



**FINAL
2004
Water Use Efficiency
Proposal
Solicitation
Package**

**Submitted By:
The City of Oxnard Water Division**

**Section B: Research and Development;
Feasibility Studies, Pilot or Demonstration Projects;
Training, Education or Public Information;
Technical Assistance**

**South Oxnard Public Library
Xeriscape Demonstration Garden**



City of Oxnard Water Division



South Oxnard Library Xeriscape Demonstration Garden Project

Introduction

The City of Oxnard Water Division (Water Division) is pleased to submit this proposal to the California Department of Water Resources for funding consideration as a Water Use Efficiency Project. The “South Oxnard Library Xeriscape Demonstration Garden Project” qualifies as a Section B Project and thoroughly supports the CALFED Water Use Efficiency program goals and objectives.

Embedded within the broad mission of the California Bay-Delta Program to improve water quality and supply reliability is the goal to increase water conservation efforts in order to reduce water demand. To promote this goal, the Water Division is committed to installing environmentally friendly landscapes at City-operated facilities to conserve water. At the heart of the program is a commitment to engage the community and enhance public awareness of Southern California’s arid ecosystem and the need for water conservation at all times, even in years of above-average rainfall.

One way to significantly reduce California’s urban water demand is to provide Xeriscape demonstration gardens that have transferable applications for business and homeowners. Xeriscape is an innovative gardening technique that produces beautiful and environmentally sustainable landscapes while pursuing precious water savings. The term comes from the Greek word Xeros, meaning dry, and is considered a viable alternative to the conventional high-water requirement landscapes. By incorporating Xeriscape principles into home or commercial landscapes, it is estimated that water usage can be cut in half.

The Water Division is in the process of implementing a demonstration garden at the new South Oxnard Library site. The proposed landscape is an integrated system that complies with the seven principals of xeriscape gardening which lead to water saving: planning and design, soil analysis and improvements, practical turf areas, appropriate plant selection, efficient irrigation, mulching and appropriate maintenance. All plants will be labeled with permanent signage that can be seen from the sidewalk, parking lot and from inside the building. A permanent display featuring xeriscape concepts, access to website information, and “how to” literature for the community will be placed in a prominent location in the library for outreach and education to the community.

Planning and Design

The proposed garden meets the aesthetic, functional and community goals of the Oxnard Water Division. The initial concept was to expand upon the demonstration garden currently in place at the Water Division's main facility, which has limited public access. (Tours are offered and the community is invited during planned occasions, but security and public protection take precedence.)

Soil Analysis and Improvements

The soil will be analyzed by the Fruit Growers Laboratory and amended for optimal growth of plants. Once established, fertilizing will be minimal or nonexistent, depending upon plant health.

Appropriate Plant Selection

Plants were chosen based on their drought-tolerant reliability, harmonious relationship with the architecture, maintenance requirements and overall eye appeal. On average, drought-tolerant plants use one-third the water of sub-tropicals and other plants requiring regular water. Most of the species originate from the five Mediterranean regions of the world. Native plants have been selectively used, primarily in shade areas. Turf has not been specified for this project.

Mulching

Two inches of organic bark mulch will be placed upon planting and on a routine basis to conserve water in the soil and reduce the need for irrigation.

Irrigation

By combining drought-tolerant plants with a properly calibrated irrigation system, we expect a 50-percent reduction in water use. The irrigation system will be carefully monitored and adjusted by the landscape team to regulate evaporation rates with the precipitation rate. A rain sensor will be used to shut off all irrigation in the event of rain. Watering will be done in early morning hours to prevent wind dispersal and increase efficiency of the irrigation system.

Appropriate Maintenance

As with any garden, the practical challenge is to match the hardiness of the plants with the level of care they will receive. The goal is a healthy, functional and beautiful demonstration garden, which can only be achieved through vigilant and skilled maintenance. Because the Water Division believes that beauty cannot be sacrificed for function and conservation if we expect people to shift their landscape paradigm, knowledgeable plant care providers will be a priority.

To ensure proper maintenance, a maintenance manual has been developed for the Water Division, and a similar manual will be developed for the South Oxnard Library Xeriscape Demonstration Garden. The manual contains photos of all the plants and information on plant care requirements.

Statement of Work

Section One: Relevance and Importance

The project is relevant and important because in order to raise the consciousness of water conservation, we must convince those who plant landscapes to modify their knowledge base. This involves multiple prompts converging in the minds of the populace – the choice they make to live in an arid place, what that choice means as a responsible citizen, a shift in buying patterns, an appreciation for unfamiliar plant species, a willingness to try something different, and most of all, an understanding that individual actions make a difference in water demand and use. How do we accomplish this? We sponsor demonstration gardens! We inform the public on how much water we actually have and how much water Southern California receives from other sources, and we demonstrate how anyone can create wonderful gardens with less water.

Demographical Analysis

Oxnard, located in the western portion of Ventura County, encompasses 25 square miles and is the most populated city in Ventura County with 182,027 (official state estimate) residents. The south Oxnard area encompasses five square miles and is home to 67,404 residents (2000 U.S. Census). This population figure represents a 34-percent increase from the 1980 figure of 50,479 residents (1980 U.S. Census). This area is continually growing, and it is estimated that there will be 87,625 residents in 2020 – a 30-percent increase over the next 20 years (City of Oxnard, Planning and Environmental Services, 2020 General Plan Committee). South Oxnard is an ethnically diverse area with a large Hispanic population (63.1%), a white population (22.2%), and smaller populations of Asian-American/Pacific Islander (8.5%), African-American (4.4%), and 1.8% of residents designated themselves as other ethnicities (2000 U.S. Census).

The library service area is an economically disadvantaged area. While only 15.14% of the households in this area report annual incomes of over \$100,000, 18.41% have annual incomes of under \$25,000 and 13.16% have annual incomes that fall at or below the federal poverty level (Claritas). The per capita income in this area is \$19,155 (Claritas) and the unemployment rate is 4.59% (2002 Ventura County Economic Outlook, University of California, Santa Barbara).

The library service area is also educationally disadvantaged. While only 20.92% of residents in this area (6.99% of the Hispanic residents) have a college degree, 35.81% of residents in this area (68.28% of the Hispanic residents) do not have a high school diploma (1990 U.S. Census). English language comprehension rates are low. While 58.10% of the residents in this area (82.89% of the Hispanic residents) communicate in a primary language other than English, 55.43% of these residents (58.32% of these Hispanic residents) feel that they neither speak English "very well" nor communicate "well" in English (1990 U.S. Census).

Section Two: Technical/Scientific Merit, Feasibility

The South Oxnard Library Xeriscape Demonstration Garden Project is underway. The technical knowledge and skills are in place to complete the garden. General technical skills include final grading, planting, irrigation installation (trench work, setting main and lateral lines, electrical conduit and controller). The project does not involve the development of new technologies.

Project Task List

Estimated Completion

▪ Planning and design	Completed
▪ Bid the project	One Month
▪ Meet with contractors for pre-bid meeting	Two weeks
▪ Award project to skilled contractor	One week
▪ Soil testing for amendments	One Week
▪ Soil amended in prep for plants	One Week
▪ Perform minor grading, prep for irrigation and planting	One Week
▪ Irrigation trenched, checked and placed	Two Weeks
▪ Plant placement by contractor, approved by landscape architect, plants placed in soil	One Week
▪ Mulch placed on soil	Two Days
▪ Review by Landscape Architect and Water Division	Two Days
▪ Maintenance period commences	Three Months
▪ Landscape maintenance company selected	Three Months
▪ Final Landscape Review/New maintenance firm begins	Last Week of Maint. Period
▪ Maintenance manual prepared for maintenance firm	Concurrent w/installation
▪ Reporting relationship established between Water Division and maintenance firm to ensure proper care of plants	Upon Selection

Environmental Documentation

The South Oxnard Library Xeriscape Demonstration Garden Project complies with all local, county, state and federal agencies in its jurisdiction. The site is located in a suburban residential/commercial area and is already part of the built environment.

Section Three: Monitoring and Assessment

Monitoring and assessment is pivotal and will be accomplished by choosing a knowledgeable and experienced landscape provider, training the individuals directly involved, as well as monitoring and oversight by the Water Division. The Water Division has also incorporated assessments at various intervals to evaluate if the garden is successfully raising consciousness and changing public behavior.

The Water Division has several plans underway to assess the garden's impact. The Division's overall Public Outreach Program includes several random surveys via mail, website and focus groups to obtain public feedback. The Water Division will also utilize its interactive website to display an online demonstration garden with information on water-efficient plants, soil amendments and related drought-tolerant applications.

Qualifications of the Applicant and Cooperators

City of Oxnard Water Division

The City of Oxnard Water Division supervises and maintains the delivery of tap water to 36,947 service connections. Oxnard's current water supplies consist of groundwater from the aquifers underlying the Oxnard plain and imported state water from Northern California. The Water Division's wells pump 12-percent of the city's water from the local Oxnard Forebay Groundwater Basin. The majority of Oxnard's water comes from the Delta with the purchase of 71-percent from the Metropolitan Water District of Southern California. Seventeen percent is purchased from the United Water Conservation District.

The Water Division is made up of nearly 40 employees representing four departments including Water Production, Water Distribution, Water Services and Administration. The Water Division's primary objective is to provide Oxnard residents with excellent service and a safe and dependable supply of drinking water that meets and exceeds all federal and state standards for safe drinking water.

Ken Ortega, City of Oxnard Water Superintendent

Ken Ortega, Water Superintendent for the City of Oxnard Water Division, holds a Bachelors of Science degree in Civil Engineering from California Polytechnic State University, San Luis Obispo. This challenging position involves developing long-range water resource projects such as the Groundwater Recovery Enhancement And Treatment (GREAT) Program, a nationally recognized water resources project that combines wastewater recycling and reuse, groundwater injection, storage and recovery, groundwater desalination and the restoration of local wetlands to provide regional water supply solutions to the Oxnard plain. Other noteworthy projects include Blending Station #3 Water Conditioning Facility & Well Pumping Plant, and Blending Station #1 ADA/Energy Efficiency Improvements Project.

Before joining the City of Oxnard, Ken Ortega worked as the Assistant City Engineer/Deputy Public Works Director for the City of Santa Paula, where he managed several programs including water and wastewater utilities.

CPS Landscape Architecture

Based in Ventura, California, CPS Landscape Architecture has provided design solutions to municipalities and private clients for more than 2,600 projects since 1972. Professional services include specific plans, master plans, reforestation and water conservation reports, park planning, resort site design, bicycle trails, habitat restoration, campus planning, streetscape designs and landscape designs. They also successfully assist cities in preparing and implementing community planning and design policies.

The firm has been recognized by several organizations including the American Institute of Architects, American Society of Landscape Architects, Goleta Beautiful, Ojai Beautiful, Ventura Architectural Review Board, and the U.S. Navy. Overall, CPS Architecture has received 12 Awards for excellence in design and three merit awards for design and planning.

Outreach, Community Involvement and Acceptance

Public Outreach and community involvement of the South Oxnard Library Xeriscape Demonstration Garden is necessary to attract interest, public participation and ultimately public acceptance. The public outreach campaign will include traditional outreach methods such as media relations, feature articles in resident newsletters and industry publications, special events, garden talks and information on the Water Division's website. One idea is to sponsor advertisements at Oxnard's movie theatre, currently under construction. The advertisements will not only promote the library's demonstration garden with images of beautiful plants, but reinforce simple messages about water-efficient landscaping. The garden itself will be educational with labels for plant materials, interpretive materials such as brochures and plant lists, and the availability of knowledgeable persons to explain the garden to visitors. A permanent display featuring xeriscape concepts, access to website information and "how to" literature will be placed in a prominent location in the library.

The Water Division will also provide specialized programs to community-based organizations, schools, landscapers and watershed groups.

Innovation

EvapoTranspiration (ET) Controllers, utilized in the South Oxnard Xeriscape Demonstration Garden, offer a technology that will stimulate interest among residents and business owners as well as achieve long-term water savings, reduce urban run-off and improve water quality. This project is intended to replace the common "clock type" irrigation controllers with ET Controllers.

ET is the combined process of water evaporating from the soil and water transpiring from the plants. It's based on several factors including soil radiation, temperature, air moisture and wind speed. Because ET can vary considerably from week to week, it will be necessary to adjust irrigation schedules and reprogram controllers on a weekly basis. ET can be simply downloaded from weather stations throughout California.

This innovative, cost-saving technology provides the following benefits:

- Water savings
- Convenience to the resident or business owner
- Improved quality of plants
- Reduced non-point source pollution
- Improved water quality

Finally, this project will help accelerate the use of ET controller technology in Oxnard's service area.

Benefits

The Water Division's Xeriscape Demonstration garden at the new South Oxnard Library is consistent with the mission of the California Bay-Delta Program. With an overall goal of increasing water conservation efforts and fostering widespread public support, the project will successfully educate and inform residents and business owners of an alternative landscaping option and raise consciousness of water-saving practices.

Additional benefits include:

- The project will have great value for its water savings and reduction on Bay-Delta demand resulting from those savings. Conservation reduces demands on water diversions from the Bay-Delta. When less water is diverted, water quality in the Delta improves and more water is available for the ecosystem in which it relies.
- The City of Oxnard will create new opportunities for community partnerships and involvement. The Water Division plans to provide specialized programs to community-based organizations, schools, landscapers, gardening clubs and watershed groups.
- ET controllers will help in the reduction of urban run-off. As business and households implement this new technology, less water, fertilizers and pesticides will reach our oceans and groundwater through soil intrusion.
- Finally, the comprehensive public outreach campaign will help accelerate the use of xeriscape landscaping, ET controller technology and the use of native plants in this service area resulting in greater water reduction.

Commitment to Water Conservation:

To illustrate the level of conservation commitment, the following site improvements at the Water Division's main facility are currently in the design development stage:

- (1) Utilization of drought-tolerant and native plants to reduce irrigation water use.
- (2) Collection and use of rainwater for irrigation through the RainStore harvesting system.
- (3) Installation of permeable paving to reduce run-off and increase water infiltration.
- (4) Planting vegetated bioswales to increase water infiltration and reduce impurities prior to discharge into the storm sewer system.

2004 Water Use Efficiency Proposal Solicitation Package

APPENDIX A: Project Information Form

Applying for:

Urban

Agricultural

1. (Section A) **Urban or Agricultural Water Use Efficiency Implementation Project**

(a) implementation of Urban Best Management Practice, # _____

(b) implementation of Agricultural Efficient Water Management Practice, # _____

(c) implementation of other projects to meet California Bay-Delta Program objectives, Targeted Benefit # or Quantifiable Objective #, if applicable

(d) Specify other: _____

2. (Section B) **Urban or Agricultural Research and Development; Feasibility Studies, Pilot, or Demonstration Projects; Training, Education or Public Information; Technical Assistance**

(e) research and development, feasibility studies, pilot, or demonstration projects

(f) training, education or public information programs with statewide application

(g) technical assistance

(h) other

3. Principal applicant
(Organization or affiliation):

City of Oxnard Water Division

4. Project Title:

South Oxnard Library, Xeriscape Demonstration Project

5. Person authorized to sign and submit proposal and contract:

Name, title

Ken Ortega, Water Superintendent

Mailing address

251 South Hayes Avenue
Oxnard, CA 93030-6058

Telephone

(805) 385-8139

Fax.

(805) 385-8137

E-mail

Ken.ortega@ci.oxnard.ca.us

6. Contact person (if different):

Not applicable

7. Grant funds requested (dollar amount):

\$104,642

(from Table C-1, column VI)

8. Applicant funds pledged (dollar amount):

\$104,642

9. Total project costs (dollar amount):

\$209,284

(from Table C-1, column IV, row n)

10. Percent of State share requested (%)

50 %

(from Table C-1)

11. Percent of local share as match (%)

50 %

(from Table C-1)

12. Is your project locally cost effective?

Locally cost effective means that the benefits to an entity (in dollar terms) of implementing a program exceed the costs of that program within the boundaries of that entity.

(a) yes

(If yes, provide information that the project in addition to Bay-Delta benefit meets one of the following conditions: broad transferable benefits, overcome implementation barriers, or accelerate implementation.)

(b) no

13. Is your project required by regulation, law or contract?

If no, your project is eligible.

(a) yes

If yes, your project may be eligible only if there will be accelerated implementation to fulfill a future requirement and is not currently required.

(b) no

Provide a description of the regulation, law or contract and an explanation of why the project is not currently required.

14. Duration of project (month/year to month/year):

**12 months construction,
ongoing maintenance**

15. State Assembly District where the project is to be conducted:

35, 41

16. State Senate District where the project is to be conducted:

23

17. Congressional district(s) where the project is to be conducted:

23

18. County where the project is to be conducted:

Ventura County

19. Location of project (longitude and latitude)

Corner of Bard and Saviers Road

20. How many service connections in your service area (urban)?

36,947

21. How many acre-feet of water per year does your agency serve?

30,000 acre-feet

22. Type of applicant (select one):

(a) City

(b) County

(c) City and County

(d) Joint Powers Authority

(e) Public Water District

(f) Tribe

(g) Non Profit Organization

(h) University, College

(i) State Agency

(j) Federal Agency

(k) Other

(i) Investor-Owned Utility

(ii) Incorporated Mutual Water Co.

(iii) Specify _____

23. Is applicant a disadvantaged community? If 'yes' include annual median household income.

(a) yes, \$46,342 median household income. However, the per capita income for south Oxnard is \$19,155 and ethnically diverse. See narrative.

(Provide supporting documentation.)

(b) no

2004 Water Use Efficiency Proposal Solicitation Package
APPENDIX B: Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

The individual signing the form has the legal authority to submit the proposal on behalf of the applicant;

There is no pending litigation that may impact the financial condition of the applicant or its ability to complete the proposed project;

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant;

The applicant will comply with all terms and conditions identified in this PSP if selected for funding; and

The applicant has legal authority to enter into a contract with the State.

Signature:  _____
Ken Ortega, Water Superintendent

Date: January 6, 2005

**APPENDIX C
PROJECT IMPLEMENTATION COSTS TABLE**

APPLICANT: City of Oxnard Water Division

Project Title: South Oxnard Public Library Xeriscape Demonstration Garden

If using the excel tables on DWR website, complete 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)

	Category	Project Costs \$	Contingency % (ex. 5 or 10)	Project Cost + Contingency \$	Applicant Share \$
	(I)	(II)	(III)	(IV)	(V)
	Administration (for initiation of project)				
	Salaries, wages				
	Fringe benefits	0	10 %		
	Supplies				
	Equipment				
	Consulting services	\$16,235	10 %		
	Travel				
	Other				
(a)	Total Administration Costs ¹	\$16,235	10 %		
(b)	Planning/Design/Engineering				
(c)	Equipment Purchases/Rentals/Rebates /Vouchers				
(d)	Materials/Installation/Implementation	\$174,023	10 %		
(e)	Implementation Verification				
(f)	Project Legal/License Fees				
(g)	Monitoring and Assessment				
(h)	Report Preparation				

(i)	Structures				
(j)	Land Purchase/Easement				
(k)	Environmental Compliance/Mitigation/Enhancement	0	0		
(l)	Construction				
(m)	Other (Specify)				
(n)	TOTAL (=a+...+m)	\$190,258	\$19,026	\$209,284	\$104,642
(o)	Cost Share Percentage	NA	NA	NA	N/A

† (Excludes administration O & M costs)

Table C-2: Annual Operations and Maintenance Costs - Project is not applicable

Table C-3: Total Annual Project Costs - Project is not applicable

Table C-4: Capital Recovery Factor - Project is not applicable

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) ²
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: <ul style="list-style-type: none"> ▪ Water savings and reduction on Bay-Delta. Conservation reduces demands on water diversions which improves water quality in the Delta and increases water for its ecosystem. ▪ The support and acceleration of ET controllers in Oxnard’s service area will help reduce urban run-off. ▪ As households and businesses implement ET technology, less water, fertilizers and pesticides will reach our oceans and groundwater through soil intrusion. 	N/A			N/A

<p>Local:</p> <ul style="list-style-type: none"> ▪ With specialized programs to local organizations, there will be new opportunities for community partnerships, education and information on the use of water-saving landscaping. ▪ As households and businesses implement ET technology, less water, fertilizers and pesticides will reach our oceans and groundwater through soil intrusion. ▪ Widespread support and participation in the program will result in greater water reduction. 	N/A		Not Applicable	N/A
--	-----	--	---------------------------	-----

Table C-6. Project Annual Local Monetary Benefits - Project is not applicable

Table C-7: Project Local Monetary Benefits and Project Costs - Project not applicable

Table C-8: Applicant's Cost Share and Description	
Applicant's cost share (%): (from Table C-1, row o, column V)	\$104,642