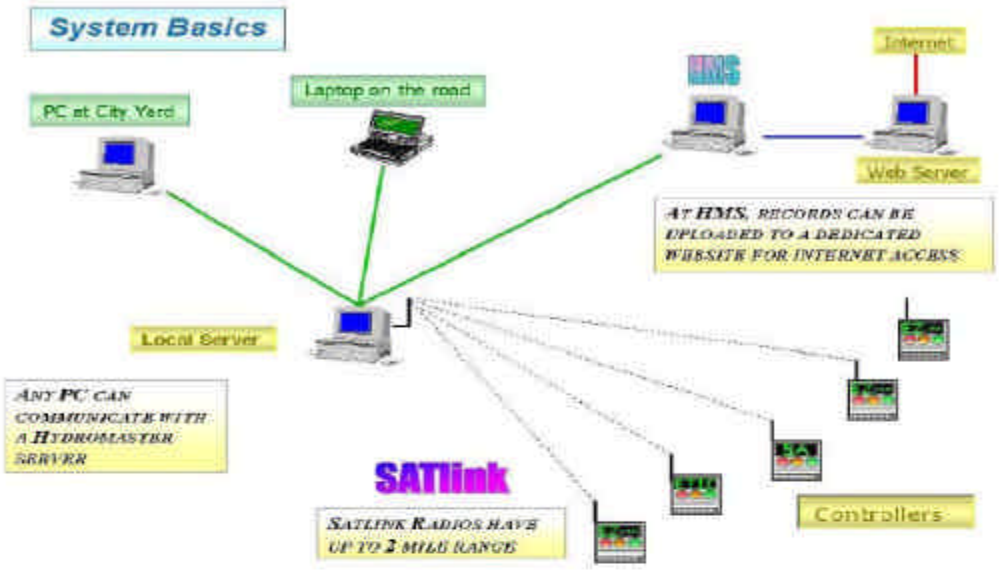

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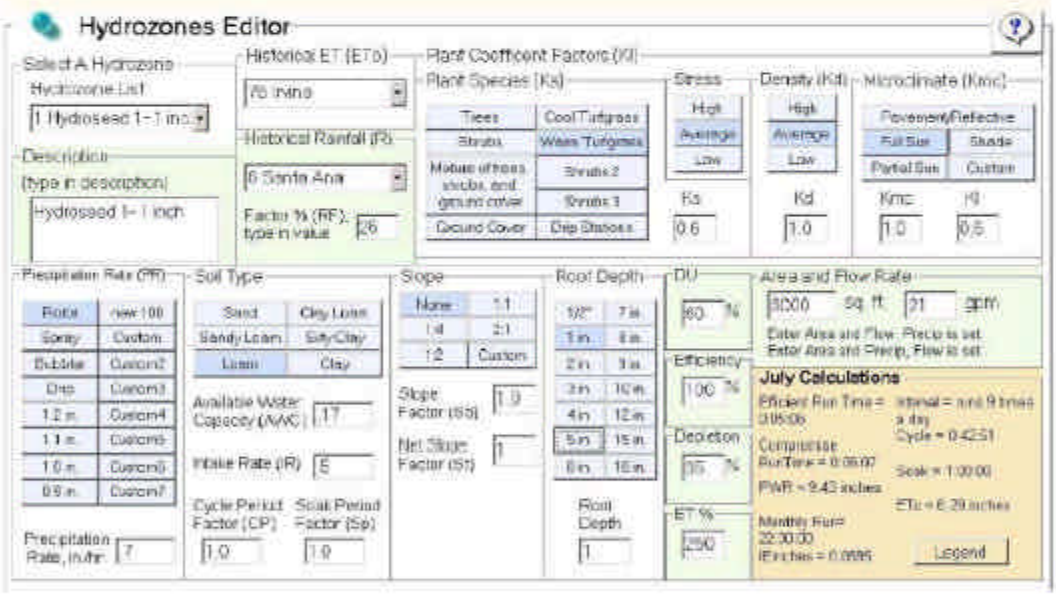


Hydrozones Editor

2.5 MONTEBELLO FOREBAY ATTENUATION AND DILUTION STUDIES

Project Lead: Sanitation Districts of Los Angeles County
Total Project Cost: $2,400,000
Grant Funding Requested: $1,200,000
Schedule: January 2005 to March 2007

2.5.1 Project Description

The purpose of this project is to conduct hydrogeologic studies within the southern Main San Gabriel Basin and Montebello Forebay Groundwater Recharge Project (MFGRP) to determine attenuation/dilution factors for various constituents with drinking water standards from the Pomona, San Jose Creek and Whittier Narrows Water Reclamation Plants (WRPs). This includes the fate and transport of N-Nitrosodimethylamine (NDMA), a disinfection byproduct. The MFGRP replenishes the Central Groundwater Basin (Central Basin) in Los Angeles County through the use of local stormwater, imported surface water and recycled water. The Central Basin provides groundwater used for drinking water purposes and provides 40% of the water demand for over three million people. At each final effluent discharge location (in downstream surface water at 250-foot subcatchment intervals, and in underlying groundwater), the range of attenuation, mixing and dilution factors for NDMA will be determined to develop appropriate permit effluent limitations that will protect receiving water (surface water and groundwater) beneficial uses.

NDMA is a chlorination disinfection byproduct and is generated at the Sanitation Districts of Los Angeles County's (LACSD's) WRPs. Currently, the only criterion for NDMA is an Action Level (now identified as a notification level) of 10 ng/L, which is applied to drinking water. The final effluent NDMA concentrations from the LACSD's WRPs, exceed the 10 ng/L Action Level; however, there is significant NDMA dilution and attenuation that occurs between the effluent discharge point and its transit to groundwater, which is a drinking water source. Mixing/dilution factors (i.e., water blending only) at the discharge locations, in downstream surface water, and in the underlying groundwater, will be determined and used to translate drinking water based criteria applicable to groundwater for appropriate NPDES permit effluent limitations that will be protective of receiving water beneficial uses. This work includes additional monitoring and well construction. The discharge to waters of the U.S. from the LACSD's WRPs are regulated via NPDES permits applicable to each facility. Groundwater recharge at the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds, and in the Montebello Forebay area is regulated under Water Reclamation Requirements (Order 91-100).

A figure identifying the project area, including the location of the WRPs, spreading grounds, and monitoring wells, follows Section 2.5.13 of this Attachment.

2.5.2 Location

The project is located within the Montebello Forebay, which is bounded to the north by the Whittier Narrows area, to the south by Firestone Boulevard, to the east by the San Gabriel River, and to the west by the Rio Hondo. This area is within the San Gabriel River Watershed and the Rio Hondo subwatershed, which is part of the larger Los Angeles River Watershed. The approximate longitudinal and latitudinal coordinates at a central point within the study area are -188°04'10" and 34°01'16", respectively.

2.5.3 Goals and Objectives

This project will ensure that final effluent limitations included in LACSD's NPDES permits protect the beneficial uses of receiving waters, including the groundwater recharge beneficial use of the unlined Rio Hondo and San Gabriel Rivers and the municipal water supply use of

the groundwater. The study will allow the assessment of the fate and transport of NDMA, which is considered a contaminant of concern and is a chlorination disinfection byproduct generated during wastewater treatment. Through this assessment, LACSD will determine what final effluent concentration discharged at the WRPs will be protective of groundwater. The results of the monitoring and modeling efforts for this study will be used to identify and/or prevent any potential impacts to groundwater used for drinking water purposes as a result of surface water discharges. The continued use of recycled water for groundwater recharge is critical since that use reduces dependence on imported water.

2.5.4 Water Management Strategies

The proposed project implements the IRWM Program's water management strategy objectives in the following ways:

Water Supply Reliability / Water Conservation / Imported Water / Groundwater Management / Water Recycling

This project will provide information needed to continue using recycled water for groundwater recharge. Currently, approximately 50,000 acre-feet per year of recycled water (based on a three year average) and up to a maximum of 60,000 acre-feet per year of recycled water are used for groundwater recharge within the MFGRP. Groundwater recharge is necessary to maintain groundwater levels and augment groundwater used for drinking water purposes. Successful completion of this project will result in determining appropriate attenuation factors for surface discharge to ensure that the recycled water continues to be used in the area rather than being wasted to the ocean.

The use of recycled water for this project provides a reliable source of water that is consistent and drought proof. Currently, recycled water, stormwater and imported surface water are used for groundwater recharge. Stormwater is only available during and immediately after storm events, which are not predictable on a year-to-year basis. Imported surface water is purchased from the Metropolitan Water District and is only available for groundwater recharge after all other potable demands are met. Consequently, the only source of recharge water that can be relied upon is recycled water. The results of these studies will be used to determine final effluent limitations, which are expected to be included in NPDES permits and Water Reclamation Requirements for continued discharge and use of this water for groundwater recharge.

In addition to protecting water quality, ensuring a reliable water supply, and conserving local resources, this project will determine permit limits that are site-specific and protective of all beneficial uses. This could avoid unnecessary treatment plant upgrades that may not provide any additional protection to groundwater quality. In addition, groundwater recharge with recycled water is an important groundwater management strategy that prevents basin overdraft and is drought proof. If recycled water is not part of the groundwater management strategy, costly imported water, which may not be available when needed, would have to be purchased, thereby impacting supplies in the Bay-Delta Region.

Water Quality Protection and Improvement / Water and Wastewater Treatment

This project ensures that final effluent limitations included in permits for discharge within the unlined Rio Hondo and San Gabriel Rivers protect the beneficial uses of receiving waters, including the drinking water use that applies to the underlying groundwater basin. The resulting information will be used by the Los Angeles Regional Water Quality Control Board (Regional Board) to set enforceable discharge limits in permits. Also, comprehensive surface water, recycled water and groundwater monitoring, in addition to current monitoring, may help identify other potential water quality concerns that could be addressed as part of this project.

2.5.5 Consistency with IRWM Plan and other Regional Planning Documents

This project is being conducted as part of the LACSD's efforts to implement the adopted NPDES permits for the San Jose Creek WRP (Order R4-2004-0097) and the Pomona WRP (Order R4-2004-0099). The NPDES permits include a permit provision (WDR Section V.H, page 46 in the Pomona WRP permit and Section V.8, page 46 for the San Jose Creek WRP permit) to re-open the NPDES permits three years from the effective date (July 2007) to re-evaluate, and possibly modify, final effluent limits for NDMA, based on the results of attenuation and dilution studies. The orders also identify the timeline for this project in Finding 48, page 25 for the San Jose Creek WRP permit and Finding 47, page 26 of the Pomona WRP permit. The results of this project could also impact groundwater recharge activities involving the use of recycled water, which are regulated under Water Reclamation Requirements for the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds, and Montebello Forebay area (Order 91-100).

The project is also consistent with many of the following IRWM objectives that have been identified in the Regional Objectives table in Section 4.2 of the Framework IRWM Plan, Attachment 3, of this implementation proposal.

2.5.6 Stakeholder Involvement

LACSD, Water Replenishment District of Southern California (WRD) and County of Los Angeles Department of Public Works (LACDPW) are co-permittees in Order 91-100, which includes the Water Reclamation Requirements applicable to the use of recycled water for groundwater recharge. LACSD provides tertiary treated effluent, WRD ensures that a reliable supply of high quality groundwater is available within its service area, and LACDPW is responsible for the operation of the spreading facilities and the conveyance of the recharge water through the rivers and spreading basins. Through their involvement in groundwater recharge activities, these entities will coordinate with one another to support the work conducted under this project.

This project is being conducted in accordance with the NPDES permits for the Pomona and San Jose Creek WRPs with the direct recipient of the study results being the Regional Board. Direct input is being received from the WRD, LACDPW, Regional Board, and EPA. Once these NPDES permits are reopened, they will go through a public review process. A public hearing, prior to adoption of the permits, will also be conducted by the Regional Board.

2.5.7 Regional Economic, Environmental, and Fiscal Impacts

If this project is not implemented, costly treatment plants upgrades to treat NDMA concentrations in the final effluent may have to be constructed. Such upgrades are premature because the appropriate levels needed to protect all designated beneficial uses and promote the use of recycled water through groundwater recharge are unknown at this time. The cost of additional treatment would have to be borne by millions of residents within the region. The results of this study are necessary to determine appropriate site-specific permit limits for the discharge of recycled water within the Montebello Forebay that protect all beneficial uses. Without the results of the studies provided by this project, it may be necessary to further limit the amount of recycled water used for groundwater recharge. This situation would result in increased costs to purchase imported water to meet the needs of the Region.

2.5.8 Scientific Basis

This project consists of developing a groundwater and surface water model of the MFGRP, which will include analytical work related to the constituents of concern.

The Department of Health Services and the public must be informed when NDMA levels in a water supply exceed the notification level. If the NDMA levels in the water supply are 20 times the NDMA notification level, then a water purveyor is required to shut down a production well. The results of the monitoring and modeling efforts for this study will be used to identify and/or prevent any potential impacts to groundwater used for drinking water purposes as a result of surface water discharges. The continued discharge and use of recycled water within the Montebello Forebay lessens dependency on imported water, prevents groundwater basin overdraft, complements regional efforts for a more reliable, drought proof water supply and complements efforts for cost-effective, environmentally sound wastewater treatment and beneficial reuse of a valuable resource.

2.5.9 Relation to other Grant Funded Projects

This project does not have a direct relation to other grant funded projects, although it is directly related to the Whittier Narrows Water Reclamation Plant UV Disinfection Facilities project included in this implementation proposal.

2.5.10 Critical Impacts if Project is not Implemented

As previously indicated, if this project is not implemented, costly treatment plant upgrades to treat to NDMA concentrations in the final effluent may have to be prematurely constructed.

2.5.11 Disadvantaged Community Benefits

This project will benefit the residents in several cities located within the Central Basin in the vicinity of the Montebello Forebay, many of which are considered disadvantaged, by ensuring protection of their groundwater. This area is bounded on the north by the Whittier Narrows, on the east by the San Gabriel River, on the west by the Rio Hondo and on the south by Firestone Blvd.

2.5.12 Monitoring and Adaptive Management

This project will result in the development of final effluent limitations that will protect of receiving water beneficial uses. Compliance with these final effluent limitations will be determined in accordance with the NPDES permits for LACSD WRPs, which are currently in effect and are enforceable for any discharge to waters of the United States. The effluent limitations will be used to assess plant performance and post project implementation. In addition, compliance with reuse and groundwater recharge permits will be assessed through the respective monitoring programs.

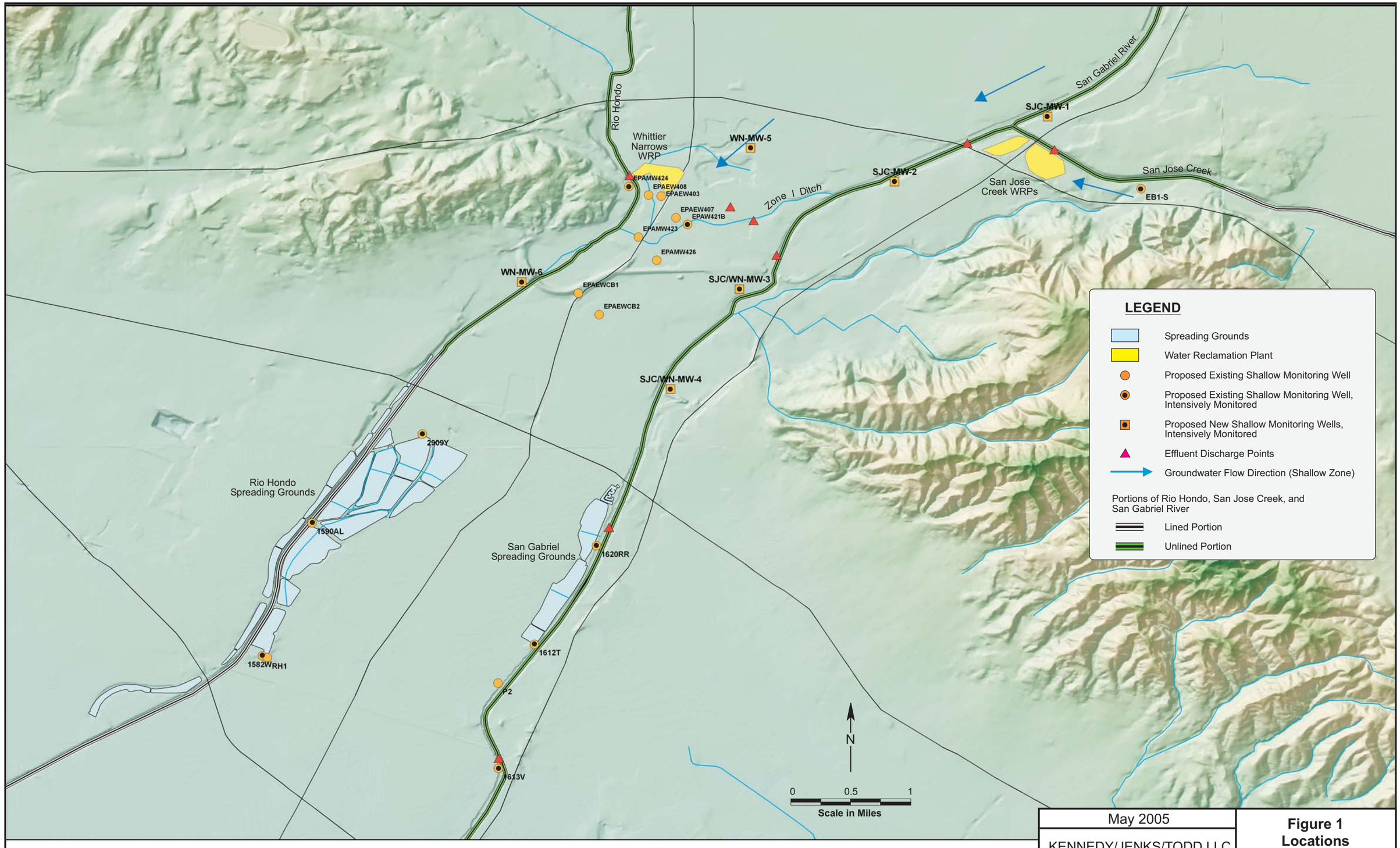
This project includes the monitoring of compounds detected in recycled water and/or surface water where NPDES limits and/or drinking water standards exist. The sampling, which will be conducted over an 18 to 24 month period as identified in the Sampling and Analysis Plan (February 2005), is anticipated to be completed by December 2006. The results will be used to develop and calibrate a fate and transport model to assess the attenuation and dilution of NDMA, as well as dilution factors for other compounds with drinking water based standards.

Water quality results will be collected and reported to the Regional Board through the WRPs final effluent permit monitoring and reporting programs as appropriate. In addition, quarterly updates will be provided to the Regional Board via reports submitted in accordance with the schedule identified in the NPDES permits. Upon completion of this project, a final report will be prepared and submitted to the Regional Board. All groundwater model program files will also be submitted. Both will then be available to the public.

2.5.13 State and Federal Political Districts

The Montebello Forebay Attenuation and Dilution Studies are located within the following political districts:

- Congressional Districts: 32nd, 34th, 38th
- State Assembly District: 58th
- State Senate Districts: 27th, 30th



May 2005

KENNEDY/JENKS/TODD LLC
Emeryville, California

Figure 1
Locations of Proposed Monitoring Wells

2.6 MORRIS DAM WATER SUPPLY ENHANCEMENT PROJECT

Project Lead: Los Angeles County Flood Control District
Total Project Cost: $12,827,000
Grant Funding Requested: $8,960,000
Schedule: July 2006 to August 2009

2.6.1 Project Description

Water supply for the region comes from native runoff from the San Gabriel Mountains and imported water supplied mostly from the CALFED Bay-Delta area. The demand for water exceeds the local water supply that is captured behind three dams along the San Gabriel River, which are owned and operated by the Los Angeles County Flood Control District. Morris Dam, which is the furthest south on the river supply system, currently must maintain a minimum pool of water to prevent damage from sediments to the operating system of the dam. This minimum pool restricts the amount of native supply that can be spread downstream for use in the Basin. The Morris Dam Water Supply Enhancement Project would allow physical modifications to Morris Dam to facilitate a lower operational reservoir pool behind the dam. This would help the District meet the needs of the Main San Gabriel Basin and in turn would reduce the burden on imported water sources that are required to supplement the Basin's needs.

Morris Dam enables the District to regulate storm flows and runoff to downstream spreading grounds. Currently, the District maintains a 9,720 acre-foot operational reservoir pool of water behind the dam (minimum pool) to protect the outlet valves from damage or operational failure due to river flows with high sediment loads. This Project will increase the effective reservoir capacity by 5,720 acre-feet by reducing the required minimum pool to 4,000 acre-feet while still providing the same level of protection for the valves. As a result, 5720 acre-feet more water can be released from the dam for downstream groundwater recharge and extraction purposes.

The Project entails physical modifications to the Morris Dam Valves and Control Systems to facilitate a lower operational reservoir pool and the reliable conjunctive management of the resulting increased conserved native water. These modifications consist of constructing a new inlet location to take water from the reservoir at a different location (higher elevation) and replacing the river outlet valves with a more robust type of valve that is not as susceptible to damage and operational failure if some sediment gets in the outflow. Modifications to the control system include the electrical upgrades needed to power the new valves electric motor operators and other systems, and intelligent controls so that the valves and gate will be able to control outflows to match capacity of water conservation systems downstream.

2.6.2 Location

The project is located in the upper San Gabriel River watershed. The approximate longitudinal and latitudinal coordinates are 117° 52' 49"and 34° 10' 27", respectively.

A figure identifying the locations of Morris Dam and the downstream spreading grounds follows Section 2.6.13 of this Attachment.

2.6.3 Goals and Objectives

The objectives of the Morris Dam Water Supply Enhancement Project are to increase the available local water supply, accommodate conjunctive management to augment surface and ground water supply, and reduce reliance on imported water. This will be accomplished by mitigating operational problems associated with sediment build up at the intake tower which will result in an increased reservoir storage cycle for water conservation and conjunctive use.

In addition, the project will ensure reliability of river outlet valves for flood management and for water conservation purposes to increase the groundwater supply in the Main San Gabriel Groundwater Basin.

2.6.4 Water Management Strategies

The proposed project implements the IRWM Program's water management strategy objectives in the following ways:

Water Supply Reliability / Groundwater Management / Imported Water / Conjunctive Use / Water Conservation

This project will provide the necessary improvement of a conjunctive use facility to capture, detain, and recharge an additional 5,720 acre-feet per year that would otherwise be wasted to the ocean. Consequently, this will increase the amount of natural resources (groundwater supply) within the Main San Gabriel Groundwater Basin and decrease the need for imported supplies by a commensurate amount. Morris Dam harnesses natural stormwater runoff from the San Gabriel River located in the San Gabriel Mountains. As a result of modifying the dam to accommodate a lower reservoir pool, more water can be stored behind the dam for conjunctive use.

The Morris Dam Water Supply Enhancement Project will improve water reliability by increasing the volume of local water conserved in the Main San Gabriel Basin annually. Local precipitation can have a marked influence on groundwater supply and water in storage. The annual native water supply is dependent on two factors: the annual precipitation and the retentive characteristics of the surrounding watershed. By increasing the effective capacity of the reservoir, the annual native water supply will also be increased.

Modifications of the control systems to Morris Dam will allow better conjunctive management of the additional water captured behind the dam. This project will remove gaps in current operational capabilities to match the needs of downstream facilities and uses. Operations of the dam and reservoir during dry seasons allows more flexibility in releasing to downstream spreading grounds as needed to recharge the groundwater basins. Water releases will be coordinated with water agency activities to maximize water conservation. This project will enable the District to provide improved groundwater

This project will improve local water supply and proportionally reduce the District's dependence on imported water. Currently the water needs exceed the supply of locally generated water within the Main San Gabriel Basin. As a result, water has to be imported. This project will result in an increase of stored natural resources because more surface water will be stored in the aquifers of the Main San Gabriel Basin. It will increase the opportunity to capture more local water during wet years, thereby reducing the amount of imported water needed.

Flood Management / Stormwater Capture and Management / Surface Storage

This project enables the District to provide improved stormwater management, capture, and storage. This project will also ensure reliability of the river outlet valves for flood management, while still providing the same level of protection. Currently, the District maintains a 9,720 acre-foot pool of water behind the dam to protect the outlet valves from damage or operation failure due to river flows with high sediment loads. This project will enable the required pool storage to be reduced to 4,000 acre-feet with the proposed modifications, and increase the effective storage by 5,720 acre-feet. These modifications are necessary to safeguard the dam against anticipated sediment encroachment resulting from the lower minimum pool.

The Morris Dam Water Supply Enhancement Project will also improve flood protection for the downstream communities. Due to the increased effective capacity of the reservoir, it will be

capable of capturing more peak runoff during a storm event, which will help prevent flooding in the downstream communities.

Water Quality Protection and Improvement

Water quality will be preserved as a result of this project. Morris Dam allows water to be temporarily stored thereby slowing the velocity of sediment-laden flows from the San Gabriel River. During periods of high flow, the ponding of water allows sediment to drop out and remain behind the dam as water passes through the valves of the dam. This process also re-aerates the flow as water tumbles out the valves into the plunge pool and travels down the river providing improved water quality downstream. This is especially important after a fire when an increased amount of sediment and burned debris is collected in the reservoir. The effect of a burned watershed lasts for approximately five years after the fire occurs. Allowing sediment to drop out before the water continues down the river is especially important in preserving water quality.

Water quality will improve due to the reduced amount of imported water brought into the system. By importing less water from Metropolitan Water District (MWD), the quality of water will improve. Imported water requires treatment before it can be spread into the groundwater basins, while native water uses its natural flow along the watershed terrain to help remove contaminants. In addition, snowmelt is a natural resource that is collected in the reservoir and has a high purity level.

Environmental Habitat Protection and Improvement

This project may increase the riparian habitat along the San Gabriel River corridor for native aquatic species and recreational activities. Releasing water from Morris Dam for an extended period could allow the riparian habitat to persist and further enhance recreational activities within the downstream basins. Peck Road Water Conservation Park will have a direct benefit from this project, by providing additional native water to maintain optimum water levels in the basin and support the variety of wildlife species that inhabit the park.

The Morris Dam Water Supply Enhancement Project will help reduce the impact to the environmentally sensitive Bay-Delta system. The Main San Gabriel Groundwater Basin is recharged by imported water that primarily comes from the State Water Project and the Bay-Delta region. These deliveries have the potential to impact this system. This project will decrease the current amount of imported water that is required and, in turn, will reduce the impact to the ecosystem of the Bay-Delta region.

2.6.5 Consistency with IRWM Plan and other Regional Planning Documents

The project is also consistent with the following IRWM objectives that have been identified in the Framework IRWM Plan, Attachment 3, of this implementation proposal:

- It will increase the conjunctive use of natural resources (native water) that is captured and available for recharge within the Main and Central San Gabriel Groundwater Basins.

- It will protect and preserve water quality by importing less water from the Metropolitan Water District and using more native water, which is cleaner and would otherwise be wasted to the ocean.

- This project will enable the District to provide benefits for improved groundwater management and stormwater management, capture, and storage. The District will implement adaptive management principles to maximize these project benefits.

- It will increase the opportunity to capture more local water during wet years, thereby reducing the amount of imported water needed. This will reduce the District's dependence on imported water.

- More surface water will be captured behind the dam and, therefore, will be available for recharge and pumping by local water supply agencies within the Main San Gabriel Groundwater Basin.

- It will improve water reliability and quality by increasing the volume of local water conserved in the Main San Gabriel Basin annually.

- It will also improve flood protection for the downstream communities. Due to the proposed increase capacity of the dam, it is capable of storing more water during storm events, which helps prevent flooding in the downstream communities.

2.6.6 Stakeholder Involvement

The District is charged with the duty of controlling floods and conserving water. Its flood control and water conservation dams are used for conservation and groundwater recharge purposes to satisfy basin management criteria set by the Main San Gabriel Basin Watermaster and the San Gabriel Valley Protective Association.

The San Gabriel Valley Protective Association is a non-stock, non-profit cooperative corporation organized under the laws of the State of California. It was incorporated under its present name on June 18, 1920. After much study and conference with the Division of Water Rights, the State decided that the San Gabriel Valley Protective Association was the proper appropriator, under the terms of the Water Commission Act, of all the flood flows of the San Gabriel River. The District provides the necessary infrastructure for the regulation and conservation of floodwaters. The Association has the necessary infrastructure available to extract from the groundwater basin.

The Main San Gabriel Basin Watermaster manages all groundwater resources in the Main San Gabriel Basin. The Watermaster determines the operating safe yield for the Main San Gabriel Basin and allots the pumping rights within the basin accordingly.

Cooperative management of the native water captured behind Morris Dam is the key to ensure that source water is protected and spread within the Main San Gabriel Groundwater Basin and extracted for use. The District is in constant communication with the various agencies and operational staff that have a role in surface and groundwater management within the San Gabriel River and Rio Hondo watersheds.

Included as Att6_IG1_Proposal_7of7 of this implementation proposal is a letter of support for the Morris Dam Water Supply Enhancement Project from the San Gabriel River Water Committee. The Committee has had the exclusive right to the first 135 cubic feet per second of surface water from the San Gabriel River since 1889. The Committee supports this project as it will increase the local water supply from native sources and reduce the reliance on imported water supplies.

2.6.7 Regional Economic, Environmental, and Fiscal Impacts

The Morris Dam Water Supply Enhancement Project will result in an increased yield of approximately 5,720 acre-feet annually in the Main San Gabriel Basin thereby reducing the purchase of Metropolitan Water District (MWD) supplies. This benefits the CALFED Bay-Delta area since a reduction in MWD demand also reduces the demand on water that originates from the environmentally sensitive Bay-Delta, especially during dry periods. The increased groundwater yield provided by the project will help to reduce the supply-and-demand mismatch

that is occurring in the Bay-Delta. It should also improve the Bay-Delta water quality for all users, improve and increase the aquatic and terrestrial habitats, and improve ecological functions in the Bay-Delta.

This project will address long term regional water management needs by giving the District increased flexibility in providing native water to the San Gabriel River for extended periods of time. This was historically prohibited due to operational restrictions at the dam. Increasing effective storage at the dam and modifying the valves and control system will greatly enhance the reliability of local groundwater and surface water supplies, which is critical in years of low rainfall. The additional native flows will potentially increase riparian habitat along the river and benefit native aquatic species.

This project will provide an increase in the conjunctive use of the resulting local water resources by modifying the dam to accommodate a lower minimum reservoir pool. This will enable the District to capture and recharge an additional average of 5,720 acre-feet annually in the San Gabriel Basin, thereby increasing the yield by a corresponding amount on a long-term basis. Without this project, the Main San Gabriel Basin Watermaster will have to purchase additional imported water from MWD at a current cost of $326/acre-feet. This results in an average annual water conservation benefit of approximately $1.8 million annually at today's water cost. Further, this will result in a savings of approximately $90 million over the next 50 years, based on the current water cost. This project will ultimately reduce the cost of water to downstream communities.

2.6.8 Scientific Basis

The scientific basis for the project is the feasibility study, "Morris Dam River Intake Modification Study", prepared for the District by Black and Veatch in April 2004. Redesign of the intake structure and subsequent replacement of the river valves will allow the District to increase water conservation at this facility by lowering the minimum pool from elevation 1100 to elevation 1060. Modification of the intake structure will involve abandonment of the existing intake elevation and trashrack at Morris Dam and construction of a higher tower which would allow water to be taken from a higher elevation within the reservoir and alleviate concerns regarding sediment buildup at the front of the Dam.

Increasing the elevation where water from the reservoir is drawn and improving the valves to prevent damage due to sediment will allow the District to lower the reservoir pool required to prevent damage to the existing outlet structure. The amount of water that will be available for downstream use will vary from year to year, however, the overall increase will be approximately 5,720 acre-feet. Coordination between the District and downstream stakeholders will ensure adaptive management practices of the 'new' water will be utilized and a reduction in the amount of imported waters required by the Basin will be seen. In addition, the flood capacity of the Dam will be increased, providing an additional benefit to downstream residents.

2.6.9 Relation to other Grant Funded Projects

This project does not have a direct relation to other grant funded projects. However, the increased water that will be used for recharge downstream will have an impact on a future project proposed for Peck Road Water Conservation Park. The District is in the initial planning phase for a project at Peck Park to add a treatment wetlands system to the lake and enhance the recharge capacity of the facility through various technologies. This project is included in the second tier of projects in this implementation proposal and is likely to be submitted for funding in the second round of Proposition 50, Chapter 8 (note, another project at Peck Road Water Conservation Park is included in this implementation proposal as a tier 1 project and is put forth by the City of El Monte and Amigos de Los Rios). The Morris Dam project will help

ensure a consistent supply of native water for treatment and recharge at Peck Road Water Conservation Park.

2.6.10 Critical Impacts if Project is not Implemented

If the Morris Dam Water Supply Enhancement Project is not completed then significant water conservation losses of the local stormwater runoff, a natural resource, will occur. There will be groundwater recharge benefits that will not be achieved and this reduces the extraction capability in the groundwater basin by local water purveyors. Increased deliveries of imported water for groundwater recharge and water system distribution will be required to meet the ever increasing demands that are placed on the groundwater basin. These demands are due to the increase in population and growth in the San Gabriel Valley, and surrounding areas, in the years to come.

Imported water and local runoff are used to recharge the Main San Gabriel Groundwater Basin. Local runoff amounts recharged into the basin can vary due to a number of variables including annual precipitation amounts, and retentive characteristics of the watershed. This project will continue to rely on the collection of natural stormwater runoff behind the dam for groundwater recharge. However, the maximum benefit of runoff recharge will not be realized if the Morris Dam Water Supply Enhancement Project is not implemented.

As a result of the regional needs exceeding the local capacity, the Main San Gabriel Groundwater Basin is currently supplemented by imported water obtained from the Metropolitan Water District. This imported water consists primarily of State Project water, so these deliveries have an impact on the Bay-Delta system. Efficiently managing the San Gabriel watershed runoff will reduce this impact to the Bay-Delta system.

The Morris Dam Water Supply Enhancement Project will allow the District and local water agencies to maximize the conservation of runoff recharge. By providing operational capabilities at the dam to retain and regulate runoff, the downstream recharge basins will be supplied with an increased amount of native water. This project will allow the District to maximize the conservation amount of local runoff that the Main San Gabriel Groundwater Basin can benefit from and reduce the impact on imported water supplies.

2.6.11 Disadvantaged Community Benefits

This project will provide a benefit to the disadvantaged communities by making additional native water available for an extended period into the dry months. Some of the additional native water released can be conveyed to Peck Road Water Conservation Park in order to maintain optimum water levels in the water conservation basin. Peck Road Water Conservation Park is a spreading basin located within a County park in the El Monte area. The park is enjoyed by nearby residents for its opportunities for pleasant walking, bicycling, fishing, and picnic spaces as well as opportunities to enjoy wildlife in their native habitat. El Monte is considered a disadvantaged community with a median household income of $32,439. Other disadvantaged communities in the San Gabriel Valley include South El Monte and Rosemead.

Maintaining year-round optimum water surface levels at the water conservation park would maximize the groundwater recharge at the facility as well as benefit the wetlands habitat at the park. Peck Road Spreading Basin generally percolates through its sides, the bottom is silted. If the basin water levels are maintained at a higher level, the percolation rate at the facility will increase, thereby benefiting the Main San Gabriel Basin.

As a result of this project, native water will be released each year into the Main San Gabriel Basin and will reduce the operating costs to the various water agencies. These water agencies service the disadvantaged communities of El Monte, South El Monte, and

Rosemead. The savings experienced by the water agencies will be passed on to the communities (both residential and commercial) in the form of deferred water rate increases.

2.6.12 Monitoring and Adaptive Management

The District maintains operating guidelines for all facilities, including Morris Dam and Reservoir. Operation of the dam and reservoir outside of storm events allows some flexibility to coordinate water releases with water agency activities to maximize water conservation. Improvements to the dam's outlet works and control systems, along with existing stream gages, monitoring at spreading grounds, and monitoring by water and resource agencies will allow for conjunctive management of the additional water made available by this project. The District will implement adaptive management principles to maximize these project benefits.

The District maintains records on dam valve operations and water conservation efforts at downstream spreading basins. These records are provided to State and local agencies in reports on a monthly, quarterly, and annual basis. Project success will be measured by monitoring the amount of water conserved within the District's downstream spreading basins.

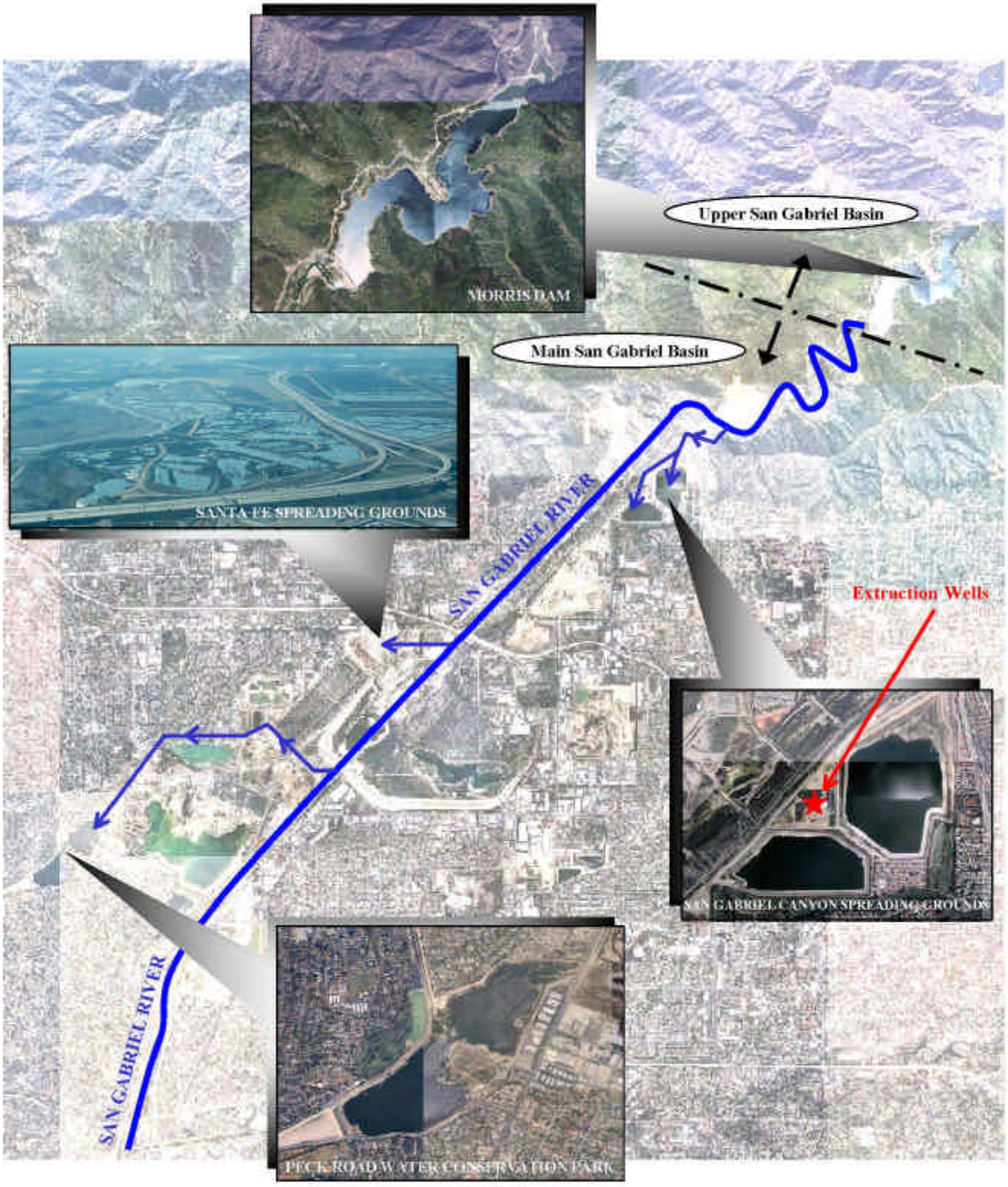
2.6.13 State and Federal Political Districts

The Morris Dam Water Supply Enhancement Project is located within the following political districts:

- Congressional District: 32nd
- State Assembly District: 57th
- State Senate District: 24th

MORRIS DAM WATER SUPPLY ENHANCEMENT PROJECT

LOCATION MAP



2.7 PECK WATER CONSERVATION PARK

Project Lead: City of El Monte / Amigos de Los Rios
Total Project Cost: $8,886,885
Grant Funding Requested: $7,997,278
Schedule: January 2005 to May 2009

2.7.1 Project Description

Peck Road Water Conservation Park is a key demonstration project that is part of the larger regional vision for open space called the Emerald Necklace. This park will occupy a critical position within the 17-mile interconnected Emerald Necklace network of multi-benefit trails, parks and greenways, touching 12 cities and unincorporated County communities and serving nearly one-half million residents along the Río Hondo and San Gabriel River. The goal of this project is to create a popular recreational area, while also addressing our regional needs for sustainable practices, including protecting and preserving water quality, maximizing use of and optimizing water resources, and maximizing opportunities to capture local water to reduce dependence on imported water.

This multi-benefit project includes restoration and enhancement of habitat, water conservation and access to open space for underserved communities. The park will also serve the recreation needs of disadvantaged communities within the area.

The site of Peck Road Water Conservation Park is one of the unknown treasures of the San Gabriel Valley. The property was formerly a gravel quarry and is now under the jurisdiction of the Los Angeles County Flood Control District who uses the lake for groundwater recharge. Although a portion of the site is open for recreational use it has not been fully developed as a park facility. As such, this site is ideally suited for new projects that would improve the appearance and value of the park and emphasize the water conservation message inherent in its name. The 12-acre portion currently operated by the County of Los Angeles Department of Parks and Recreation features multiple picnic tables and a large area of turf grass with an inefficient irrigation system, scattered shade trees, and a restroom.

The lake at Peck Park is an outstanding feature of the park. It is nearly a mile in length and is stocked with fish by the State of California Department of Fish and Game. The 3-mile shoreline of the lake is tiered and fairly steep-sided, as a result of quarry operations. Currently the only vegetation around the shoreline is sparse growth of native plants that have re-established themselves from seeds deposited around the shoreline. The remaining shoreline is largely bare due to the former use of herbicide. The topography of the site is pronounced; at the highest point of the park are concrete pads and blocks which were left when the quarry operations stopped. This bare portion of the peninsula provides the setting for the proposed demonstration garden and trail head for the network of trails.

Percolation of stormwater through the bottom of the lake is restricted by a silt layer; however, water readily percolates through the quarry walls. In this fashion, the lake serves an important water conservation function by recharging all upstream storm runoff to the groundwater basin. This function complements the conservation message of the water conservation demonstration garden.

The following are primary components of the Peck Water Conservation Park Project:

A. Peck Park Greening and Habitat Restoration - Habitat Recovery and Enhancement
The purpose of this project is to restore and enhance of an existing 200-acre regional park facility, therby transforming it into an educational and recreational amenity serving numerous disadvantaged communities. Nearly 30 acres around the lake are available for habitat

restoration, plus an additional 60 acres scattered throughout the park for greening and enhancement with native and low water use plants. Peck Park has recently been the focus of a vision plan developed by Amigos de los Ríos for the Sierra Club and is also identified as a regional project opportunity in the Río Hondo Watershed Management Plan. An extensive network of interpretive signs emphasizing water resources and native habitat will be complemented by amenities such as habitat view points and picnic facilities.

B. Peck Park Water Conservation Demonstration Garden – Watershed Education

An important aspect of the greening program includes a Water Conservation Demonstration Garden, to be located prominently at the main entrance of Peck Park, emphasizing water as a precious commodity to be protected and preserved. The garden will provide examples of plants that homeowners and facilities managers may use to reduce water consumption and enhance the habitat value of green spaces. The butterfly-shaped demonstration garden will include clear detailed interpretive signage on native and drought tolerant plants. Brochures will be available for visitors to take home information on plant palettes as well as contact information for local sources where these plants can be obtained. Reclaimed water will be used in the demonstration garden to optimize water resources to reduce dependence on imported water. The garden will be sectioned into planting areas of varying sizes, having the potential to inspire and shape the development of residents' front, back and side yards and public facilities. The plant palettes featured in these various garden segments represent typical plant associations native to the Río Hondo and San Gabriel River Watersheds. The Water Conservation Demonstration Garden plots will be divided into high, medium, and low water-use plants.

C. Peck Park Network of Nature Trails – Connectivity of Open Space/Watershed Education

Interpretive signs will be placed along a 2.2-mile trail to educate visitors on Best Management Practices for stormwater management, harvesting water, and protecting the lake from pollution (with special emphasis on challenges proposed by the equestrian trail). The resultant trail will create a symbolic and practical joining of the communities surrounding the park; this trail will allow direct connection and access between key recreational areas of the lake and surrounding communities. New vistas for observation of native flora and fauna will be created along the 2.2 mile trail. This trail will eventually link Peck Park and the Río Hondo side of the Emerald Necklace to the San Gabriel River Trail.

D. Peck Park Gateways to the Community – Recreation Access for Disadvantaged Communities

This project will allow access to this little known facility for a myriad of visitors through the development of multiple entrances and access points to the Park. These entrances will feature Peck Water Conservation Park / Emerald Necklace signage on water conservation and habitat restoration, native landscaping, and river and quarry rocks. In effect, these enhanced access points will greatly increase accessibility to the rare and wonderful resources of Peck Park for tens of thousands of the region's disadvantaged park visitors. Amigos de los Ríos will seek local stakeholder input for each of the new entrances, as well as for access gates at six other locations around the Park. Additional parking would be added at Peck Road including a retrofit of the existing parking lot and supplemental parking featuring permeable paving and BMPs for harvesting of rainwater and stormwater runoff.

Five figures identifying the location of the Peck Park project, its greening and habitat enhancement areas, nature trail, access points, and demonstration garden follow Section 2.7.13 of this Attachment.

2.7.2 Location

The project is located in the Rio Hondo watershed, at the headwaters of the Rio Hondo, adjacent to the Cities of El Monte, Arcadia, Irwindale, and Monrovia. The approximate longitudinal and latitudinal coordinates are 34°06.324'N and 118°00.431'W, respectively.

2.7.3 Goals and Objectives

The goal of this project is to enhance an existing park to provide multiple benefits including habitat restoration and enhancement, water conservation, environmental education, and access to open space opportunities

The primary project objectives are:

- To recover native habitat and species diversity in a densely populated urban environment, thereby improving habitat quality, quantity and connectivity throughout the Emerald Necklace.

- To improve access to and provide quality open space and recreation for underserved communities in the region who suffer disproportionately from adverse health impacts of a lack of open space.

- To provide tangible examples of sustainable landscapes BMPs for water conservation and water quality improvement that can be employed throughout the watershed to insure long-term water reliability in our region.

- To educate the public on diverse aspects of water conservation including knowledge and appreciation of our regional water supply, challenges we face for water quality protection and the public's role in stormwater management.

2.7.4 Water Management Strategies

The proposed project implements the IRWM Program's water management strategy objectives in the following ways:

Ecosystem Restoration / Environmental Habitat Protection and Improvement

Peck Water Conservation Park contains approximately 30 acres of potential habitat restoration and preservation areas, and is home to a vast array of wildlife species, including insects, birds, amphibians, reptiles, and small mammals. Many species of birds, including over 185 species of resident, migrant, and introduced species of birds, utilize Peck Park throughout the year. Commonly observed year-round, native resident species include the mourning dove (*Zenaida macroura*), the black phoebe (*Sayornis nigricans*), Bewick's wren (*Thryomanes bewickii)*, the bushtit (*Psaltriparus minimus*), the western scrub jay (*Aphelocoma californica*), the song sparrow (*Melospiza melodia*), and the house finch (*Carpodacus mexicanus*).

Through the use of native planting, this project will enhance the site's current ability to support a variety of wildlife species. The project will connect fragmented habitat corridors to eventually create viable habitat along the 17-mile Emerald Necklace. Interpretive resources will be added to the park to educate users on native plant and wildlife species.

Water Recycling / Water Conservation

Peck Park is an area where water is stored and groundwater resources are replenished; hence, visitors will be educated in water conservation and water use in the region. The demonstration garden will educate thousands of people in water conservation, leading to extensive water savings throughout neighboring communities, where 50% of water usage is attributed to landscaping. Generational effects of this education will have a strong impact on public behavior. Reclaimed/recycled water will be used throughout the project. The use of drought-tolerant native plants, low water use fixtures and low water irrigation systems will be demonstrated in the garden.

The water budget for the park and for the demonstration garden, as opposed to water consumption of an equivalent area of grass, will result in 88% savings in water usage. Visitors will learn about native landscape by viewing the demonstration garden. Take-home materials and resource lists will encourage homeowners, businesses, and other landscapers to utilize the methods employed at the park. Restrooms will optimize the use of gray water and use low water-use toilets, thereby preserving thousands of gallons of potable water. Reclaimed water, instead of potable, will be used where appropriate. The reduced demand for water would create a more reliable water supply for both residential and industrial users in a densely populated area.

Water Quality Protection and Improvement / NPS Pollution Control

Peck Road Water Conservation Park is listed on the U.S. E.P.A.'s 303(d) list of impaired water bodies for chlordane (tissue), DDT (tissue), lead, odors, and organic enrichment/low dissolved Oxygen. Through the use of best management practices for the parking area, various pollutants (oil, metals, etc.) will be prevented from entering Peck Lake. Vegetated swales will capture runoff from the parking lot and allow it to infiltrate. Native plants and soils will not use fertilizers, having a restorative effect on the entire waterway. The local waterway will be enhanced by educating the public on BMPs and pollution control. Restoration of green areas with low water use native plants will protect the lake and enhance its water quality.

Watershed Planning / Recreation and Public Access

As a model demonstration project of the Emerald Necklace, this project will encourage multi-objective watershed planning and implementation of projects along the Rio Hondo and San Gabriel River. The project is a key component of the Emerald Necklace as well as the Rio Hondo Watershed Management Plan.

Peck Water Conservation Park is one of very few flood control/water conservation facilities in the region where the public can get close to the water. This project will serve as a large regional resource in dense areas along the Emerald Necklace by providing a pleasant recreational environment for joggers, fishermen, bird enthusiasts, and residents. The lake is stocked with a variety of fish by the California Department of Fish and Game, attracting hundreds of migrant and wintering water, shore and diving birds year round. The project will enhance the existing facilities and will provide exercise trails, pedestrian and equestrian trails, and vistas across the lake. Public access will be improved to allow for increased park usage.

2.7.5 Consistency with IRWM Plan and other Regional Planning Documents

The Peck Water Conservation Park Project is a key component of the Emerald Necklace planning document that proposes a network of trails and restored habitat areas along the Rio Hondo and San Gabriel River. Peck Park serves as an important hub in connecting the two river corridors at the northern end of the Emerald Necklace. The project is also a component of the Rio Hondo Watershed Management Plan.

The project is also consistent with the following IRWM objectives that have been identified in the Framework IRWM Plan, Attachment 3, of this implementation proposal:

- Protect and preserve water quality
- Implement a wide array of Best Management Practices to optimize local water resources and reduce dependence on imported water while increasing beneficial uses available to the public
- Encourage multi-objective planning and projects
- Involve the public through education and outreach programs
- Improve habitat quality, quantity, and connectivity

- Improve access to open space and recreation for all communities
- Establish riverfront greenways to cleanse water, hold floodwaters and extend open space
- Implement watershed management plans
- Recover native habitat and species diversity
- Provide accessible parks for underserved neighborhoods of Los Angeles County
- Maximize water recycling and conservation opportunities to reduce dependence on imported water

2.7.6 Stakeholder Involvement

The City of El Monte and Amigos de los Rios have coordinated project development efforts with the Los Angeles County Flood Control District and the County of Los Angeles Department of Parks and Recreation. The Los Angeles County Flood Control District owns and operates the flood control and water conservation aspects of the park. Parks and Recreation currently maintains the park improvements, although this responsibility may soon be transferred to the City of El Monte.

The California Department of Fish and Game is also involved in facility operations through stocking the lake with fish and will be an active stakeholder throughout the implementation of this project. The City of El Monte and Amigos de los Rios also have engaged numerous community groups and political entities in the development of the Peck Park project, as well as the numerous other components of the Emerald Necklace.

2.7.7 Regional Economic, Environmental, and Fiscal Impacts

The projected regional impacts of this project include the benefits of establishing a regional natural area, protection of air and water quality and the ensuing community health improvements, conserving local water supplies, and improving habitat areas. An increase in property values due to developments at Peck Road Water Conservation Park is estimated at 3 to 15 percent for houses located within 1,500 feet of the park for an estimated total property value increase of $1 million. Restoration projects at the park will create a habitat for native birds, reptiles, insects, and small mammals. The site is already listed as a significant viewing area for rare birds by the local chapter of the Audubon Society and continued enhancement will provide greater opportunities for nesting and migratory birds. It is estimated that native planting within the Park will sequester approximately 400 tons of carbon dioxide and absorb 20 tons of pollutants each year, providing a significant benefit to regional air quality. Partnerships with the State of California, the Federal Government, and regional stakeholders to undertake the project will help maintain fiscal stability by generating additional sources of funding for development, maintenance and operations.

Developing projects at Peck Road Water Conservation Park will directly address the long term needs of the watershed by increasing groundwater infiltration, reducing the burden on the flood control system, protecting permeable surfaces for groundwater recharge, and expanding habitat. The park will be permanently preserved and maintained as an open space and groundwater recharge facility that will retain stormwater from Sawpit and Santa Anita Washes for infiltration on site. Habitat restoration projects at the site will encourage flourishing migratory bird and native plant and animal populations. New entryways and a bus shelter serving the three regional bus companies will provide greater public access and enjoyment of open space resources for the community.

2.7.8 Scientific Basis

A total of 90 acres of habitat areas including approximately 30 acres of potential habitat restoration and preservation areas will be created, recovered, enhanced and preserved and will support the following critical species, aiding in the State's recovery plans for each of these species:

- $ Willow flycatchers *(Empidonax traillii)* - State-listed as endangered and are consistently observed in the park during the Spring and Fall migration periods
- $ Least Bell's vireo *(Vireo bellii pusillus)* - Sited in the west end of the park. The southern California subspecies (V.b. pusillus) is both a Federal and State-listed endangered species (Federal Register 51 FR 16474).
- $ Burrowing owl *(Athene cunicularia)* - 1st priority species of special concern. This species was found using a drainage hole along the Río Hondo River channel near the southeastern spillway at the terminus of the larger southern pond. Burrowing owls are now very rare in the San Gabriel Valley, even as winter visitors. They typically nest from about March through June. The burrowing owl observed in January 2001 was probably migrating through the area. The last records of burrowing owls in the San Gabriel Valley were from Whittier Narrows in 1981 and along the Río Hondo River, south of Whittier Narrows, in 1988
- $ Coastal California gnatcatcher (*Polioptila californica californica)* – a Federal threatened species. This species currently not found at the park, however, found in the Santa Fe Dam Region.
- $ Cooper's hawk – 3rd priority species of special concern. This species is found at the riparian edges.
- $ Coastal Cactus wren – Species of special concern
- $ Optunia Cactus – Species of special concern
- $ White pelicans (*Pelecanus erythrorhynchos*) – a California State species of special concern, occasionally observed on the lake
- $ Sanderlings (*Calidris alba*) and other shorebirds – Rare species in inland areas are found below the spillways of Sawpit and Santa Anita washes as they enter the lake.
- $ Rare wintering and vagrant bird species observed in the park have included swamp sparrows (*Melospiza georgiana*), gray flycatchers (*Empidonax wrightii*), scissor-tailed flycatchers (*Tyrannus forficatus*), dickscissel, plumbeous solitary vireos (*Vireo plumbeus*), Ross' goose (*Chen rossii*), and Glaucous-winged Gulls (*Larus glaucescens*). Palm Warblers (*Dendroica palmarum*) are regular winter visitors, with one or two usually to be found in scrub vegetation along the southwest shore of the lake.

The project will also employ multiple Best Management Practices (BMPs) such as permeable pavement and a cistern within the demonstration parking lot and bioswales along the trails. These BMPs will filter pollutants and reduce runoff quantities by infiltrating the runoff prior to entering Peck Lake or the Rio Hondo.

2.7.9 Relation to other Grant Funded Projects

Peck Road Water Conservation Park is a key demonstration project component of the Emerald Necklace, serving as a model for water conservation for residents of the San Gabriel Valley. The Emerald Necklace is a vision for a 17-mile interconnected network of multi-benefit trails, parks and greenways touching 12 cities and nearly ½ million residents along the Río Hondo and San Gabriel River. The proposed Emerald Necklace will unify more than 1,500 acres of parks, open spaces and habitat corridors while re-connecting the historically linked Rio Hondo and San Gabriel River. This contemporary urban park network is inspired by the 1929 Olmsted Bartholomew plan for the Los Angeles and San Gabriel Valley Region.

Many components of the Emerald Necklace have received, or are in the process of receiving, grant funding. These projects are listed below, along with their sources of funding:

EMERALD NECKLACE		
Source	**Project**	**Amount**
Sierra Club	Rio Hondo Vision Plan	$75,000
Proposition A	Lashbrook Park	$303,000
Proposition A	Gibson Park	$200,000
Quimby Funds	Lashbrook Park	$48,125
Quimby Funds	Rio Vista Park	$119,739
In Kind Support: City of El Monte	Lashbrook Park	$85,000
In Kind Support: City of El Monte	Rio Vista Park	$63,861
RMC	Rio Vista Park	$375,000
RMC	Rio Vista Trail	$573,000
RMC	Lashbrook Trail	$70,000
RMC	Gibson Park	$430,000
MWD / Upper SGV District	"Know Your Native Plants"	$11,000
Wetland Recovery Project	Alhambra Oasis	$14,000
Liberty Hill Foundation	Working with Disadvantaged Communities	$10,000
Resources Legacy Fund	Building Emerald Necklace Regional Coalition	$19,000
Green Collar Training	Training Youth in Disadvantaged Communities	$100,000
TOTAL		**$2,496,725**

2.7.10 Critical Impacts if Project is not Implemented

Increasing demands made on limited water, flood management, and open space resources make this a crucial time for innovative projects like Peck Road Water Conservation Park. The critical impacts that will be seen without development of these projects may include total loss of the last remaining open space and habitat parcels and costly capital improvement projects to update the flood control, groundwater recharge, and stormwater management systems in the hundreds of millions or billions of dollars. Continued development will place increasing pressure to develop the remaining open space parcels, which will reduce the amount of permeable surfaces and thereby, reduce their groundwater recharge capacity and runoff capture. Groundwater spreading basins will bear an increasing burden for groundwater recharge as natural recharge is reduced and eliminated. Increases in runoff will also increase the loading of significant non-point source pollution, requiring more costly investments in structural treatment devices. The Emerald Necklace and similar innovative projects are the most cost-effective investment in protecting the resources of our watershed.

2.7.11 Disadvantaged Community Benefits

The cities of Arcadia, Irwindale, Temple City, and El Monte are the communities that will most benefit from Peck Road Water Conservation Park with a total population of 203,968, of which

57 percent is disadvantaged. The Median Household Income for the inhabitants of the City of El Monte is $32,439, according to 2000 U.S. Census figures, and is defined as a disadvantaged community.

The population in this area is suffering from a variety of detrimental social, environmental, and health issues ranging from high teen birth rate, high rate of school drop-outs, widespread unemployment, to obesity, asthma, hypertension, and Type II diabetes in low income areas. Environmentally, the area is impacted by high freeway traffic, noise, and other impairments. The open space and recreational resources for these communities are far below the national average of 10 acres per 1,000 residents at an astonishing 0.5 acres per 1,000 residents.

This project will provide a direct and lasting health benefit to disadvantaged residents by providing a recreational parkway to enjoy the river environment, offering educational opportunities for all ages, enhancing community cooperation and connection, and inspiring conservation and greening.

2.7.12 Monitoring and Adaptive Management

Community outreach will be continued to ensure that the recreation opportunities provided are well received and enjoyed. Surveys will be conducted of community members using the greenbelt to record their responses regarding their use of the park amenities. Amigos de los Rios will monitor the vegetation survival rate, effectiveness of mulch and efficiency of irrigation, etc., using standard practices including mapping, field notes and field photography. In a log that will be posted on the internet, Amigos will track water budgets, as well as track the quantity of mulch, exact number of replacement trees and shrubs, etc. Community and youth corps partners will assist with monitoring and maintenance.

The following success indicators will be employed:

- Percentage of successful establishment per season
- Target water conservation budget
- Recreational use statistics
- Water Quality Monitoring for green BMP's in some locations
- Return of native fauna
- Department of Fish and Game's official measurements
  - o 3rd year - cannot use supplemental irrigation
  - o 5th year - 90% coverage of native and 5% of non-native and non-exotics in the habitat areas
- Seasonal reports on planting, budgets and habitat will be made available to the twelve cities and County served by the project.
- To ensure effective planting for other greening areas, structure and coverage will be examined annually
- Success will be measured by return of native species, visible improvements to the entire lake area, attendance records and usage
- Positive sociological impact will be noted in crime reduction, joint community efforts, improved air quality, and lower water usage in the surrounding area

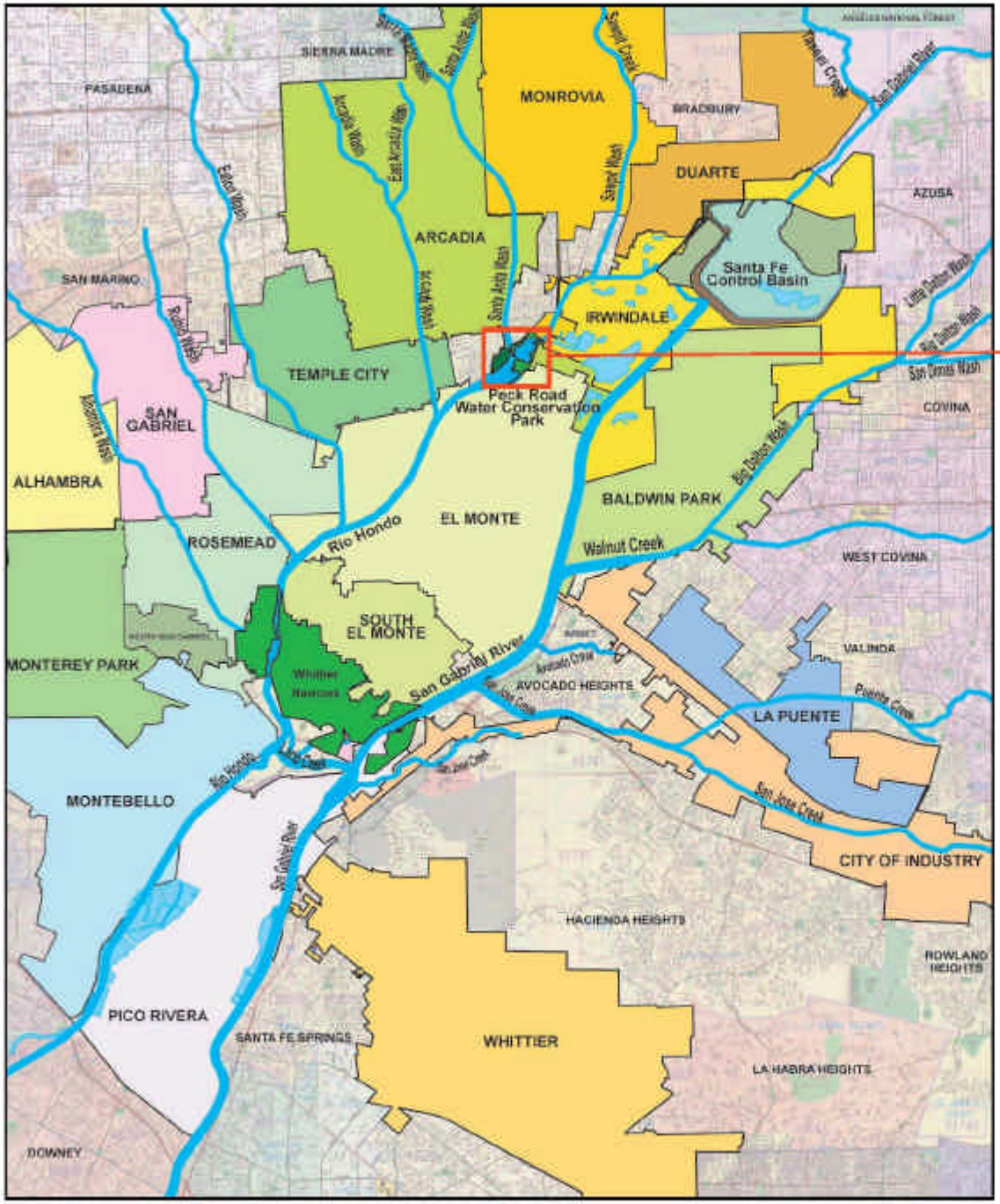
An adaptive management plan will be employed to assure success. Planting will be done in two or more phases and the mortality rate of each season's plantings and the effectiveness of the mulch and irrigation will be measured. Based on monitoring results, the plant palette, mulching routine and irrigation practices will be adapted to reflect performance. Based on community survey input, we will change the recreation amenities accordingly. An adaptive management plan will be developed for green BMPs and for the native landscaping. Successive plantings will be adjusted in accordance with what has shown to have the best

success rate. The plan will assess and monitor effectiveness of the BMPs. Appropriate measures will be taken as a result of the monitoring

2.7.13 State and Federal Political Districts

The Peck Water Conservation Park project is located within the following political districts:

- Congressional District: 26th
- State Assembly District: 44th
- State Senate District: 29th

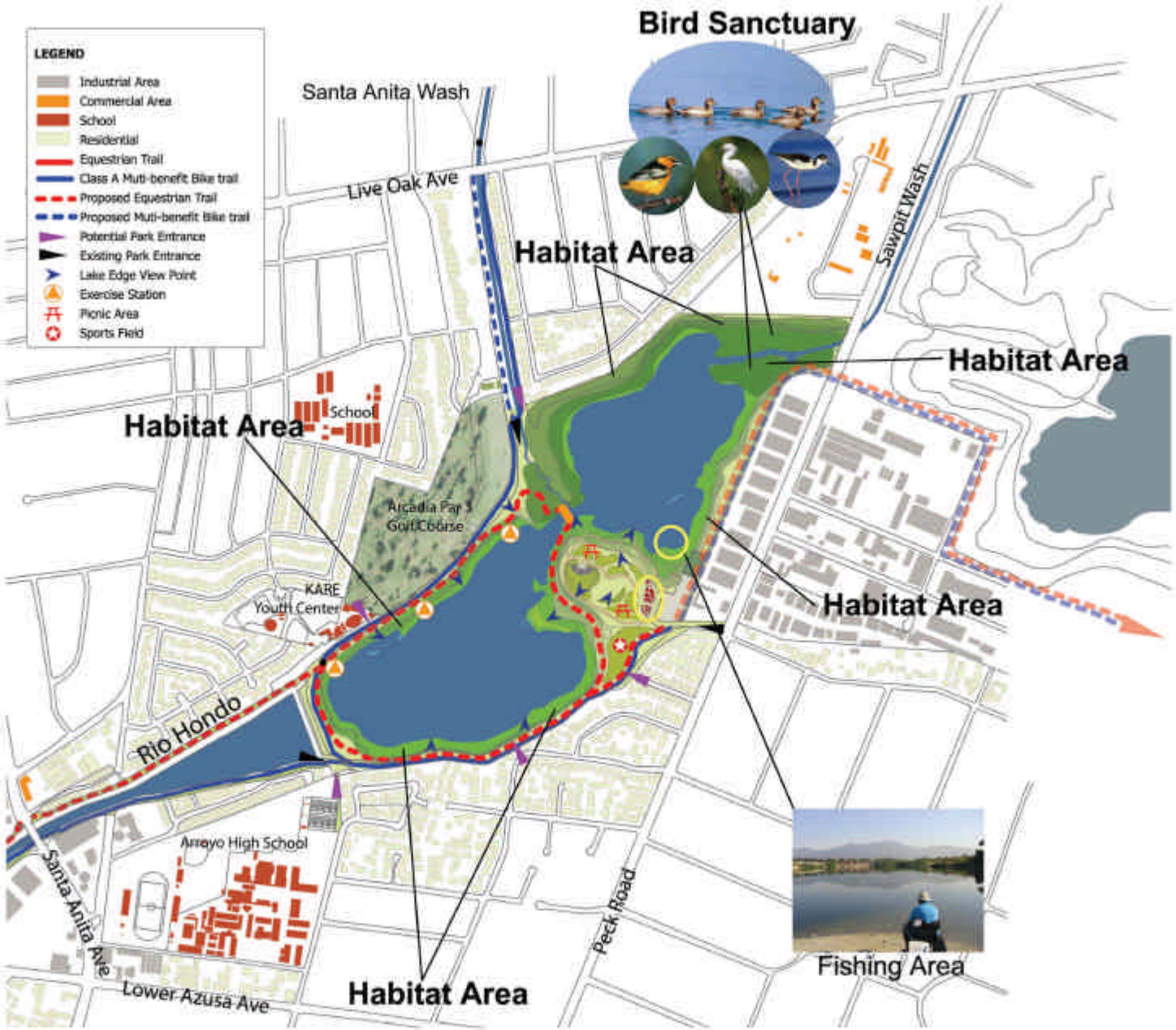


Peck Road Water Conservation Park

Emerald Necklace Cities Map

Peck Road Water Conservation Park

Amigos de los Rios

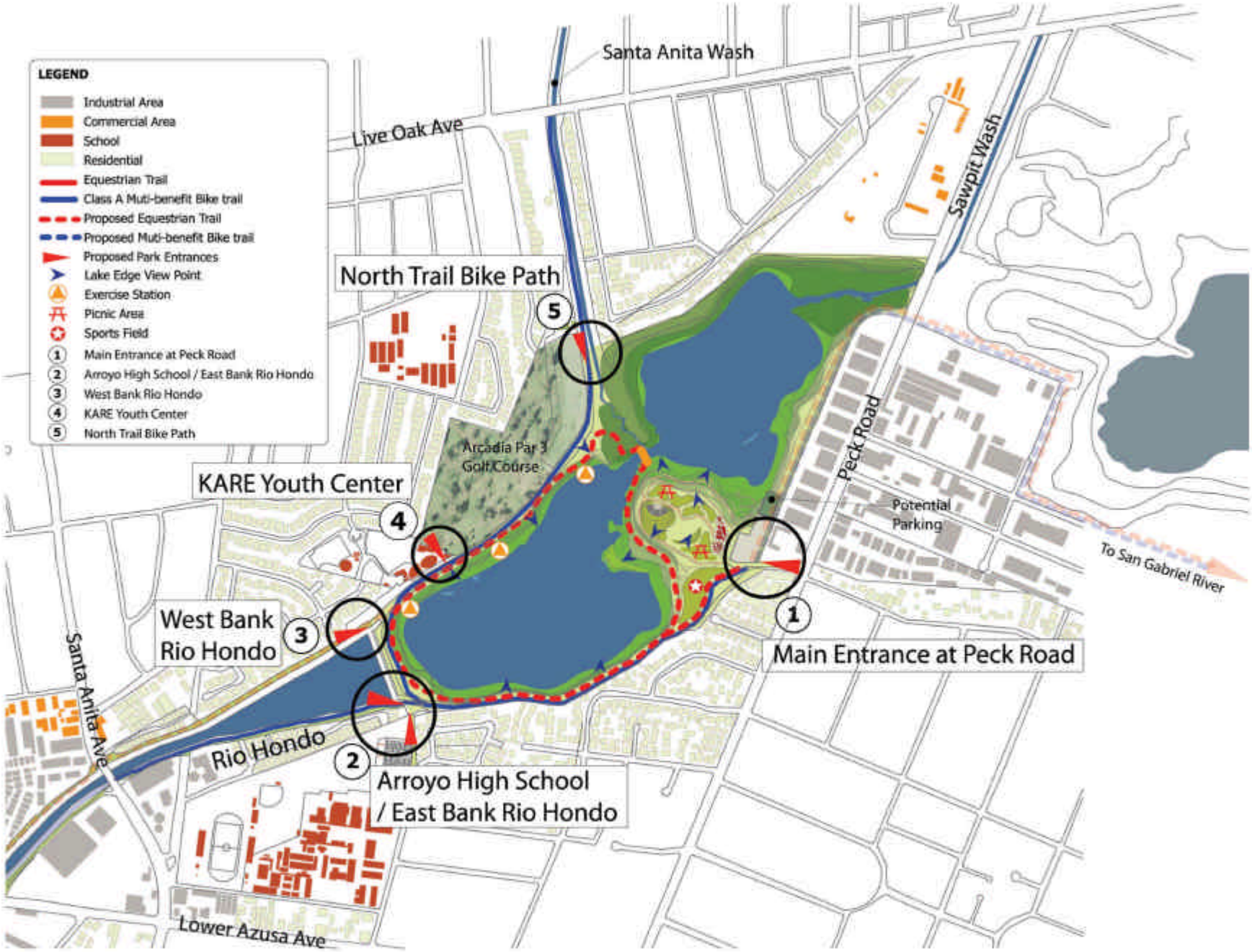


Greening and Habitat Enhancement Areas
Peck Road Water Conservation Park

Amigos de los Rios

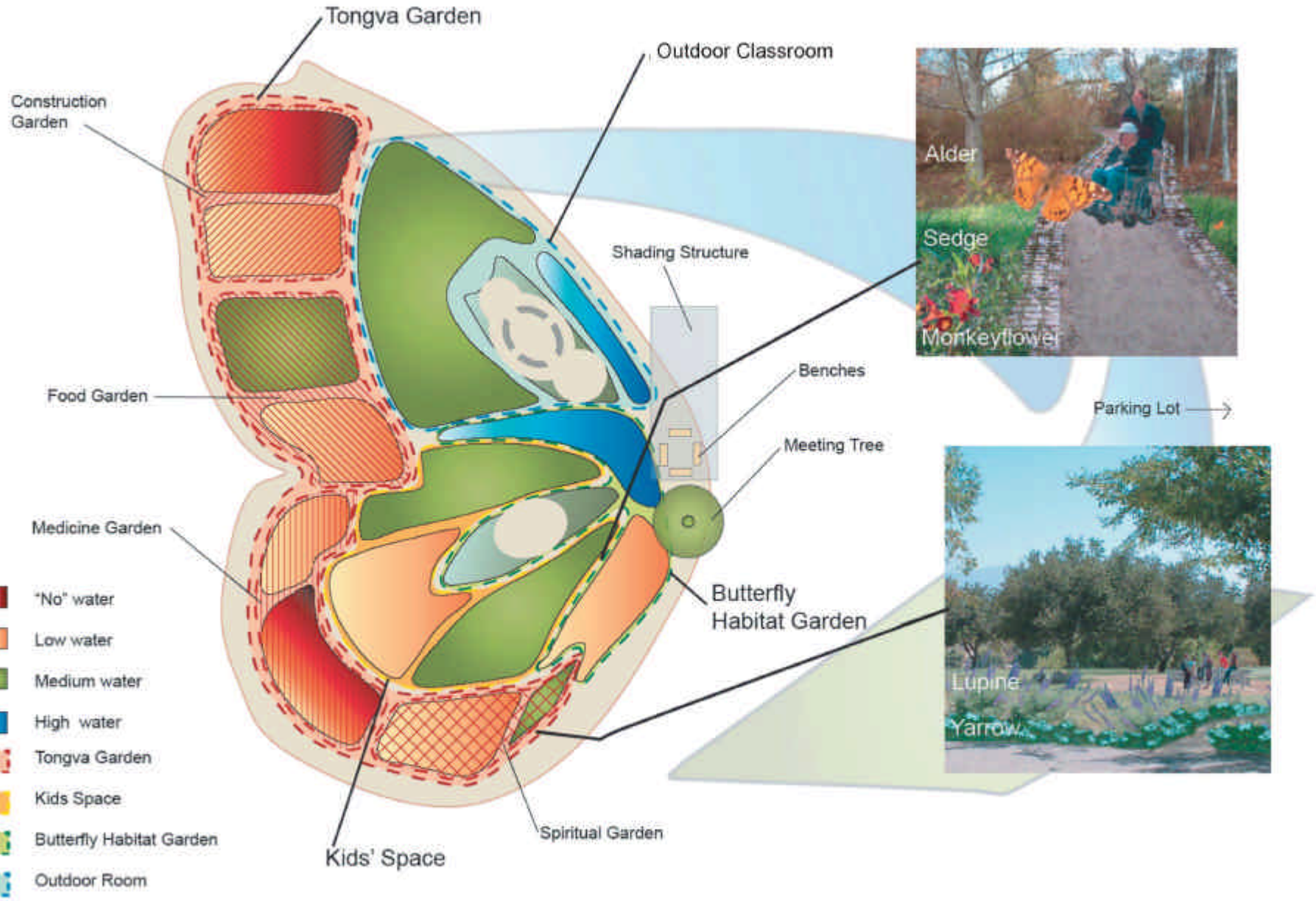
Nature Trail
Peck Road Water Conservation Park

Amigos de los Rios



Gateways to the Community
Peck Road Water Conservation Park

Amigos de los Rios



Water Conservation Demonstration Garden
Peck Road Water Conservation Park

Amigos de los Rios

2.8 SOUTHEAST WATER RELIABILITY PROJECT, PHASE I WATER RECYCLING

Project Lead: Central Basin Municipal Water District
Total Project Cost: $15,230,720
Grant Funding Requested: $7,615,360
Schedule: February 2005 to August 2009

2.8.1 Project Description

The Los Angeles basin is an arid region, subject to drought conditions. For the last six years, the Colorado River has been in a state of drought. Because of this situation, many water agencies throughout the region have implemented various strategies to reduce their dependence on imported water. One such strategy is to use reclaimed water for non-potable applications. Central Basin currently reclaims, recycles and distributes approximately 4,000 acre-feet per year throughout its region via the Central Basin Water Recycling System that extends from southeast Los Angeles County south to Bellflower and northwest up to the City of Vernon.

Central Basin Municipal Water District's (Central Basin) Southeast Water Reliability Project, Phase I will continue to reclaim secondary treated wastewater from the Los Angeles County Sanitation Districts' (LACSD) San Jose Creek Water Reclamation Plant (WRP) and treat it to Title 22 standards (tertiary) to distribute it through a newly constructed pipeline to various users in the cities of Pico Rivera and Montebello. The Project will ultimately serve approximately 28 public and private sites along the main stretch of pipeline, as well as the lateral lines that will eventually be constructed. Approximately 800 acre-feet of recycled water will be distributed to customers in the cities of Pico Rivera and Montebello, thereby decreasing the need for that amount of imported water from the State Water Project and the Colorado River. The Project includes approximately 24,000 linear feet (4.5 miles) of pipeline and a pump station located at the terminal point, the Montebello Golf Course.

The next phase (Phase II) of this pipeline, which is not being submitted as part of this implementation proposal, stretches to the City of Vernon and will potentially serve up to 100 total sites for an additional 4,800 acre-feet, bringing the total for Phase I and II to 5,600 acre-feet. In order for Phase II to be constructed, Phase I must be in place because this will enable the entire Central Basin Water Recycling System to be connected. Connecting (looping) the Central Basin's existing regional recycled water distribution system will increase flow and pressure in many areas of the distribution system that are not adequately served today. In addition, the project will provide recycled water to new customers in several cities.

The expansion of the distribution system will greatly encourage customers that use high valued imported water for non-potable purposes such as landscape irrigation, commercial, and industrial use, to instead take advantage of using recycled water. The Project benefits over 1.5 million residents as well as the businesses served by Central Basin.

A figure that identifies the project area as well as potential customers that will utilize the recycled water follows Section 2.8.13 of this Attachment. Following this figure is a map that identifies the entire project area for Phases I and II.

2.8.2 Location

The project will serve users in the Cities of Pico Rivera and Montebello within the Rio Hondo subwatershed, which is part of the larger Los Angeles River Watershed. The approximate longitudinal and latitudinal coordinates are 188° W 17' and 34° N 50', respectively.

2.8.3 Goals and Objectives

The Project's ultimate goal is to reduce the need to import water from the Colorado River and the State Water Project by reclaiming treated wastewater for use as recycled water for non-potable purposes, such as landscape irrigation and commercial and industrial uses. As a result of this Phase I project, approximately 800 acre-feet will be produced locally via wastewater from the San Jose Creek Water Reclamation Plant. This project would also utilize water that would otherwise be discharged into the San Gabriel River and out to the ocean, thus improving the water quality of these waterbodies.

2.8.4 Water Management Strategies

The proposed project implements the IRWM Program's water management strategy objectives in the following ways:

Water Supply Reliability / Imported Water / Water Recycling

This project will protect local groundwater by utilizing an existing source of water - treated wastewater. The San Jose Creek Water Reclamation Plant reclaims wastewater and treats it to Title 22 standards for recycled water purposes. By utilizing this tertiary treated water for non-potable purposes, less treated wastewater will be discharged into the San Gabriel River and ultimately into the ocean.

One of the project's objective is to supply recycled water for non-potable use for landscape irrigation in an area that is near a wastewater treatment plant. An extra 800 acre-feet per year of recycled water provides potable water for approximately 1,600 families every year and reduces the amount of treated wastewater that is discharged into the ocean. Recycled water is beneficial in many different ways, including: providing economic benefits to the cities that purchase recycled water, reducing demand on the Colorado River and the Bay-Delta, reducing the impact of wastewater on the ocean environment, reducing the amount of fertilizer in urban runoff, and providing a reliable supply of water.

Recycled water is a reliable source of non-potable water for irrigation, industrial and commercial use. Unlike imported water, recycled water is produced locally and is available for use year round as long as there is wastewater available. Water supply reliability is employed in this project because the use of recycled water is always available as long as there is a means of receiving it, therefore making it much more reliable than imported water. Recycled water is a "drought-resistant" source of water that can be used for non-potable purposes, most commnly ofr landscape irrigation.

Water Quality Protection and Improvement / Water and Wastewater Treatment

There are multiple benefits that can be achieved by using reclaimed water for recycling purposes. For example, this project directly improves the water quality of the San Gabriel River and the ocean by reducing the amount of treated wastewater that enters into them.

Using treated wastewater from the San Jose Creek Plant can alleviate two burdens: the burden of obtaining imported water and the burden of discharging secondary treated wastewater into the river and the ocean. By discharging less secondary treated wastewater into the river and ocean, there will be an improvement in water quality which positively affects the quality of life for the residents and the environment, including the local and regional habitat

This benefits the region as a whole because the water is reused for non-potable purposes, and recharged into the groundwater basin through percolation from the irrigation applications. This project will utilize 800 acre-feet of treated wastewater that would otherwise be discharged into

the River that leads to the ocean. Therefore, it is beneficial to reclaim the wastewater and treat it to Title 22 standards to be used for non-potable purposes.

2.8.5 Consistency with IRWM Plan and other Regional Planning Documents

This project is identified in the Central Basin Water Recycling Master Plan that was completed in August 2000 and is currently being updated. This project is also consistent with the many of the IRWM goals and objectives that have been identified the Regional Objectives table in Section 4.2 of the Framework IRWM Plan, Attachment 3, included in this implementation proposal.

2.8.6 Stakeholder Involvement

Central Basin has received letters of intent from the cities of Pico Rivera and Montebello to purchase recycled water via this pipeline. The Montebello Golf Course, the terminal user, has already retrofitted its site to hook up to recycled water; therefore, the Phase I pipeline will be ready to serve this customer upon completion. The other sites that intend to use recycled water will need to have laterals built off of the main pipeline in order to receive the recycled water.

2.8.7 Regional Economic, Environmental, and Fiscal Impacts

Providing recycled water to users along the pipeline will enable those users to receive a lower rate as an incentive to convert to using recycled water rather than importing water for irrigation and commercial and industrial uses. Since recycled water has become economically viable compared to the cost of potable water and is readily available, there is a strong economic incentive for businesses in this area to use recycled water. Central Basin's wholesale recycled water rates are lower than potable water rates to encourage recycled water use. Generally, the cost of producing recycled water typically exceeds the current price of imported water purchased from the Metropolitan Water District of Southern California (MWD). However, financial incentives from MWD to Central Basin to develop local supplies make it possible to wholesale recycled water at rates less than imported water.

The more water that is reclaimed from the San Jose Creek Water Treatment Plant, the less discharge of secondary treated wastewater that goes into the San Gabriel River and out into the ocean. This strategy will improve water quality, which positively affects the environment, including the local and regional habitat.

This project is a capital investment project for Central Basin because Central Basin will be constructing the pipeline necessary to serve recycled water to users instead of using imported water from MWD. Because this as an extensive and costly project, a large capital investment is needed to support the effort.

2.8.8 Scientific Basis

Recycled water supplied by the LACSD to Central Basin's recycled water pipeline system is an advanced-treated water whose origin is domestic wastewater treated to Title 22 standards. It is colorless and odorless and is allowable for human contact, but not for human consumption. The County of Los Angeles Department of Health Services, the State Department of Health Services Environmental Management Branch and the Los Angeles County Regional Water Quality Control Board established governing codes, regulations and rules for end use of recycled water, Title 22. Central Basin (wholesaler) and purveyors (retailers) enforce these regulations/rules and governing codes for all facilities using recycled water.

Water quality regulations are an important factor in Central Basin's water management activities. Central Basin relies on the LACSD to meet all applicable state and federal water quality regulations for the recycled water it purchases and distributes through its systems.

The Title 22 treated recycled water will be distributed to customers along the pipeline. As a result, less water will need to be imported to Southern California via the Colorado River and the State Water Project. This allows more water to remain in these systems to be utilized for other purposes, providing an overall benefit within and outside this Region.

2.8.9 Relation to other Grant Funded Projects

This project is not directly related to any other grant funded projects; however it is part of a larger project, as briefly described earlier. The Southeast Water Reliability Project is a two-phase project, providing recycled water along a 12-mile stretch of pipeline. Phase I will distribute approximately 800 acre-feet to customers along this stretch of the pipeline (4.5 miles) and Phase II will distribute approximately 4,800 acre-feet to customers along this stretch of pipeline (7.5 miles). Phase I will serve customers in the cities of Pico Rivera and Montebello, while Phase II will serve customers in the cities of Commerce, a portion of East Los Angeles, and Vernon.

The primary objective of Phase II is to supply approximately 4,800 acre-feet per year of recycled water to customers within three cities. Of that amount, approximately 4,000 acre-feet per year are used by the City of Vernon alone due to the large industrial use. By constructing the Phase I and Phase II projects, approximately 5,600 acre-feet per year will be delivered. The recycled water distribution system will be a completely looped system to supply most of the cities in Central Basin with recycled water. This will reduce the amount of treated wastewater that is discharged into the San Gabriel River and, ultimately, to the ocean. Phases I and II of this project will also save approximately 5,600 acre-feet per year of imported water from northern California and the Colorado River, thereby reducing demand and creating a reliable source of water.

2.8.10 Critical Impacts if Project is not Implemented

If the project is not implemented, then the users in the cities would continue to use groundwater or imported water to meet their demands. By providing recycled water as an option at a lower rate, the users will save money and potable water.

2.8.11 Disadvantaged Community Benefits

Phase I of the project will be constructed through less affluent communities. The City of Montebello and Pico Rivera do not meet the standard for disadvantaged community status, 80% of the median household income level ($37,994), although the City of Montebello is very close to that median income figure at $38,805. On the other hand, the extension of this project (Phase II) to the City of Vernon does impact disadvantaged communities. The East Los Angeles community and the City of Commerce are both considered disadvantaged communities, having a median household income level of $28,544 and $34,040, respectively. The numbers are based on the 2000 United States census. The City of Vernon is not considered to be a disadvantaged community; however, the cities surrounding the project are, including: Maywood, Huntington Park, Bell, and Bell Gardens, just to name a few. The third figure presented, following Section 2.8.13 of this Attachment, shows the disadvantaged cities and median household incomes for the cities within the Central Basin service area.

2.8.12 Monitoring and Adaptive Management

During construction of the main recycled water pipeline, design, analysis, and development of recycled water laterals will be in process to allow for immediate connection of selected users.

It is anticipated that the Montebello Golf Course will be connected in approximately 3-4 months after completion of the Phase I pipeline, as the golf course water supply system is largely retrofitted for recycled water. The remaining potential recycled water customers will be targeted for ease of connection in each of year one through five following pipeline construction. A total of 28 sites have been identified as potential sites for recycled water. These sites will be connected and will use recycled water within five years after construction of the pipeline. While laterals are being constructed and connected to customers along the main pipeline, Phase II will be underway.

Central Basin tracks how much water will be purchased from LACSD and distributed to each customer site. Each site that uses the recycled water will keep a monthly record of the amount of recycled water used, and will provide Central Basin that information.

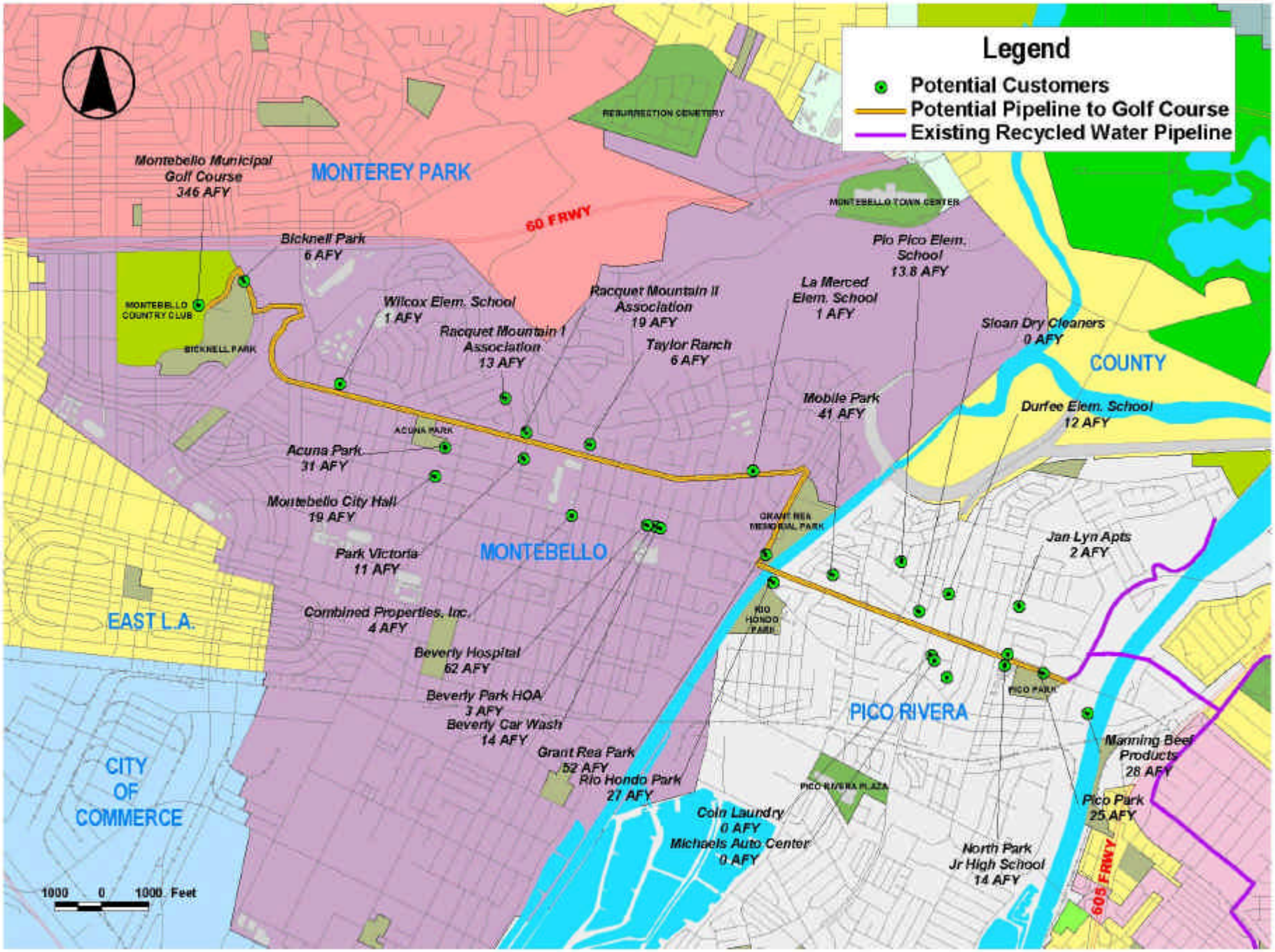
Technical analyis of the recycled water that is distributed and used along this pipeline is evaluated every month as the data is received. A water recycling permit is required by the Regional Water Quality Control Board to measure constituents. Quarterly and annual reports are submitted by LACSD.

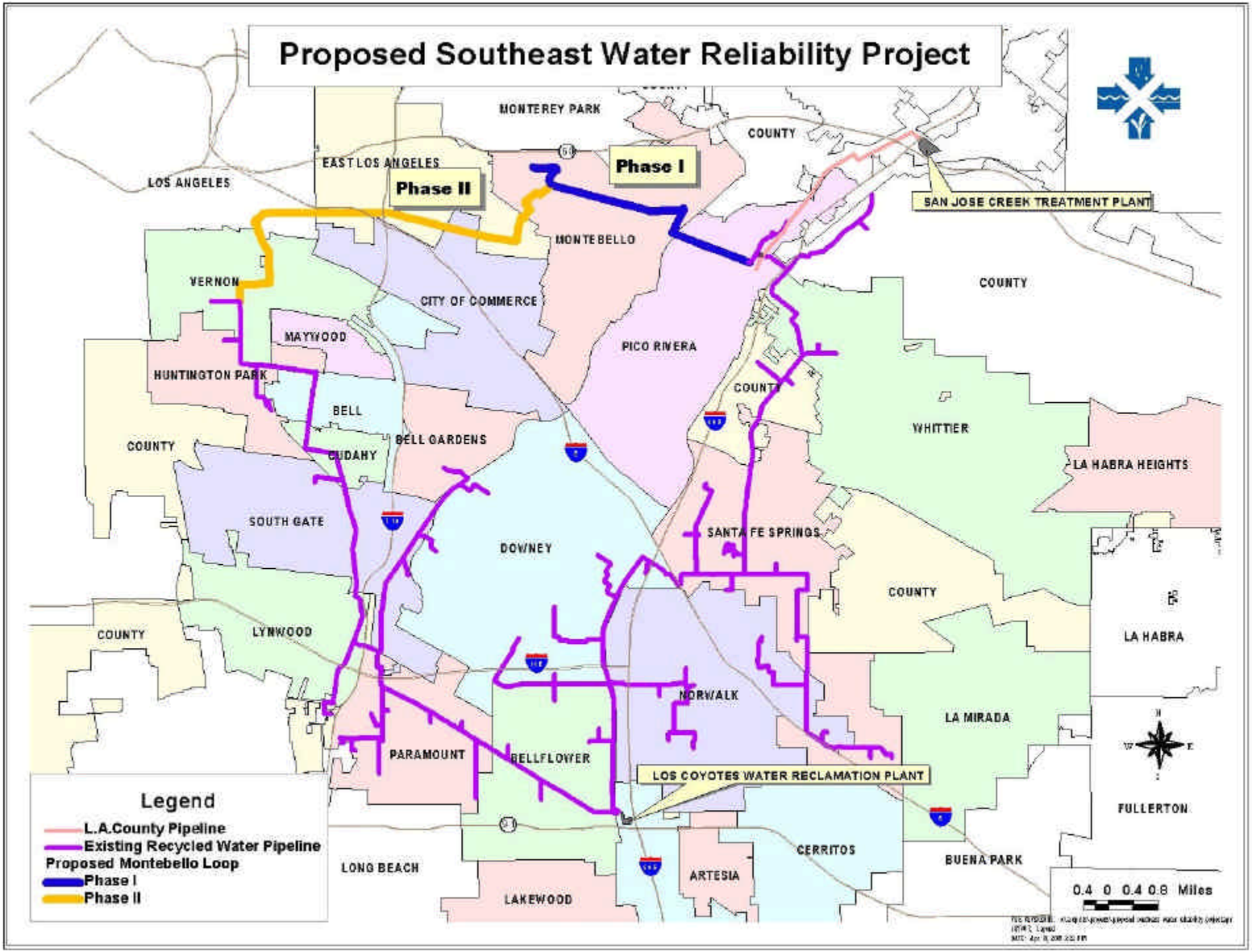
Since this project is a water supply improvement project, the project will be measured by the amount of recycled water that is distributed to customers. The success of the project will be measured by the amount of imported water replaced by recycled water by sites along the distribution pipeline.

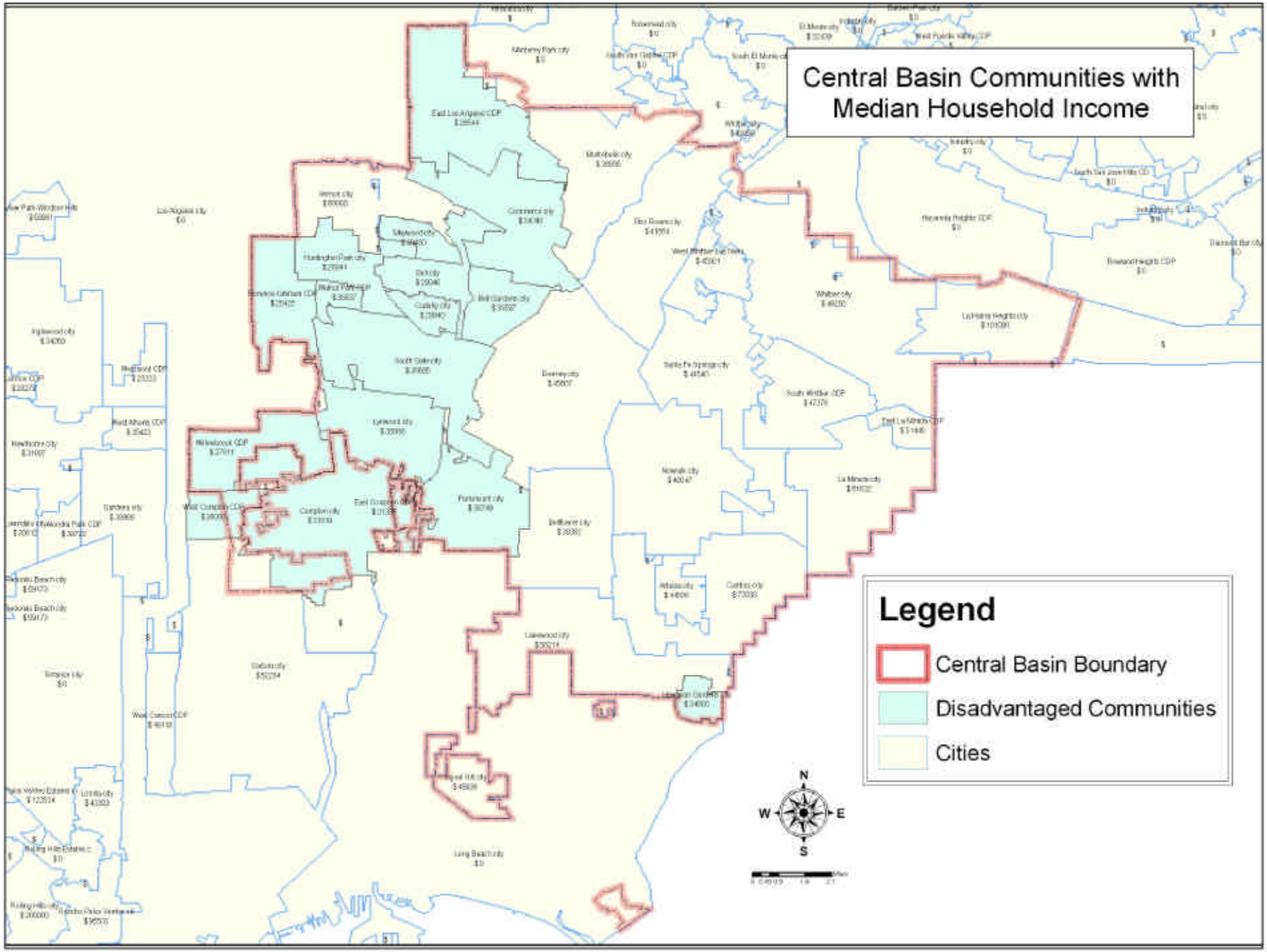
2.8.13 State and Federal Political Districts

The Southeast Water Reliability Project, Phase I Water Recycling is located within the following political districts:

- Congressional District: 38th
- State Assembly District: 58th
- State Senate District: 30th


Legend
Potential Customers
Potential Pipeline to Golf Course
Existing Recycled Water Pipeline
MONTEREY PARK
MONTEBELLO
EAST L.A.
CITY OF COMMERCE
PICO RIVERA
COUNTY
60 FRWY
605 FRWY
RESURRECTION CEMETERY
MONTEBELLO TOWN CENTER
MONTEBELLO COUNTRY CLUB
BICKNELL PARK
ACUNA PARK
GRANT REA MEMORIAL PARK
RIO HONDO PARK
PICO PARK
PICO RIVERA PLAZA
Montebello Municipal Golf Course 346 AFY
Bicknell Park 6 AFY
Wilcox Elem. School 1 AFY
Racquet Mountain I Association 13 AFY
Racquet Mountain II Association 19 AFY
Taylor Ranch 6 AFY
La Merced Elem. School 1 AFY
Rio Pico Elem. School 13.8 AFY
Sloan Dry Cleaners 0 AFY
Durfee Elem. School 12 AFY
Mobile Park 41 AFY
Acuna Park 31 AFY
Montebello City Hall 19 AFY
Park Victoria 11 AFY
Combined Properties, Inc. 4 AFY
Beverly Hospital 62 AFY
Beverly Park HOA 3 AFY
Beverly Car Wash 14 AFY
Grant Rea Park 52 AFY
Rio Hondo Park 27 AFY
Coin Laundry 0 AFY
Michaels Auto Center 0 AFY
Jan Lyn Apts 2 AFY
Manning Beef Products 28 AFY
Pico Park 25 AFY
North Park Jr High School 14 AFY
1000 0 1000 Feet


Proposed Southeast Water Reliability Project
MONTEREY PARK
COUNTY
EAST LOS ANGELES
LOS ANGELES
Phase I
Phase II
SAN JOSE CREEK TREATMENT PLANT
MONTEBELLO
VERNON
CITY OF COMMERCE
COUNTY
MAYWOOD
PICO RIVERA
HUNTINGTON PARK
COUNTY
BELL
BELL GARDENS
CUDAHY
WHITTIER
LA HABRA HEIGHTS
COUNTY
SOUTH GATE
DOWNEY
SANTA FE SPRINGS
COUNTY
LA HABRA
COUNTY
LYNWOOD
NORWALK
LA MIRADA
PARAMOUNT
BELLFLOWER
LOS COYOTES WATER RECLAMATION PLANT
FULLERTON
CERRITOS
LONG BEACH
ARTESIA
BUENA PARK
LAKEWOOD
0.4 0 0.4 0.8 Miles
Legend
L.A.County Pipeline
Existing Recycled Water Pipeline
Proposed Montebello Loop
Phase I
Phase II


Central Basin Communities with Median Household Income
Legend
Central Basin Boundary
Disadvantaged Communities
Cities
N
W
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2.9 WHITTIER NARROWS CONSERVATION POOL

Project Lead: Water Replenishment District of Southern California
Total Project Cost: $3,966,200
Grant Funding Requested: $3,569,580
Schedule: February 2005 to August 2009

2.9.1 Project Description

The Whittier Narrows Dam provides flood control, recreation and water conservation for Los Angeles County. Construction of the dam was completed in March 1957; and, since that time, the dam has provided a reliable means of capturing stormwater flows that would otherwise be wasted to the ocean. These captured stormwater flows are later released and conserved in the Montebello Forebay Spreading Grounds for groundwater replenishment purposes.

Upon completion of the dam in 1957, a 1,000 acre-foot conservation pool was established at an elevation of 195.5 feet. The maximum amount of water that could be released was 600 cubic feet per second. In 1977, the conservation pool was increased to 2,500 acre-feet by increasing the conservation pool elevation to the present maximum of 201.6 feet. The 201.6 foot elevation has not been used in recent years due to potential contamination from oil wells that would be inundated if the maximum elevation were reached. Lawsuits filed by the County of Los Angeles Department of Public Works (LACDPW), of which the Water Replenishment District of Southern California (WRD) was a party, have recently been settled and the oil wells were properly abandoned in 2004. The abandonment of these wells allows the 201.6 foot elevation to be safely utilized without risk of compromising water quality.

The U.S. Army Corps of Engineers (USCOE) is interested in further expanding the conservation elevation above the 201.6 foot maximum. In July 1998, the USCOE and the Los Angeles County Flood Control District completed the Los Angeles County Drainage Area Water Conservation and Supply Santa Fe – Whittier Narrows Dams Feasibility Study (Study). The purpose of this Study was to investigate the water conservation potential of the two dams by identifying alternatives for further study and recommending an implementation plan.

The preferred alternative recommends increasing the conservation pool elevation of the Dam to 209.0 feet, resulting in an estimated increase in local storm water conservation of 2,900 acre-feet per year. The preferred alternative identified in the Study involves modifications to facilities and infrastructure that would be adversely affected at the 209.0 foot level. The plan would use the existing conservation pool, up to an elevation of 201.6 feet, for water conservation during the flood season. During the flood season, impounded water would be allowed to encroach upon the flood pool – up to elevation 209 feet – for water conservation purposes; this is termed the buffer pool. During the non-flood season, water would be held up to elevation 209 feet for water conservation purposes; this is termed the seasonal pool. The buffer and seasonal pools would have a storage volume of approximately 5,777 acre-feet at elevation 209 feet. This would result in an increase of 2,900 acre-feet in the average annual water yield.

To accommodate an increase in the conservation pool elevation, nearby infrastructure would require modification. In general, the elevation of two roadways adjacent to the dam would need to be increased. Additionally, mitigation measures would be required to ensure no negative impacts to the Whittier Narrows Water Reclamation Plant (WRP), Bosque del Rio Hondo Park, and regional trails within the Whittier Narrows area. Descriptions of these are provided in the Study.

2.9.2 Location

The project is located in the Whittier Narrows area, which is within both the Rio Hondo subwatershed (part of the larger Los Angeles River Watershed) and the San Gabriel River watershed. The approximate longitudinal and latitudinal coordinates are 118^{o} 04' 05" and 34^{o} 01' 43", respectively.

A figure identifying the location of the Whittier Narrows Conservation Pool project follows Section 2.9.13 of this Attachment.

2.9.3 Goals and Objectives

The primary goals addressed by this project are increased utilization of local water resources and increased water supply reliability. It is estimated that this project will result in the conservation of 2,900 acre-feet per year, which would directly offset imported water purchases currently made by WRD.

Project objectives include:
- Maximize use of water sources
- Optimize water resources to reduce dependence on imported water
- Provide basin replenishment to reduce dependence on imported water
- Maximize opportunities to capture local water in wet years to reduce dependence on imported water
- Maximize water conservation opportunities to reduce dependence on imported water

2.9.4 Water Management Strategies

The proposed project implements the IRWM Program's water management strategy objectives in the following ways:

Water Supply Reliability / Water Conservation / Imported Water / Groundwater Management

This project conserves local water resources by increasing the conservation pool capacity behind the Whittier Narrows Dam, thereby allowing an additional 2,900 acre-feet per year to be conserved rather than wasted to the ocean. This water stored in the conservation pool will slowly be released from behind the dam for conservation in the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds and, ultimately, for use by the Central Basin groundwater producers.

This project increases reliability by offsetting imported water demands at the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds with a local water source, thereby reducing the region's reliance on imported water supplies. This project will also aid WRD in continuing its groundwater management function by providing local water resources for conservation at the spreading grounds.

Stormwater Capture and Management / Water Quality Protection and Improvement

This project improves water quality by capturing urban water runoff that would otherwise be wasted to the ocean. By conserving this water in the spreading grounds, the natural soil-aquifer treatment that occurs produces potable water available for extraction by Central Basin groundwater producers.

This project will also improve stormwater management by allowing additional stormwater to be captured and retained behind the Whittier Narrows Dam.

2.9.5 Consistency with IRWM Plan and other Regional Planning Documents

The Whittier Narrows Conservation Pool Improvements project is included in WRD's Strategic Plan and 5-Year Capital Improvement Plan. It is also part of the Los Angeles County Drainage Area Water Conservation and Supply Santa Fe – Whittier Narrows Dams Feasibility Study.

The project is also consistent with the many of the IRWM objectives that have been identified in the Regional Objectives table in Section 4.2 of the Framework IRWM Plan, Attachment 3, of this implementation proposal:

2.9.6 Stakeholder Involvement

In order to implement this project, WRD will work closely with the USCOE in the development of a new operational manual for the dam when the improvements are implemented. WRD will also work closely with the Los Angeles County Flood Control District, which own and operate the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds. In addition, the Sanitation Districts of Los Angeles County (LACSD) operate the Whittier Narrows WRP located within the project area. WRD will coordinate with LACSD to ensure that mitigation measures are in place to prevent any impact to the WRP. Finally, WRD will coordinate with the County of Los Angeles Department of Parks and Recreation, who maintain the recreational functions within the Whittier Narrows area, to prevent impacts to the recreational and public use functions of this area.

2.9.7 Regional Economic, Environmental, and Fiscal Impacts

The regional impacts of the project are best characterized by the reduced imported water purchases that WRD will be required to make. Based on current imported water costs of $275 per acre-foot, this project will save WRD nearly $800,000 per year. This annual savings of $800,000 per year will be passed on to the nearly four million water users within WRD's service area.

This project helps meet long-term regional water management needs by reducing the region's reliance on imported water sources and conserving an additional 2,900 acre-feet per year of stormwater that would otherwise be lost to the ocean.

This project also protects source water for the region by reducing the reliability of the region on imported water sources, which may be curtailed during periods of drought.

2.9.8 Scientific Basis

The scientific basis for this project is that by increasing the conservation pool behind Whittier Narrows Dam, additional stormwater can be stored and released at a rate equal to the infiltration rate at the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds. Without this project, this water would be released at a much faster rate, thereby eliminating the possibility for conserving it in the groundwater basin. Instead, the water would be wasted to the ocean. The conservation pool behind Whittier Narrows Dam already exists; this project would simply increase its capacity and enable an additional conservation of 2,900 acre-feet per year to be conserved in the groundwater basin.

2.9.9 Relation to other Grant Funded Projects

This project is directly related to the Invasive Weed Control in Riparian Habitat project, included within this implementation proposal. Increasing the amount of water conserved within the Whittier Narrows area complements the objectives of invasive weed removal. In addition, the Whittier Narrows Water Reclamation Plant UV Disinfection Facilities project within this

proposal will improve the quality of surface water that flows to the Whittier Narrows Conservation Pool to be used for groundwater recharge.

The project will also be coordinated with other grant funded projects within the Whittier Narrows area, including Bosque del Rio Hondo, funded through County of Los Angeles Proposition A, and Lario Creek Stream Enhancement, funded through Proposition 40 and the California Department of Water Resources' Urban Streams Restoration Program. In addition, water conservation is a key theme within the San Gabriel River Discovery Center, currently in development. Water conservation within the Whittier Narrows and Montebello Forebay area will likely be a theme within this future educational facility.

2.9.10 Critical Impacts if Project is not Implemented

The critical impact that will occur if the project is not implemented is the ongoing loss of a significant amount of stormwater (2,900 acre-feet per year) to the ocean that could be conserved if this project were implemented.

2.9.11 Disadvantaged Community Benefits

This project does not provide a direct benefit to disadvantaged communities although the increased water conservation and reduced reliance on imported supplies will provide an indirect benefit to the many disadvantaged residents in the San Gabriel Valley. This benefit will be realized through reduced water rates due to a reduced reliance on more costly imported water.

2.9.12 Monitoring and Adaptive Management

The success of the project will be measured in terms of WRD's ability to cost effectively reduce imported water purchases by 2,900 acre-feet per year. These benefits will be realized as soon as the project is completed. It is expected that WRD will reduce the amount of imported water purchased from the Metropolitan Water District (MWD) as a result of this project.

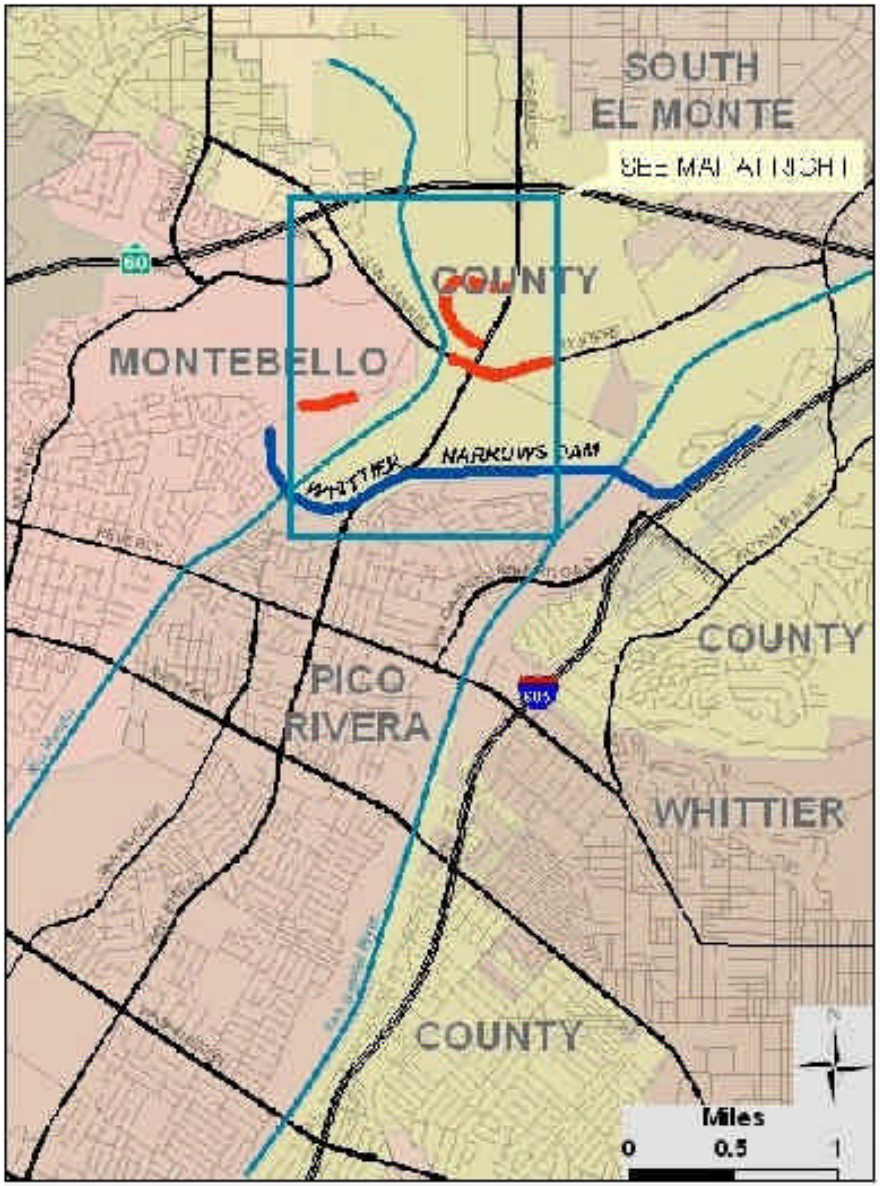
Post project operational variances are not expected since this project is simply utilizing water that is currently wasted to the ocean to offset imported water purchases at the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds.

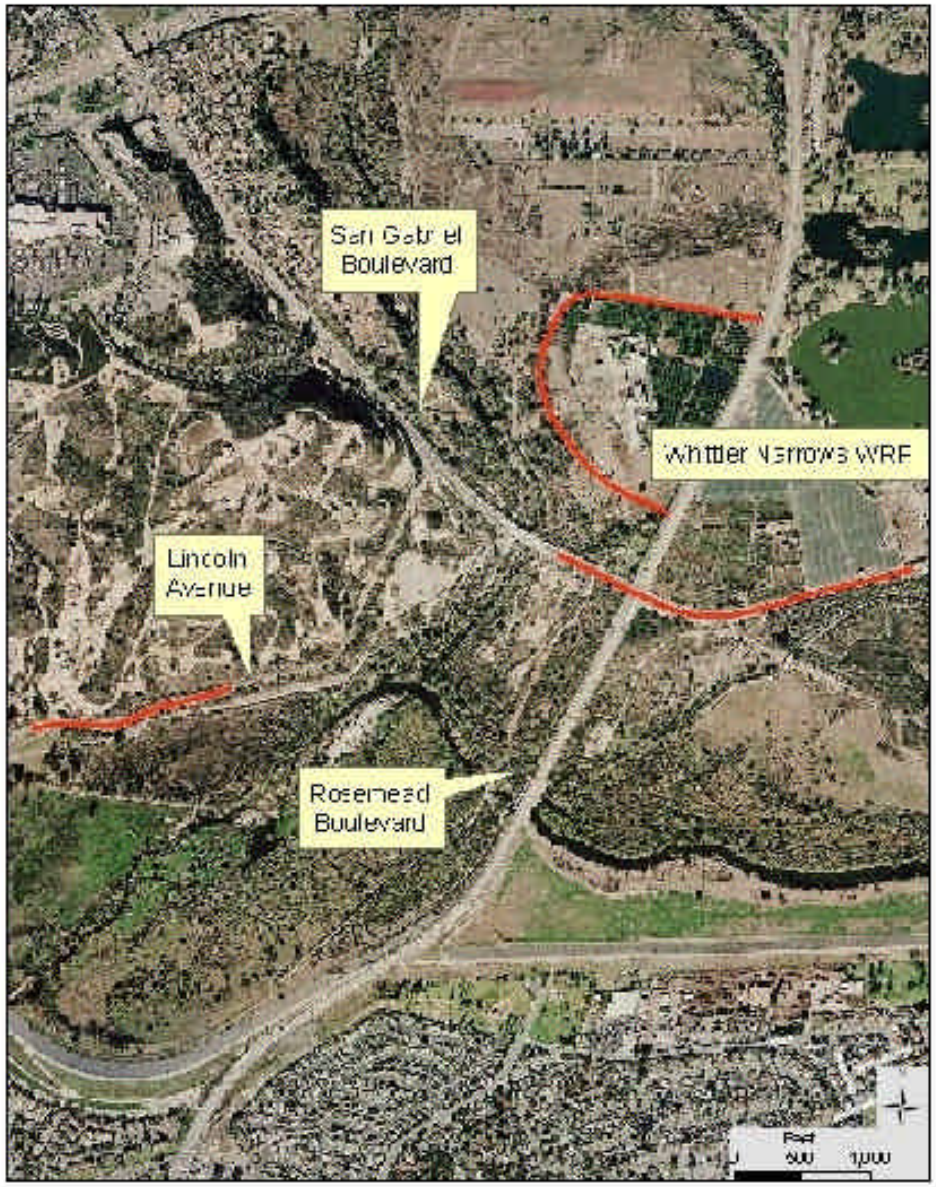
Data for the project will be tracked by the WRD as part of its annual Engineering Survey and Report. This report provides a summary of all groundwater related activities within the Central and West Coast Basins and is readily available on the WRD's web site.

2.9.13 State and Federal Political Districts

The Whittier Narrows Conservation Pool project is located within the following political districts:

- Congressional District: 32nd
- State Assembly District: 58th
- State Senate District: 30th





WRD
WATER REPLENISHMENT DISTRICT
OF SOUTHERN CALIFORNIA

Whittier Narrows Conservation Pool Project
Location Map

2.10 WHITTIER NARROWS WATER RECLAMATION PLANT UV DISINFECTION FACILITIES

Project Lead: City of Long Beach Parks, Recreation, and Marine
Total Project Cost: $6,550,000
Grant Funding Requested: $3,275,000
Schedule: January 2005 to June 2007

2.10.1 Project Description

This project would change the disinfection practices at the Whittier Narrows Water Reclamation Plant (WNWRP). Currently the tertiary-treated filtered effluent that this plant produces is disinfected to Title 22 standards by chloramination, which requires the addition of chlorine and ammonia. The vast majority of this water is currently discharged to the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds, where it is blended with other water supplies to recharge the groundwater in the Central Basin (Montebello Forebay groundwater recharge project). This groundwater, after subsequent pumping and treatment, ultimately becomes the drinking water supply for over one million residents in the greater Los Angeles area.

In the past few years, the Sanitation Districts of Los Angeles County (LACSD) has successfully converted, and continues to convert, a number of wastewater treatment plants similar to the WNWRP to a nitrogen removal process. Federal and State authorities mandated these changes, and implementation deadlines were required to be met. The new nitrogen removal process has been successful at lowering effluent ammonia levels, making the effluent less toxic to aquatic life. However, an unintended consequence of the newly implemented treatment process is that higher levels of N-Nitrosodimethylamine (NDMA) are produced in the final disinfection step. NDMA has been observed at the EPA's shallow groundwater monitoring wells in the Whittier Narrows area and has been linked to the WNWRP effluent. This project would change the disinfection practice from chloramination to one where the effluent is irradiated with ultraviolet (UV) light. UV disinfection is a more environmentally friendly disinfection alternative and one that naturally occurs with sunlight. UV disinfection will not only prevent NDMA generation, but will also destroy a significant portion of the NDMA that is normally in the effluent. This should restore the groundwater to lower NDMA levels that were typical before the nitrogen removal processes were implemented. Additionally, the UV process will reduce or eliminate other disinfection byproducts, including cyanide, residual chlorine, ammonia, and chloride.

Tthe UV disinfection at the WNWRP is a pivotal project because it is the first of many such projects at LACSD's water reclamation plants. The overall projected capital cost for the conversion of the seven water reclamation plants is approximately $100 million. Lessons learned from the WNWRP conversion will be used to perform UV modifications at the other plants in a cost-effective manner.

A figure identifying the location of the WNWRP and associated recharge and reuse sites follows Section 2.10.13 of this Attachment.

2.10.2 Location

The project is located in the Whittier Narrows area, which is within both the Rio Hondo subwatershed (part of the larger Los Angeles River Watershed) and the San Gabriel River Watershed. The approximate longitudinal and latitudinal coordinates are -118^{o} 04' 05" and 34^{o} 01' 58", respectively.

2.10.3 Goals and Objectives

In terms of Water Supply Reliability and Water Quality Protection and Improvement, this project's objectives will achieve the following:

- Maximizes the use of available water resources through the reuse of effluent meeting Title 22 regulations for unrestricted use that would otherwise be discharged to the ocean
- Protects and enhances water quality of the surface waters in two watersheds and two groundwater basins
- Optimizes water resources to reduce dependence on imported water by assisting in the reuse of approximately 13 million gallons per day of WNWRP effluent
- Provides a drought-proof water supply for groundwater recharge

In terms of Groundwater Management and Conjunctive Use, this project's objectives will achieve the following:

- Protects the existing use of WNWRP effluent to replenish the Central Basin while also protecting groundwater quality of the lower portion of the Main San Gabriel Basin
- Enables conjunctive use of surface and groundwater resources

In terms of Water Recycling, Water Reclamation and Water Conservation this project's objectives will achieve the following:

- Maximizes water recycling and water reclamation

2.10.4 Water Management Strategies

The proposed project implements the IRWM Program's water management strategy objectives in the following ways:

Water Supply Reliability / Water Conservation / Water Recycling / Groundwater Management / Imported Water

This project conserves local water resources by protecting the WNWRP effluent as a resource for beneficial use. By providing the necessary disinfection without the generation of unwanted disinfection byproducts, this will allow the tertiary-treated effluent of the WNWRP to continue to be recycled through groundwater recharge in order to reduce the need for imported water in this area. For every gallon of water that is not recycled, it has to be replaced with local water resources or imported water. That ultimately means less water for storage reservoirs and more susceptibility to drought.

Water reliability is increased because the WNWRP treats approximately the same volume of water every day to Title 22 standards, and thus can be considered to be a reliable and renewable resource. Currently the plant produces approximately 9 million gallons per day (MGD) of effluent. This is reduced from the permitted plant capacity of 15 MGD because of the nitrogen removal process that was implemented several years ago to comply with ammonia reduction requirements. Capital projects are in the design phase to increase plant capacity back up to 13 MGD. Assuming a per capita water demand of 100 gallons per day, recycled water from the WNWRP will sustain the water needs of 130,000 people in the Los Angeles area indefinitely. This project complements the capital investments that the LACSD has made, and continues to make, to discharge to receiving waters of the U.S. and perform their obligations to their ratepayers. The use of recycled effluent from WNWRP is complimentary to the conjunctive use and watershed planning efforts in the Region. Utilization

of recycled water for groundwater recharge makes the Region more drought-proof and less reliant on imported water.

The groundwater basins are fully adjudicated, meaning that certain amounts of water are withdrawn and recharged by law. The recharge consists of a blend of surface waters, release of reservoir impoundments, storm water and recycled water. Whatever shortfall occurs from local supplies must be made up with imported water, which has become increasingly more costly and scarce due to water rights issues with Northern California and in other states, and increased demand due to population growth.

Water Quality Protection and Improvement / Water and Wastewater Treatment

The UV disinfection project at WNWRP improves and enhances water quality in the following ways:

- With UV disinfection, NDMA will not be formed as it is currently during the existing disinfection process (chloramination).
- A significant amount of NDMA that is naturally formed during the wastewater treatment process, and unavoidably present in the influent waste stream, will be destroyed.
- Ammonia, which is a target compound known to affect aquatic life, will not have to be added back to the disinfection process to make the disinfecting agent chloramine. Thus the overall amount of ammonia in the effluent will decrease, thereby enhancing protection of aquatic life.
- Cyanide compounds, which are also known to be produced during the chloramination process and for which lower limits are scheduled to go into effect in the next several years, will not be formed with UV disinfection and will allow the plant to meet all applicable NPDES and Title 22 standards.
- The level of chloride ions, which among other things, results from the addition of chlorine to water and is known to interfere with the reuse potential of water, will be lower with UV disinfection.
- UV disinfection also offers greater protection from Cryptosporidium and Giardia, both of which are difficult to inactivate with chlorination and have been associated with numerous waterborne outbreaks around the country.

LACSD has been researching the NDMA issue and UV disinfection for some time and is at the leading edge of decision-making in the wastewater industry. LACSD has collaborated with Federal and State authorities on the NDMA problem and this project reflects the aim to find a solution.

Watershed Planning / Wetlands Enhancement and Creation / Conjunctive Use

The local aquatic biology in the unlined portion of the Rio Hondo will be enhanced because of reduced ammonia and cyanide levels and the reduced potential for chlorine residual exceedences that can be caused by occasional instrument malfunction of the dechlorination equipment at the treatment plant. In addition, the conservation pool upstream of the Whittier Narrows Dam and the Zone 1 Ditch/Lario Creek are examples of riparian environments that will be enhanced by the change to UV disinfection.

The effluent from the WNWRP will be used to irrigate the Whittier Narrows Recreation Area, since the well that is currently operated by the County of Los Angeles Parks and Recreation will be shut down in the near future, as a groundwater contamination plume in the Main San Gabriel Basin is expected to affect it. This irrigation includes the park facilities and golf course. By enhancing the aquatic life in the Whittier Narrows Recreational Area, bird life will also be enhanced and other existing recreational facilities will be more enjoyable, such as river bike trails and nature centers.

The use of the WNWRP effluent for groundwater recharge over the course of over 40 years epitomizes the strategy of conjunctive use of surface and groundwater, in both the San Gabriel and Rio Hondo/Los Angeles River Watersheds. By combining the use of surface water, storm runoff and recycled water, the water supply/demand balance of the watershed is optimized. This project seeks to protect the continued strategy of conjunctive use.

2.10.5 Consistency with IRWM Plan and other Regional Planning Documents

This project is being conducted as part of LACSD's efforts to implement the requirements of adopted NPDES permits for two other plants that discharge into the same watersheds, and are used for groundwater recharge at the Rio Hondo and San Gabriel Coastal Basin Spreading Basins. These are the San Jose Creek WRP (Order R4-2004-0097) and the Pomona WRP (Order R4-2004-0099). The NPDES permits include provisions to re-open the NPDES permits three years from the effective date to re-evaluate and possibly modify final effluent limits for NDMA, based on the results of attenuation and dilution studies and results of the WNWRP UV Disinfection Facilities project. The timeline for this project is in accordance with these Orders.

This project is not specifically identified in some existing planning documents because NDMA has recently emerged as an issue related to the use of WRP effluent to replenish groundwater. However, the goals and objectives of this project is consistent with the following planning documents:

- Joint Outfall System – 2010 Master Facilities Plan (LACSD)
- 1977 Joint Outfall System Facilities Plan (LACSD)
- 1963 A Plan For Water Reuse (LACSD -rationale for inland water reclamation)
- 1965 Plan A (LACSD -plan for the Joint Outfall System)
- Los Angeles County General Plan – land use in the WN area
- Recreational Master Plan for Whittier Narrows Flood Control Reservoir
- Metropolitan Water District - Groundwater Recovery Program
- Metropolitan Water District - Local Projects Program
- Basin Plan for the Coastal Watersheds for the Los Angeles and Ventura Counties (LARWQCB)
- 2001 Triennial Review (LARWQCB)
- Amendment to Revise the Early Life Stage Provision of the Freshwater Ammonia Objectives for Inland Surface Waters (LARWQCB)
- Nutrient TMDL 2004 (LARWQCB)
- Rio Hondo Watershed Management Plan (SGVCOG and RMC)
- Common Ground, San Gabriel and Lower Los Angeles Rivers Watershed and Open Space Plan (RMC)
- Watershed Management Initiative (State and LARWQCB)
- California Water Plan Update 2003 (DWR)
- Southern California Water Recycling Projects Initiative (DWR)
- California Agencies Watershed Strategic Plan

The project is also consistent with IRWM objectives that have been identified in the Framework IRWM Plan, Attachment 3, of this implementation proposal. These are identified in Section 2.10.3 above.

2.10.6 Stakeholder Involvement

The following stakeholders have and/or will be involved during the development and implementation of the WNWRP Project

- United States Environmental Protection Agency - in agreement for WNWRP to implement UV disinfection to protect use of monitoring wells associated with the Whittier Narrows Operable Unit (WNOU)
- Los Angeles Regional Water Quality Control Board - in agreement for WNWRP to implement UV disinfection
- California Department of Health Services - enforcement of Title 22 Standards and validation of UV technology
- U.S. Army Corps of Engineers - owns land on which WNWRP is situated
- Los Angeles County Flood Control District - operates the Rio Hondo and San Gabriel River Spreading Basins and co-permittee with LACSD
- Water Replenishment District of Southern California - co-permittee with LACSD for Montebello Forebay groundwater recharge project, and oversees groundwater replenishment in this basin
- Upper San Gabriel Valley Municipal Water District – wholesaler of WNWRP recycled water used for irrigation, and currently constructing reuse pump station at WNWRP
- San Gabriel Valley Water Company - retailer of WNWRP recycled water for irrigation and supplier of water to Whittier Narrows Recreation Area
- County of Los Angeles Department of Parks and Recreation – committed to using the WNWRP irrigation water
- City of Whittier – investigating the possible use of groundwater for domestic supply; water would be pumped from wells associated with EPA's Whittier Narrows Operable Unit
- Norman's Nursery – continued use of WNWRP recycled water for irrigation

2.10.7 Regional Economic, Environmental, and Fiscal Impacts

This project addresses the following long term regional water management needs:

- Local water supplies will be enhanced through delivery of a new water supply to the City of Whittier.
- LACSD will be able to continue to supply recycled water to the Montebello Forebay groundwater recharge project, which provides over one million residents with a renewable source of water that augments the groundwater supply and imported water supplies.
- The local water crisis caused by the shutting down of water wells in the San Gabriel Basin because of organic pollution will continue to be mitigated to some degree by the beneficial use of the WNWRP effluent.

Currently, there are no foreseeable negative environmental impacts associated with this project. In fact, by switching from chemical disinfection to UV irradiation, the most obvious environmental impact is that there will be far fewer chemical deliveries, which would translate into less air pollution and less chance of an accidental spill during transport or delivery.

This project will enhance the quality of recycled water from the Whittier Narrows WRP used for groundwater recharge in the Central Basin and will ensure that recharge continues at current levels. This recycled water is a drought-proof and reliable water supply for the region that decreases the region's dependency for costly imported water. This recycled water can always be accounted for and is expected to be available in perpetuity.

2.10.8 Scientific Basis

The disinfection of tertiary filtered wastewater using ultraviolet disinfection (UV) is documented in the most recent edition of the Ultraviolet Disinfection Guidelines for Drinking Water and Water Reuse, published by the National Water Research Institute in collaboration with the AWWA Research Foundation and California Department of Health Services. UV disinfection is expected to reduce the possibility of formation of disinfection byproducts such as NDMA,

cyanide, and trihalomethanes (THMs), thus enhancing the Whittier Narrows WRP final effluent quality.

2.10.9 Relation to other Grant Funded Projects

The Montebello Forebay Attenuation and Dilution Studies Project is linked to this project with the intent to minimize the impact of disinfection byproducts on receiving waters. This project will also improve the quality of water that flows to the Whittier Narrows Conservation Pool project area, to be used to recharge the groundwater basin. These projects are all included in this implementation proposal for Proposition 50, Chapter 8 funding consideration.

Although this project is an individual project, there are two other plants (San Jose Creek and Pomona WRPs) operated by the LACSD, which also provide recycled water for groundwater recharge in the Central Basin. The UV disinfection facility at the WNWRP is a full-scale trial and its results will likely be used for potential UV conversion at other LACSD WRPs treating approximately 200 million gallons per day of disinfected tertiary effluent to Title 22 standards for unrestricted reuse.

2.10.10 Critical Impacts if Project is not Implemented

If this project is not implemented, it is possible that wastewater would have to be diverted away from the upstream water reclamation plants to the District's Joint Water Pollution Control Plant in Carson, because groundwater recharge would no longer be possible. The water would then receive secondary treatment and disinfection before being pumped to the ocean for disposal. This means that the water would not be reclaimed or reused, and a major water resource would be wasted. Redirecting the WNWRP effluent could cause the Rio Hondo to essentially dry up during the Summer and Fall which would negatively affect the oasis of life that currently exists in the area. The drier conditions would ultimately result in a larger threat of fire in an area of biological significance. The overall cost of water would increase since there would be a greater reliance on imported water, which would have a negative fiscal impact on the local economy.

2.10.11 Disadvantaged Community Benefits

In protecting the quality of drinking water for over one million residents in the eastern portion of the Los Angeles area, it should be pointed out that those residents, particularly those who are disadvantaged and cannot afford bottled water, are the primary benefactors of this project. Being able to drink high quality water directly from the tap is a fundamental right and speaks directly to the cause of environmental justice.

2.10.12 Monitoring and Adaptive Management

The adaptive management plan in place thus far consists of the routine monitoring already mandated by Federal and State laws for discharging treated effluent to waters of the U.S. Additionally, post-project implementation and operational variances will be dealt with during the Sustained Performance Monitoring phase of the project, as agreed to with the EPA and RWQCB.

Groundwater quality will be monitored by LACSD and the USEPA in the Whittier Narrows Operable Unit area. In the Montebello Forebay, LACSD, Los Angeles County Flood Control District, RWQCB, SDPR and the Water Replenishment District will monitor the groundwater. WNWRP effluent data is contained in monthly and annual reports to the RWQCB. This data is in the public domain and will be provided to stakeholders and the general public on request. LACSD has also commissioned a consulting engineering firm to study the attenuation and dilution of NDMA in soil aquifers. The report will be shared with the appropriate agencies and public on request.

Project success of the UV disinfection project will be measured by meeting the requirements of the San Jose Creek WRP, Pomona WRP, and WNWRP NPDES permits, as well as the requirements of the Water Reclamation Permit of the Rio Hondo and San Gabriel Coastal Basin Spreading Grounds (File No. 71-67, Order 91-100) and the Reuse Permit (File No. 88-107, CI 6844). The WNWRP effluent is required to meet the Title 22 requirements for unrestricted reuse. Many constituents are already required to be monitored, and will continue to be monitored indefinitely, and include the following:

- Coliforms – sampled daily
- Cyanide – sampled monthly
- Ammonia nitrogen – sampled weekly
- Chlorine residual – sampled daily
- Chloride – sampled monthly
- NDMA – sampled quarterly
- Total enteric viruses – sampled quarterly
- Cryptosporidium and Giardia – not required (sampled as needed)

2.10.13 State and Federal Political Districts

The Whittier Narrows Water Reclamation Plan UV Disinfection Facilities project is located within the following political districts:

- Congressional District: 32nd
- State Assembly District: 58th
- State Senate District: 30th

WHITTIER NARROWS WRP REUSE SITES