

Section 1: Statement of Work, Relevance and Importance

Goals & Objectives:

The Palmdale Water District (PWD) is proposing to use 5.65 acres of District property for a new conservation garden facility that will benefit the surrounding communities at large. The goals and objectives of the water conservation garden park (WCGP) are to: 1) reduce residential and large landscape water use to outreach customers by 20%, 2) Provide educational programs on landscape design and maintenance to reduce water use to the general public 3) provide school educational programs on landscaping for future water saving, 4) Provide beneficial uses to the Bay-Delta by providing water quality and water use reduction through conservation over a 20 year period and beyond.

Need for the project:

The intent of the water conservation garden park is to create a state-of-the-art demonstration garden that would operate as a learning center for the high desert areas. The Water Conservation Garden Park (WCGP) will provide a **“Concept of Resource Protection** : to educate the public and youth on water conservation, recycling, waste management, green waste recycling, anti pollution and ground water protection while combining several of the best management practices set by the Cal-Fed Record of Decision; 1) Residential water survey programs (BMP# 1), 2) Large Landscape Conservation Programs and Incentives(BMP# 5), 3) Public information (BMP# 7), 4) School Education Programs (BMP# 8).

The WCGP will be open as a self guided tour through the seven steps of xeriscape, the children’s garden and the other conservation exhibits. The WCGP will provide organized walks (tours), landscape workshops including school presentations and bus tours to the garden park.

The Children’s or Youth garden will mirror many of the adult exhibit areas but will have many hands-on exhibits. PWD will be providing buses from elementary schools within the Palmdale School District to the WCGP for scheduled tours. PWD is working with the Palmdale School District and the Palmdale Youth Center to develop after school programs that will provide youth vocational training, community involvement, environmental education and landscape appreciation.

Reliability of State Water

The Palmdale Water District is one of 29 contracting agencies having entitlement to water supplies from the State Water Project (SWP). Under the terms of the agreement, PWD is entitled to annual deliveries of 21,300 acre-feet/year of SWP water. PWD has been able to take delivery of SWP water since 1985 from the East Branch of the California Aqueduct (East Branch), which passes through its service area. PWD receives its entitlement from a 30-cfs connection on the East Branch near Lake Palmdale. SWP water is conveyed to Lake Palmdale via a 30-inch diameter pipeline. Lake Palmdale acts as a fore bay to the PWD's 30-mgd water treatment plant and stores approximately 4,130 acre/ft of SWP water and Littlerock Creek water. The District has 24,412 connections using approximately 24,000 acre ft. per year. The District's average yearly supply of water from SWP is 12,434 acre ft., groundwater pumping supplies approximately 9,600 acre ft. and Littlerock Reservoir supplies approximately 5,500 acre ft. per year which totals 27,534 acre ft. per year is it essential we conserve water use. Palmdale is dry and arid with temperatures ranging from 72 degrees to 112 degrees in the summer.

As stated in PWD's 2000 Urban Water Management Plan, the reliability of SWP water is affected by many factors including hydrologic conditions, state and federal water quality standards, protection of endangered species, and water delivery requirements. In 1995 two actions had a significant impact on SWP reliability: the Monterey Agreement and the Water Quality Control Plan for the Bay-Delta Estuary. Since 1996, however, the CALFED Bay Delta Program was established and will have a marked impact on SWP reliability. In 2003, the Monterey agreement was restructured which alters the way available SWP supplies are allocated.

The District has developed water management accomplishments (Urban Management Plan 2000) which include; leak detection, water rate structures, water meters, school education programs, public information programs and increased system efficiency. The water conservation garden will help to satisfy and rein enforce several other BMP's; 1) Residential water survey programs (BMP# 1), 2) Large Landscape Conservation Programs and Incentives (BMP# 5), 3) Public information (BMP# 7), 4) School Education Programs (BMP# 8).

Consistent with the District's System-wide Master Plan

The proposed Water Conservation Garden Park project is consistent with the District's Master plan under water conservation (Section 5- Comparison of Water Demand and Supply) to provide education and public awareness on water conservation and the environment. The City of Palmdale has passed a landscape beautification ordinance which requires residents to implement water use standards for landscaping their front yards. The District's proposal to create a water conservation garden park will not only provide recreation for local and surrounding area residents but will educate and provide information on what types of plants will grow and survive in this arid region while protecting our precious resource, water.

Section 2: Statement of Work Technical/ Scientific Merit, Feasibility

The Palmdale Water District is proposing to use 5.65 acres of District property located adjacent to the District headquarters building in east Palmdale. The District owns the site, which is currently undeveloped. The project goal is to educate the public and youth on water conservation, recycling, waste management, green waste recycling, pollution and groundwater protection by providing school education programs and other programs that support the Bay-Delta's conservation best management practices.

The innovative WCGP will include garden and exhibit space, 5,318 square feet of garden buildings (administration, gift shop, public rest rooms and maintenance), nature trails and exhibits, a children's garden and an outdoor amphitheater seating up to 200 people. The WCGP will foster the "Concept of Resource Protection" by emphasizing practical ways to conserve water. The District has divided the project into two phases. Phase I includes; parking lot and drive ways, children's garden, design loop exhibits, amphitheater, central garden display, irrigation exhibits, buildings (administration, gift shop, public rest rooms and maintenance), which is approximately 2/3 or more of the project.

Phase I of the garden will provide the facilities and the exhibits that will enable the District to reach the goals and objectives of the water conservation garden park which are to: 1) reduce residential and large landscape water use to outreach customers by 20%, 2) Provide educational programs on landscape design and maintenance to reduce water use to the general public, 3) provide school educational programs on landscaping for future water saving, 4) Provide beneficial uses to the Bay-Delta by providing water quality and water use reduction through conservation over a 20 year period and beyond.

Phase II of the project, which is not apart of this grant proposal are the “How to ...” such as “How to buy at the nursery,” “How to stake a tree” and so on (gray on sheet L-5), orchard exhibits (dark gray green, L-5) and native habitats (light pinkish, L-5).

Please see Exhibit “C” garden exhibit areas, sheet L-5 for phase I & II.

Preliminary Plans

The Palmdale Water District Board of Directors approved the site plan for the proposed Water Conservation Garden Park on April 14, 2003. The District hired Denneen, Powell & Atelier Inc (DPA), California registered landscape architects to develop preliminary plans for the Water Conservation Garden Park. As a sub contractor to DPA, Dominy & Associates were hired as the architectural firm for the garden buildings, Kruse & Associates are the sub contractor for the electrical design. Deneen, Powell Atelier Inc has a full-service design studio and were the design team for the San Diego Regional Xeriscape Garden in El Cajon California. Please see Exhibit “D” for resumes of architects.

DPA has provided the District with preliminary plans consisting of; a master plan (sheet L-7), conceptual grading plan (L-4) garden exhibit area plan (L-5), recreation & nature educational areas (L-6), 72 pages (11^{1/2} X 17) of a plan for each exhibit, schematic building plans, and a complete book of the area, quantity, unit price and cost for each exhibit. Please see exhibit “E” for samples of cost book pages. Please see Exhibit “C” for conservation preliminary plans

Readily and Safely Accessible

The proposed Water Conservation Garden Park is readily available and safely accessible to the general public. The project lies on the east side of the City of Palmdale where there is a large diversity of social and economical levels. A city bus travels down Ave. Q passed the proposed project site where an existing bus-stop is located directly adjacent to the proposed project site in front of the Palmdale Water District office. There are no physical barriers that may restrict access. A youth facility is adjacent to the District offices on the west side, across from the proposed project directly south is the Little Folks

Preschool and two blocks south on 20th St. east is Tamarisk Elementary School. All are within easy walking distance to the proposed project site. Approximately two blocks from the proposed project site are residential areas. Individuals can easily walk to the proposed site.

Task & Work Schedule Phase I

	Task List & Schedule	Deliverables	Start date	End date	Cost
1.1	Complete Construction Drawings (Preliminary drawings complete)	Plans & Specs	12/1/05	6/30/06	\$ 304,871.00
2.1	PWD to haul 25,000 cubic yards of soil to job site		12/1/05	3/15/06	\$ 17,000.00
3.1	RFP for general contractor, forward to DWR	RFP	6/30/06	7/15/06	\$ -
3.2	Hire general contractor and send contract to DWR	Contract	7/15/06	7/25/06	
3.3	Contractor to set up		7/10/06	7/26/06	\$ -
3.4	Contractor to complete mass grading and fill		7/27/06	8/15/06	\$ 320,485.00
3.5	Install storm drains	Progress report	8/15/06	8/30/06	\$ 30,016.00
3.6	Complete parking lot grading		8/30/06	9/30/06	\$ 75,000.00
3.7	Install utility stubs		9/30/06	10/10/06	\$ 50,000.00
3.8	Complete parking lot & drive entries		10/10/06	10/30/06	\$ 250,000.00
3.9	Complete city sidewalk		10/30/06	11/15/06	\$ 35,000.00
4.1	Write progress reports, turn in invoices and payables monthly	invoices/pay requests	7/27/06	7/30/06	\$ -
5.1	Install rough electrical & plumbing		11/15/06	11/30/06	\$ 234,485.00
5.2	Start Children's garden exhibits (41-47, 49-51)	invoices/pay requests	11/30/06	12/30/06	\$ 294,970.00
5.3	Entry Exhibits (1-3A)	invoices/pay requests	12/30/06	1/15/07	\$ 186,165.00
5.4	Start Design loop (7 Steps of xeriscape) (4-17)	invoices/pay requests	1/15/07	3/15/07	\$ 273,457.00
5.5	Complete Site Fencing		3/15/07	3/30/07	\$ 40,000.00
5.6	Complete exhibits (36-40, F, G, 64,65, 67)	invoices/pay requests	3/15/07	5/15/07	\$ 517,523.00
5.7	Start Bookstore and restrooms		5/15/07	7/15/07	\$ 190,000.00
5.8	Start construction on amphitheater (66)	invoices/pay requests	7/15/07	9/30/07	\$ 269,738.00
5.9	Complete maintenance road and building		9/15/07	10/30/07	\$ 150,000.00
6.1	Start construction administration building	invoices/pay requests	10/30/07	11/30/07	\$ 150,000.00
6.2	Complete exhibits (26-35)		11/31/07	1/30/08	\$ 579,790.00
6.3	Complete exhibits (58-70, E, D)	invoices/pay requests	1/30/08	02/30/08	\$ 277,300.00
6.4	Start classroom bldg. & plaza		02/30/08	4/15/08	\$ 231,159.00
7.1	Complete electrical	invoices/pay requests	4/30/08	9/30/08	\$ 200,200.00
8.1	Complete site inspection		9/30/08	10/5/08	\$ -
8.2	Prepare final check list for contractor send to DWR	Punch List	10/5/08	11/15/08	\$ -
9.1	Contractor to prepare as built drawings	As Built drawings	10/5/08	11/16/08	\$ -
10.1	Prepare final report/copy to DWR		11/5/08	12/30/08	
11.1	Prepare plan for water reduction programs /copy to DWR	water reduction plans	1/30/09	2/5/09	\$ -
12.1	Grand Opening Water Conservation Garden	invitation to opening	3/15/09	3/15/09	\$ -
13.1	Monitor progress on programs	monitoring reports	3/30/09	3/30/10	\$ -
14.1	Monitor water use for next five year/ report to DWR	monitoring reports	3/30/10	3/30/15	\$ -
					\$4,677,159.00

Environmental Documentation:

The environmental documents were completed April 25, 2003. The documents include a Negative Declaration (Cultural Resources Assessment for the Water Conservation Garden Park Project for the Palmdale Water District) & the Notice of Determination from the State Clearing House. Please see Exhibit "B". NEPA documents are not required for this project.

Section 3: Monitoring and Assessment

Pre Project Conditions

The District is using the supply study from the 2001 Palmdale Water District Master update and the value from the 1996 Master plan to determine the amount of acre feet (ac-ft) of water saved within a 20 year period if the Water Conservation Garden Park was built. Using the District's calculations, the amount of water saved in a 20 year period would be 85,990 ac-ft. The proposed water conservation park would be approximately 20% of the District's conservation efforts. As a starting baseline, the year the garden is built the District will monitor production use of water monthly and provide data on water savings each year.

The District's annual water conservation programs for the garden will be the catalyst in producing additional water savings. The individual programs and time schedules are listed below. The District will invite Palmdale Water District customers to come to the garden for a presentation on the 7 steps to good landscape design and participate in a program called "Save Water, Save Energy, Save Money" by direct mail. Water use for participating customers (outreach customers) will be placed on a spread sheet data base as the baseline. Outreach customers will be offered a landscape audit and a water budget will be provided to each customer. Customers not interested in the audit (the control group) will also be monitored and recorded monthly. Outreach customers will be provided with incentives at each landscape workshop they attend. Incentives will be irrigations products and water saving devices. There will be 4-6 workshops per year.

Although the school educational program cannot be quantified in terms of water saved at the present time the garden education programs will definitely provide motivation for future water savings. The District will provide bus transportation to enable elementary and middle school age children and youth within the Palmdale Unified Scholl District to travel to the WCGP for scheduled tours and educational sessions on water conservation and the 7 steps to good landscape design.

The training for landscape contractors on new irrigation technology will provide water saving benefits as will the District’s annual Water Fair & Festival which provides education, public information.

Within the PWD’s water conservation budget are bus tours, the District’s annual Water Fair & Festival and the landscape workshops these programs will become a part of garden and will enhance public information, public relations and education. Landscape training and landscape water audits will be additional programs added to the water conservation budget.

Annual Water Conservation Garden Park Programs											
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Open daily as a self guiding tour through the garden areas- Tuesday -Sunday closed on Mondays											
After school programs/ youth vocational training January-February				After school programs/ youth vocational training January-February							
Kids bus tours and workshops on conservation & the environment (anti litter/pollution) February-April				Kids bus tours and workshops on conservation & the environment (anti litter/pollution) June-October							
Adult landscape workshops January-April				Annual Water Fair & Festival Third week-end in May		Adult landscape workshops July-October					
Landscape training for contractors February				Landscape training for contractors July							

As part of the monitoring program the District will photograph all segments of the project including: construction of the facilities, landscape workshops, bus tours, landscape contractor training, children’s workshops and the District’s Annual Water Fair & Festival. A report will be presented with photos and information will be placed on the District’s web site and a copy to Department of Water Resources.

Project Monitoring/ Meeting Goals and Objectives:

The goals of the conservation garden are; 1) reduce residential and large landscape water use to outreach customers by 20%, 2) Provide educational programs on landscape design and maintenance to reduce water use to the general public 3) provide school educational programs on landscaping for future

water saving, 4) Provide beneficial uses to the Bay-Delta by providing water quality and water use reduction through conservation over a 20 year period and beyond.

As a starting baseline, the year the garden is built the District will monitor production use of water monthly and provide data on water savings each year. The District is using the supply study from the 2001 Palmdale Water District Master update and the value from the 1996 Master plan to determine the amount of acre feet (ac-ft) of water saved within a 20 year period if the Water Conservation Garden Park was built. Using the District's calculations, the amount of water saved in a 20 year period would be 85,990 ac-ft. The proposed water conservation park would be approximately 20% of the District's conservation efforts.

To evaluate the success of these goals the District will track and record water use for outreach customers on a spread sheet data base. All District customers will be notified and asked if they would like to be apart of the District's "Save Water, Save Energy, Save Money, program." The program will consist of inviting outreach customers to special workshops on the principles of good landscape design. Outreach customers will be asked to sign a "Save Water, Save Energy, Save Money, agreement." Outreach customers will be provided with a landscape water budget and their water use will be monitored every month.

Qualifications of the Applicants and Cooperators

The Palmdale Water District (PWD) is uniquely qualified to serve as the applicant, it is an irrigation district established under the California Water Code serving 24,412 water hook-ups serving 93,000 residents of the greater Palmdale area. PWD operates 25 wells, Littlerock Dam, and distributes water from the state water project. As a public water provider, the District is very experienced at managing the implementation of complex capital improvements projects. There are 74 full time personnel and an annual budget of over \$17,200,000. The District has appropriate management and fiscal controls in place and follows generally accepted accounting practices. An annual independent audit is prepared by Hurley and Company.

Landscape architects, Deneen, Powell Atelier Inc. was hired for preliminary drawings and will most likely be the project managers for the construction of the garden. Deneen, Powell Atelier Inc has a full-service design studio and are the design team for the San Diego Regional Xeriscape Garden in El Cajon California.

The Water Conservation Manager, Claudette Roberts will be responsible for managing the project implementation on a day-to-day basis. Ms. Roberts is a seasoned manager with over 25 years of relevant experience, including 13 years with the District. Ms. Roberts has extensive experience in managing the planning and implementation of various complex projects, including the Littlerock Recreation facility and the 15,000 sq ft District office building. She holds a BA degree in Business Management from the University of Phoenix. In her current position Ms. Roberts has responsibilities for budgeting, program design and planning, supervision of administrative staff, contract management and negotiations. Her qualifications include knowledge and skills in financial and personnel management, grant writing, employment and training intervention strategies, program development, program design, policy analysis and contract negotiations. The project manager's (conservation manager) resume is at the end of the proposal.

Water Use Efficiency Grant Use Projects

PWD has not completed any previous water use efficiency grant projects. The District has successfully completed grants for the Littlerock Dam and Recreation Reconstruction project which included Davis Grunsky and Boating & Water Ways grant programs.

Household Income and Unemployment Rate

The District service area within Palmdale is not considered a disadvantaged community although education to the public on landscape in this area is apparent do to public interest in the District's landscape workshops and the lack of landscape design where most yards are 90% wall to wall grass. The population of Palmdale is approximately 123,700. The median family income is \$68,757 (Greater Antelope Valley Economic Alliance Report 2003). The population in a mile radius of the Palmdale Water District office at

2029 East Ave Q is 32,063. Within this service area the unemployment rate is 11.3% almost three times higher than statewide rate of 4.3%. (2000 Census tracts: 0502, 0503, 0601, 0602, 0604, 0603)

Outreach, Community Involvement and Acceptance

The Palmdale water District has actively sought and used public involvement in planning, funding and implementation of the Water Conservation Garden Park. PWD has presented the project to Palmdale City Council, the Lancaster City Council and Littlerock Creek Irrigation District and has received a resolution from each agency supporting the project. PWD has received support letters from Assembly California Legislature (Sharon Runner), Los Angeles County Water Works, Los Angeles County Farm Bureau, California Regional Water Quality Control Board, Board of Supervisors (Michael Antonovich) Palmdale School District , Greater Antelope Valley Economic Alliance, Rosamond Community Services District, Keppel Union School District, Nebeker Ranch Inc., the Guidance Charter School of Palmdale and the Office of the Assessor County of Los Angeles. The District has used radio Ad's with Palmdale Chamber of Commerce to announce the concept of the Water Conservation Garden Park and to invite comments on the proposed park project. The daily news printed an article, "Opinions Sought on Park Plan" on March 31, 2003. The District invited the public to an "Open House" at the District office (2029 East Ave. Q , Palmdale Ca.) to present and discuss the proposed Water Conservation Garden Park on April 12, 2003. We a have had many comments about the garden with only good responses.

The District's quarterly newsletter ("Water News") will include reports of water savings from the programs to reach customers that would like to be included in our save water programs.

Innovation

The WCGP is a state-of-the-art facility intended to operate as a learning center for the high desert areas. The garden will showcase design, planting, irrigation and maintenance that can result in significant water savings. Changing a turf landscape to drought tolerant trees, shrubs and ground covers with interesting walk and patio treatments can result in considerable water savings. The emphasis on the front yard make-over exhibit is in support of the City of Palmdale's front yard landscape ordinance. Please see

Exhibit “C” Preliminary Plans, Conservation Exhibit # 4 for page on before & after front yard make over. There are 72 innovative resource exhibits in the garden each carrying a message of conservation.

Benefits and Costs

Benefits to the Bay Delta, the District, Outreach customers, Outside Contractors, and Society

- The Delta benefits by; reduction of water use, reduced contaminate surface runoff, reduced environmental benefits such as wildlife and estuary preservation.
- The District will benefit by avoided supply costs, administration, capital equipment and materials. Other avoided costs are operations & maintenance including; chemical processing, pumping, energy, installation, and environmental regulations. The amount of water saved in a 20 year period would be 85,990 ac-ft. The proposed water conservation park would be approximately 20% of the District’s conservation efforts. If the cost of an ac-ft of conserved water is \$325.00 over a period of 20 years, the District would save approximately \$5,589,350.00. The direct benefit amounts to 66.4 % or approximately \$5,589,350.00. The cost of phase I of the project is \$4,804,224.00.
- Outreach customer benefits are; reduced water and energy bills, training on landscape design and maintenance, training on new irrigation technology, information and training on environmental non-toxic pesticides and fertilizers, landscape product incentives and the enjoyment and additional information provided on the regulated tours through the garden.
- Landscape contractor benefits include; the training provided on new irrigation technology, a place to bring potential clients to view landscape design ideas and plants, and landscape product incentives.

- Society benefits by; avoided supply costs; administration, capital equipment and materials. Other avoided costs are operations & maintenance including; chemical processing, pumping, energy, installation, and external environmental benefits.

The customer data will be stored at the District office. Analysis of the data will be available on the District's web site and accessible to all interested parties.

Costs

Cost of Monitoring and Evaluation

The District monitors water production and use per month, using this information as a base line and on a separate spread sheet the District will monitor water per capita used, after the conservation garden is built and the conservation programs are in place. Water use will be monitored and recorded every month and a report on programs presented yearly. Anticipated costs are approximately \$1224.00 per year (16PHR, 2HRS, 12 months and report 35PHR 24HRS).

Monitoring for the program "Save Water, Save Energy, Save Money will consist of:

- | | | |
|----|---|---------------------|
| 1) | Direct mail (PWD's "Water News" w/ tear-off and return) | \$2,000.00 per year |
| 2) | 6- Landscape workshops per year | \$2,700.00 per year |
| 3) | Water audits-labor 2 people, 35PHR, 2 HRS (48 of) | \$6,720.00 per year |
| 4) | Water savings per year (48 customers, 241gals/pcpd, 20% water savings) 2.9 ac-ft per year | |
| 5) | Cost of water saved per year (325.00 per ac-ft) | \$8,12.25 per year |

This program will give quantifiable data that will be recorded and supplied to any interested party

Table C-1 Project Costs (Budget)

Applicant: Palmdale Water District									
THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY									
Section A projects must complete Life of investment, column VII and Capital Recovery Factor Column VIII. Do not use 0.									
Table C-1: Project Costs (Budget) in Dollars									
Category	Project Costs	Contingency % (ex. 5%)	Project Cost + Contingency	Applicant Share	State Share Grant	Life of investment (years)	Capital Recovery Factor	Annualized Costs	
(I)	(II)	(III)	(IV)	(V)	(VI)	(VII)	(VIII)	(IX)	
Administration1									
Salaries, w ages (2820 HRS @ 3	\$105,750	\$ 0.05	\$105,803	\$105,803	\$0	0	0.0000	\$0	
Fringe benefits 7% retire. 12.4 B	\$20,515	\$ -	\$20,515	\$20,515	\$0	0	0.0000	\$0	
Supplies	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
Equipment	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
Consulting services	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
Travel	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
Other	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
(a) Total Administration Costs			\$0	\$0	\$0			\$0	
(b) Planning/Design/Engineering	\$304,871	\$ 0.07	\$305,084	\$152,542	\$152,542	0	0.0000	\$0	
(c) Purchases/Rentals/Rebates/Vouchers	\$0	\$ -	\$0	\$0	\$0	10	0.0000	\$0	
(d) Materials/Installation/Implementation	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
(e) Implementation Verification	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
(f) Project Legal/License Fees	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
(g) Structures	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
(h) Land Purchase/Easement	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
(i) Environmental Compliance/Mitigation/Enhancement	\$0	\$ -	\$0	\$0	\$0	0	0.0000	\$0	
(j) Construction	\$4,355,288	\$ 0.10	\$4,359,643	\$2,179,822	\$2,179,822	0	0.0000	\$0	
(k) Other (Specify) PWD to haul soil (fill)	\$15,000	\$ 0.10	\$15,015	\$15,015	\$0	0	0.0000	\$0	
(l) 40HRS)	\$1,400	\$ 0.05	\$1,401	\$1,401	\$0	0	0.0000	\$0	
(m) Report Preparation (35PHR/ 40HRS)	\$1,400	\$ 0.05	\$1,401	\$1,401	\$0	0	0.0000	\$0	
(n) TOTAL	\$4,804,224		\$4,808,862	\$2,476,499	\$2,332,363			\$0	
(o) Cost Share -Percentage				51	49				
1- excludes administration O&M.									

Table C-5

Applicant:	Palmdale Water District				
THE TABLES ARE FORMATTED WITH FORMULAS: FILL IN THE SHADED AREAS ONLY					
Table C-5 Project Annual Physical Benefits (Quantitative and Qualitative Description of Benefits)					
	Qualitative Description - Required of all applicants ¹				Quantitative Benefits - where data are available
	Description of physical benefits (in-stream flow and timing, water quantity and water quality) for:	Time pattern and Location of Benefit	Project Life: Duration of Benefits	State Why Project Bay Delta benefit is Direct ³ Indirect ⁴ or Both	Quantified Benefits (in-stream flow and timing, water quantity and water quality)
Bay Delta	1) reduction of state water used	first year after construction/Delta	20 yrs	Direct	
	2) reduced contaminate surface run off	first year after construction/Delta	20 yrs	Direct	
	3) external environmental benefits	first year after construction/Delta	20 yrs	Indirect	0
Local	1) reliability of state water	first year after construction/Delta	20 yrs	Not applicable.	
	2) External benefits to other agencies	first year after construction/Delta	20 yrs	Not applicable.	
	3) Avoided increase cost of new water	first year after construction/Delta	20 yrs	Not applicable.	
¹ The qualitative benefits should be provided in a narrative description. Use additional sheet.					
² Direct benefits are project outcomes that contribute to a CALFED objective within the Bay-Delta system during the life of the project.					

The WCGP will support the California Bay Delta program goals in several ways the Best Management Practices (BMP's) for commercial and residential water reduction will result in a reduction of state water used 859.9 ac-ft per year plus water saved by the program "Save Water, Save energy, Save Money" 2.9 ac-ft per year for a total of 862.8ac-ft per year or 17,256 ac-ft over a 20 year period.

With a high degree of confidence these programs will result in water savings which can be used to for the protection of streams, wetlands and estuaries and / or urban water supply reliability. Although public information and education are not always reliable water savings the Palmdale Water District believes that the conservation garden will produce a valuable source of data and savings in this area where a considerable amount of education is needed on landscape. The residents in this high dessert arid area have been very supportive about the garden project and from a survey the District provided on the garden the District incorporated the needs of the residents into the plans of the garden.

Table C-6

Table C-6 Project Annual Local Monetary Benefits			
ANNUAL LOCAL BENEFITS	ANNUAL QUANTITY	UNIT OF MEASUREMENT	ANNUAL MONETARY BENEFITS
(a) Avoided Water Supply Costs (Current or Future Source)	859.9+2.9	278	\$239,858
(b) Avoided Energy Costs	859.9+2.9	3	\$2,588
(c) Avoided Waste Water Treatment Costs			
(d) Avoided Labor Costs	859.9+2.9	44	\$37,963
(e) Other (describe)			
(f) Total [(a) + (b) + (c) + (d) + (e)]			\$280,410

Resume

Claudette Roberts

Claudette Roberts
42616 Gumtree Dr.
Lake Elizabeth, 93551
661-724-0136
e-mail/ croberts@antelecom.net
work/ 661 947-4111 X120
work e-mail/ croberts@palmdalewater.org

Palmdale Water District
Water Conservation Manager

As Water Conservation Manager to the General Manager of the Palmdale Water District I have over 13 years of experience in project management. I have extensive experience in managing the planning and implementation of various complex projects, including the Littlerock Recreation facility and the 15,000 sq ft District office building. I hold a BA degree in Business Management from the University of Phoenix. In my current position I have responsibilities for budgeting, program design and planning, supervision of administrative staff, contract management and negotiations and experience approval. My qualifications include knowledge and skills in financial and personnel management, grant writing, employment and training intervention strategies, program development, program design, policy analysis and contract negotiations. I have prepared the District's Urban Water Management Plan and in the process of coordinating permits with the U. S. Forest Service, U. S. Army Corps of Engineers and the U. S. Fish & Wildlife Service for sediment removal at Littlerock Reservoir.

Water education programs are also developed not only for the public but annually for the elementary schools in Palmdale School District. The program includes presentations on water conservation, contests for the schools and producing water conservation materials such as hand-outs, brochures and videos.

Over the last eight years, I initiated and developed the District's "Water Fair & Festival." The fair has gained in popularity and has become a fun and entertaining way to educate our children and the public on conserving water and protecting the environment. The conservation department is involved in other

community events, including the Home & Garden Show at the A. V. Fair Grounds and the Fall Festival sponsored by the City of Palmdale and Water Awareness night at jet hawks stadium in Lancaster.

The project that I am most proud of is the “Water Conservation Garden Park.” The garden park is a concept of recreation and resource protection. The District is waiting for start-up funds from grant proposals.

In 2001, I became a Director for the Palmdale Chamber of Commerce. I was a board member for the Regional Water Quality Control Board-Lahontan in 2002-2003.

Relevant Work Experience:

1. 4 years experience as co-owner of self operated, 55 employee restaurant.
2. 12 years experience as supervisor for Banner Air Conditioning and Air Calc Mechanical
3. 13 years (Palmdale Water District) experience in construction project management, water conservation programming.

Experience includes: Estimating, planning, designing, scheduling, coordinating and facilitating; water conservation programs and construction projects.

Relevant Education and Training:

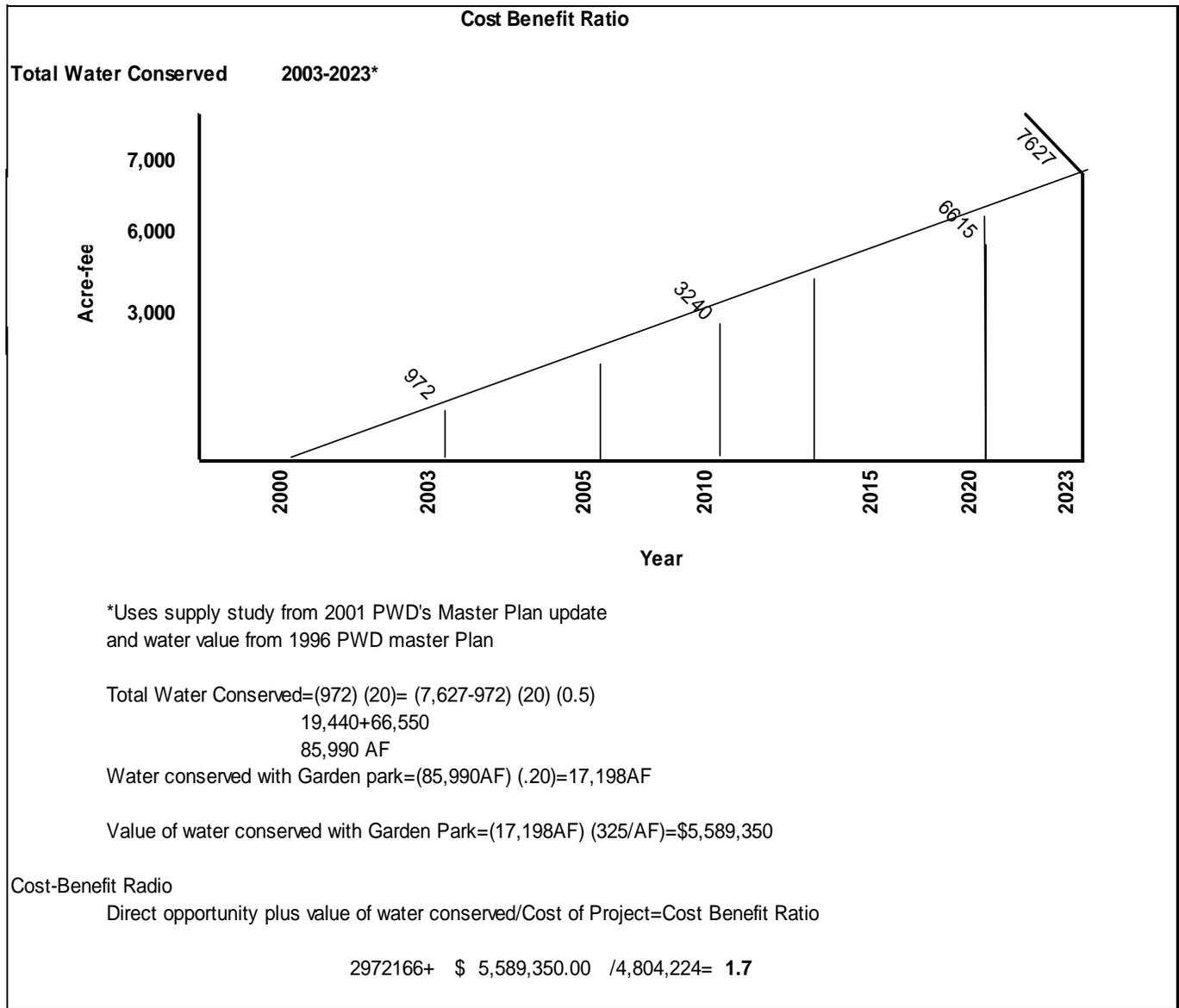
1. High school graduate-Phoenix Camelback
2. BA degree in Business Management-University of Phoenix
Classes: Drafting, Title 24 compliance, Electrical, Mechanical design, Business Management
3. Water Conservation Certification I
3. Irrigation Auditor Certification
4. Grade 2- Water Distribution
5. Inactive Electrical & Mechanical contractor licenses

Statement of Personal Interest:

The construction process gives me personal satisfaction. I enjoy the challenges of problem solving and completing projects. I also enjoy oil painting and riding horses.

Exhibit “A”
Cost Benefit Ratio

Cost Benefit Radio



Cost Benefit Ratio

Section 5-Comparison of Water Demand and Supply

- Water Conservation – 10 percent demand decrease by 2010 and 15 percent demand decrease by 2020.
- Water Rationing – 20 percent when demand reaches 2020 levels and three consecutive dry years occur; 10 percent when demand reaches 2020 levels and the one driest year occurs.
- Withdrawal of Recharged Groundwater – This is the amount of groundwater withdrawal necessary beyond the base pumping rates during dry years. To offset the additional water level drawdown associated with this additional pumping, the basin can be recharged with a combination of reclaimed water, local runoff and/or SWP water.

This scenario is illustrated in **Table 5-3** below. As shown, groundwater extraction above base pumping levels is only required during dry years. This above base level extraction ranges from 4,000 to 11,000 acre-ft/yr. If for instance reclaimed water were to be recharged during average as well as dry years, this active recharge would offset adverse groundwater level impacts caused by the additional dry year extraction.

**Table 5-3
 Demand vs. Future Surface Water Supply
 Scenario 1**

	Supply and Demand Requirements (acre-feet)								
	Average Year			3 Consecutive Dry Years			1 Driest Year		
Year	2000	2010	2020	2000	2010	2020	2000	2010	2020
Demand PWD	24,000	32,400	44,100	26,600	35,900	48,800	26,600	35,900	48,800
Demand LCID	1,000	1,000	1,000	730	730	730	1,000	1,000	1,000
Lake Palmdale Evaporation	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200	1,200
Total Demand	26,200	34,600	46,300	28,530	37,830	50,730	28,800	38,100	51,000
Littlerock Creek	4,405	4,405	4,405	2,919	2,919	2,919	4,760	4,760	4,760
State Water Project	18,060	18,060	18,060	11,044	11,044	11,044	4,733	4,733	4,733
Groundwater - Base Pumping @ 40% of demand	9,600	12,960	17,640	10,640	14,360	19,520	10,640	14,360	19,520
Water Rationing - 10% and 20%	0	0	0	0	0	4,880	0	0	9,760
Water Conservation - 10% and 15%	0	3,240	6,615	0	3,590	7,320	0	3,590	7,320
Total Sources	32,065	38,665	46,720	24,603	31,913	45,683	20,133	27,443	46,093
Surplus (Deficit) Subtotal	5,865	4,065	420	(3,927)	(5,917)	(5,047)	(8,667)	(10,657)	(4,907)
Withdrawal of recharged groundwater	0	0	0	4,000	6,000	5,100	9,000	11,000	5,000
Surplus (Deficit) Total	5,865	4,065	420	73	83	53	333	343	93

In the above scenario, groundwater base level pumping would exceed the historical maximum pumping rate of 11,648 acre-ft/yr by the year 2010. Dry year base level pumping may reach

Cost benefit Ratio

**TABLE 4-11
 SUMMARY OF EXISTING AND FUTURE SOURCES**

	Average Costs - \$/ac-ft		Average Annual Yield - ac-ft/yr				Dry Year Yield - ac-ft/yr			
	Production	Treatment Total	1995	2005	2015	1995	2005	2015		
Projected Demand plus Lake Palmdale Evaporation Total Demand			23,200 1,200 24,400	34,300 1,200 35,500	45,400 1,200 46,600	26,300 1,200 27,500	38,900 1,200 40,100	51,500 1,200 52,700		
Existing Sources²										
Groundwater	\$84	\$0	3,800	3,800	3,800	19,800	19,800	19,800		
Littlerock Creek	\$233	\$73	6,000	6,000	6,000	1,400	1,400	1,400		
State Water Project	\$208	\$73	14,600	13,900	13,100	6,300	6,200	6,000		
Total Existing Sources			24,400	23,700	22,900	27,500	27,400	27,200		
Additional Supply Needed			-	11,800	23,700	-	12,700	25,500		
Future Sources										
Water Conservation	\$325	\$0	-	3,400	4,500	-	3,400	4,500		
State Water Project Entitlement	\$308	\$73	-	2,500	2,400	-	1,200	1,100		
Water Reclamation	\$650	\$0	-	1,800	1,800	-	1,800	1,800		
New Wells	\$190	\$0	-	10,400	14,800	-	6,300	18,100		
Enhanced Littlerock Creek Yield	\$190	\$73	-	6,300	6,300	-	-	-		
CVP Water Transfers	\$430	\$73	-	-	-	-	-	-		
SWP Water Transfers	\$395	\$73	-	-	-	-	-	-		
Total Future Sources			-	24,400	29,800	-	12,700	25,500		

Notes: 1. Dry year yields would be exceeded about 95 percent of the time.
 2. Year 2005 and 2015 existing supplies assume no change from year 1995 conditions except for SWP supplies.

Exhibit “B”
Environmental Documentation

Negative Declaration
Prepared 17, 2003
Cultural Resources Assessment:
Water Conservation Garden Park Project
Prepared April 25, 2003
for the Palmdale Water District

Exhibit “C” Preliminary Plans

There are 72 conservation exhibits each exhibit has its own design page we have provided only a few pages.

Exhibit "D"
Resumes of Architects

Exhibit “E” Samples of Exhibit Cost book

There are 72 individual conservation exhibits in the park each exhibit has a cost sheet and material list we have provided samples of the some of the sheets