

**Consolidated Water Use Efficiency 2002 PSP
 Proposal Part One:
 A. Project Information Form**

1. Applying for (select one): (a) Prop 13 Urban Water Conservation Capital Outlay Grant
 (b) Prop 13 Agricultural Water Conservation Capital Outlay Feasibility Study Grant
 (c) DWR Water Use Efficiency Project
2. Principal applicant (Organization or affiliation): East Bay Municipal Utility District
-
3. Project Title: Waterless Urinal Retrofit in Schools Project
-
4. Person authorized to sign and submit proposal:
- | | |
|-----------------|------------------------------------|
| Name, title | <u>Dennis M. Diemer</u> |
| Mailing address | <u>General Manager</u> |
| Telephone | <u>P.O. Box 24055, Oakland, CA</u> |
| Fax. | <u>94623-1055</u> |
| E-mail | <u>(510) 287-0101</u> |
| | <u>(510) 287-0188</u> |
| | <u></u> |
-
5. Contact person (if different):
- | | |
|------------------|------------------------------------|
| Name, title. | <u>Leann Gustafson, Water</u> |
| Mailing address. | <u>Conservation Representative</u> |
| Telephone | <u>P.O. Box 24055, MS #48,</u> |
| Fax. | <u>Oakland, CA 94623-1055</u> |
| E-mail | <u>(510) 287-0898</u> |
| | <u>(510) 287-1883</u> |
| | <u>lgustafs@ebmud.com</u> |
-
6. Funds requested (dollar amount): \$721,500
-
7. Applicant funds pledged (dollar amount): \$721,500
-
8. Total project costs (dollar amount): \$1,443,000
-
9. Estimated total quantifiable project benefits (dollar amount): \$1,512,500
- Percentage of benefit to be accrued by applicant: %100
-
- Percentage of benefit to be accrued by CALFED or others: %100
-

**Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form (continued)**

10. Estimated annual amount of water to be saved (acre-feet): 302 acre-ft/year
- Estimated total amount of water to be saved (acre-feet): 6,050 acre-feet
- Over ___ years 20 years
- Estimated benefits to be realized in terms of water quality, instream flow, other: \$0-\$25/AF
-
11. Duration of project (month/year to month/year): Oct. 2002-Sept. 2005
- 11,14,15,16,18
12. State Assembly District where the project is to be conducted: 7,9,10
13. State Senate District where the project is to be conducted: 7,9,10
14. Congressional district(s) where the project is to be conducted: Alameda & Contra
15. County where the project is to be conducted: Costa
16. Date most recent Urban Water Management Plan submitted to the Department of Water Resources: January 2002
-
17. Type of applicant (select one):
- Prop 13 Urban Grants and Prop 13 Agricultural Feasibility Study Grants:
- (a) city
 - (b) county
 - (c) city and county
 - (d) joint power authority
 - (e) other political subdivision of the State, including public water district
 - (f) incorporated mutual water company
- DWR WUE Projects: the above entities (a) through (f) or:
- (g) investor-owned utility
 - (h) non-profit organization
 - (i) tribe
 - (j) university
 - (k) state agency
 - (l) federal agency
18. Project focus: (a) agricultural

(b) urban

**Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form (continued)**

19. Project type (select one):
Prop 13 Urban Grant or Prop 13
Agricultural Feasibility Study Grant
capital outlay project related to:

- (a) implementation of Urban Best Management Practices
- (b) implementation of Agricultural Efficient Water Management Practices
- (c) implementation of Quantifiable Objectives (include QO number(s))

- (d) other (specify)

DWR WUE Project related to:

- (e) implementation of Urban Best Management Practices
- (f) implementation of Agricultural Efficient Water Management Practices
- (g) implementation of Quantifiable Objectives (include QO number(s))
- (h) innovative projects (initial investigation of new technologies, methodologies, approaches, or institutional frameworks)
- (i) research or pilot projects
- (j) education or public information programs
- (k) other (specify)

20. Do the actions in this proposal involve physical changes in land use, or potential future changes in land use?

- (a) yes
- (b) no

If yes, the applicant must complete the CALFED PSP Land Use Checklist found at http://calfed.water.ca.gov/environmental_docs.html and submit it with the proposal.

**Consolidated Water Use Efficiency 2002 PSP
Proposal Part One
B. Signature Page**

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

The individual signing the form is authorized to submit the proposal on behalf of the applicant; and

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.

Signature

Name and title

Date

B. Scope of Work

RELEVANCE AND IMPORTANCE

1. Executive Summary.

The purpose of this project is to purchase and install Waterless Urinals in public schools in the East Bay Municipal Utility District's (EBMUD) service area. Waterless urinals are a proven water saving technology. Business entities within our service area that have already installed these fixtures include: General Services Agency, Port of Oakland, Contra Costa Community College District, and the Oakland Unified School District.

This project is an important first step in replacing flush urinals throughout the District service area. The successful completion of this project will provide a model for efforts in other schools, government agencies, and office buildings of the economic and environmental benefit of replacing flush urinals with non-flush urinals.

This project would be locally cost-effective. The funds solicited in this grant would be used to subsidize these installations. The end-users would be responsible for ongoing maintenance fees associated with these units.

2. Statement of Issues.

As urban agencies and signatories to the California Urban Water Conservation Council's Memorandum of Understanding, there is a commitment to implementing the urban "Best Management Practices" in an effort to do our part to reduce the negative impact on the Bay-Delta. This project directly relates to BMP # 8 Services to Schools and BMP #9 directing reduction in Commercial, Industrial and Institutional end uses.

3. Nature, Scope and Objectives.

The results of this project will be to increase the rate of installation and end-user familiarity with this tested technology. The regional conservation benefit of the units installed by the participating agencies and districts is calculated to be approximately 6,050 AF. This assumes a measure life of 20 years.

TECHNICAL/SCIENTIFIC MERIT, MONITORING, AND ASSESSMENT

4. Methods, procedures and facilities.

EBMUD proposes to replace all flush urinals in participating schools with non-flush urinals. The District will arrange for the purchase of the product at wholesale prices and will hire contractors to do the installations. The proposed duration of the grant is three years, with target installations of 1,000 urinals per year for a total of 3,000 over the duration of the grant. There will be no charge to the participating schools.

Participating schools will assume all maintenance costs for the fixtures installed in their districts. EBMUD will host a product-training seminar to familiarize maintenance staff with guidelines for upkeep. Two tested models of urinals that use no water for flushing are currently on the market. Both use a liquid barrier at the drain trap to prevent sewer vapors from escaping. One model has a replaceable liquid filled trap

that is recyclable. The second model uses a permanent trap into which liquid solution is added to achieve a vapor seal. Both models will be installed, but only one model will be installed in any given school site.

The replacement of a single flush-urinal in a school setting is estimated to result in annual water savings of approximately 33,000 - 40,000 gallons per fixture. The Jet Propulsion Laboratory facility in Barstow, California, installed more than 300 Waterless Urinals and project annual water savings from the replacement at 13 million gallons. This water savings potential far exceeds the traditional replacement of high water-using fixtures with low water-using fixtures.

5. Schedule. (Subsequent years will follow the same schedule respectively.)

TIME	TASK	BUDGET ITEM	AMOUNT
Oct. 2002	Execute final contract	10 hours, agency time	\$960
Oct. – June. 2003	Finalize installations schools, vendors, and participating agencies	824 hours, agency time	\$79,104
Jan. 2003	1 st Quarter Report	14 hours, agency time	\$1,344
Oct. - July 2003	Retrofit urinals	(All vendor costs and equipment in one sum)	\$385,000
Oct. - Sept. 2003	Administer contract details with participating agencies.	24 hours, agency time	\$2,304
July 2003	Training Seminar	8 hours, agency time	\$768
April 2003	2 nd Quarter Report	14 hours, agency time	\$1,344
Oct. – July 2003	Customer follow-up, monitoring, and assessment	50 hours, agency time	\$4,800
July 2003	3 rd Quarter Report	14 hours, agency time	\$1,344
August 2003	Submit results for publication Presentations (if any requested)	28 hours, agency time	\$2,688
Sept. 2003	4 th (and Final) Quarter Report	14 hours, agency time	\$1,344
Total			\$481,000

Note: Total budget amount for three years project duration is \$1,443,000. The applicant agency to pay half of all expenditures. Grant to pay remaining half.

6. Monitoring and assessment.

EBMUD will monitor and record the pre- and post-installation consumption at participating schools. Database records will be queried to assess the quantity of savings at each site. Customer satisfaction interviews will be conducted and the resulting comments and concerns will be included in quarterly reports.

C. Outreach, Community Involvement, and Information Transfer

1. Disadvantaged communities.

EBMUD serves substantial portions of disadvantaged communities. Every effort will be made to seek participation from schools located in and serving these communities. These large urban sites present a unique opportunity for a conservation strategy that combines water efficiency goals and environmental enhancement, with educational outreach to school age children.

2. Training, employment, and capacity building potential. Not applicable.

3. Disseminating information.

Results of the conservation efficiencies of these implementations will be submitted to conservation-related organizations (such as AWWA's tri-annual conference and The California Department of Water Resource's *Water Conservation News*) for publication. Results will also be reported to the CUWCC and disseminated among its members. Effort will be made to introduce other local water agencies to this technology.

4. Letters to government entities.

Not applicable. All participants are water agencies.

D. Qualifications of the Applicants, Cooperators, and Establishment of Partnerships

1. Resumes.

Resumes for the agency project managers are inserted at the end of this proposal:
Leann Gustafson, East Bay Municipal Utility District

The agency project manager will be responsible for gaining participation from end-users, coordinating metering and installation process, analyzing the data, completing the reports and disseminating the results to the water industry.

2. External cooperators.

Alameda Unified School District has submitted a letter of support with this application. Oakland Unified School has shown interest in this technology and has installed waterless urinals in various locations throughout their school district.

3. Partnerships.

East Bay Municipal Utility District has the support of Alameda Unified School District and Oakland School District. Our service area includes 14 unified school districts and 395 school sites. Our approach will augment efforts to increase the rate of installation and the resultant regional water savings. Project results will draw further interest in such water saving technologies across the state. (See Attachment 2, *Maps of Geographic Boundaries of the Project*)

Alameda Unified School District has as its mission to “inspire respect for and stewardship of the natural world.” ASCD serves a diverse population from elementary through adult education that includes many disadvantaged communities. It is representative of the schools throughout our service area. In addition to the water conservation benefits for our region we anticipate an educational benefit through exposure to the installations in our facilities.

E. Costs and Benefits

1. Budget summary and breakdown per program year.

ITEM	DETAIL	AMOUNT
Salaries/ Benefits:	3,000 hours @ \$96.00/hour inclusive of benefits	\$288,000
Equipment:	3,000 @ \$500 (inc. tax, disposal of existing fixture, and installation.)	\$1,155,000
Total		\$1,443,000

East Bay Municipal Utility District will contribute \$721,500 to cover the cost of their own salaried positions, benefits and portions of the equipment expense over the three years of project duration.

Agency contribution: \$721,500

Grant contribution: \$721,500

2. Budget justification.
The salaried hours are broken out under section B.5 Schedule and Attachment 3. Equipment is described under section B.4 Methods, procedures and facilities.
3. Benefit summary and breakdown.
All benefits are calculated in Attachment 1 in terms of reduced potable water demand and sewer flows. Reduced water and sewer flows also result in reduced need for power (for pumping and treating water). However, since the exact reduction in kilowatts is not known, those benefits are not calculated in the Attachment.
4. Assessment of costs and benefits.
See Attachment 1.

F. Matching Funds Commitment Letter

- A. East Bay Municipal Water District
- B. Letter of Support, Alameda Unified School District

Letters will be submitted when this proposal is selected for funding, along with other documents required at that time.

Leann Gustafson

EDUCATION

University of San Francisco, BS, Information Systems Management, 2000

Professional History

EBMUD, Water Conservation Representative, 2000-to date

Gustafson Design & Construction, Owner, 1990-to date

Experience

Water Conservation Representative, EBMUD

- Design and implement CII water efficiency programs. Currently responsible for water efficiency surveys and incentive programs within the institutional end use category. Responsible for financial monitoring and reporting, coordinating services with consultants, drafting contracts, marketing and public outreach, and engineering reviews of proposed technological implementations.
- Serve on Unaccounted for Water internal committee. Responsible for coordinating internal audits and reporting functions of District facilities. Formulate internal review processes. Perform detailed data and system analysis.
- Responsible for data collection and database maintenance for institutional clients. Develop and implement Geographical Information System (GIS) applications for spatial data analysis of water conservation strategies.
- Structure community presentations and training workshops to advance public awareness of water conservation practices and agency support.
- Project Manager on a Joint Agency X-ray Recycling Model Project. Responsible for coordinating with Department of Water Resources and participating agencies to complete a study of the conservation potential of new recycling technology for photo processing machines.
- Project Manager for a Proposition 13 grant to study on-site recycling of the wastewater streams of water features at the Oakland Zoo.

Owner, Gustafson Design and Construction

- Operate general contracting firm, California license # 593-969.
- Supervise construction of various light commercial and residential projects in the Greater Bay Area. Responsible for design, construction and financing. Supervise subcontractors, staff, and customer contact. Full knowledge of all applicable codes and regulatory compliance issues.

School Water Usage Estimate Per Urinal

Estimated usage per fixture in a school setting

90 gallons per day

Estimating Water Savings Per Unit Installed

Estimated Savings	32,850 gallons per year
% Reduction	
Convert to Hundred Cubic Feet	44 CCF saved per year
Conver to Acre Feet	0.10 AF saved per year

Estimating Water Savings For Total Project

EBMUD: 3,000 urinals	302.44 AF saved per year
Subtotal	302.44 AF saved per year
Life cycle	20 years
Grand Total	6,049 AF saved, total project
Project Cost	\$250,800
Cost per AF	\$41
Agency portion (\$112,300)	\$19 Cost per AF, total project
Grant portion (\$138,500)	\$23 Cost per AF, total project

Estimating the Value Per Unit Installed I

Variable rates (water + sewer + other)

EBMUD:	Value to customer @ \$3.55/CCF (est)*	\$156 Annual savings
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*rates vary within agency service area by communities served

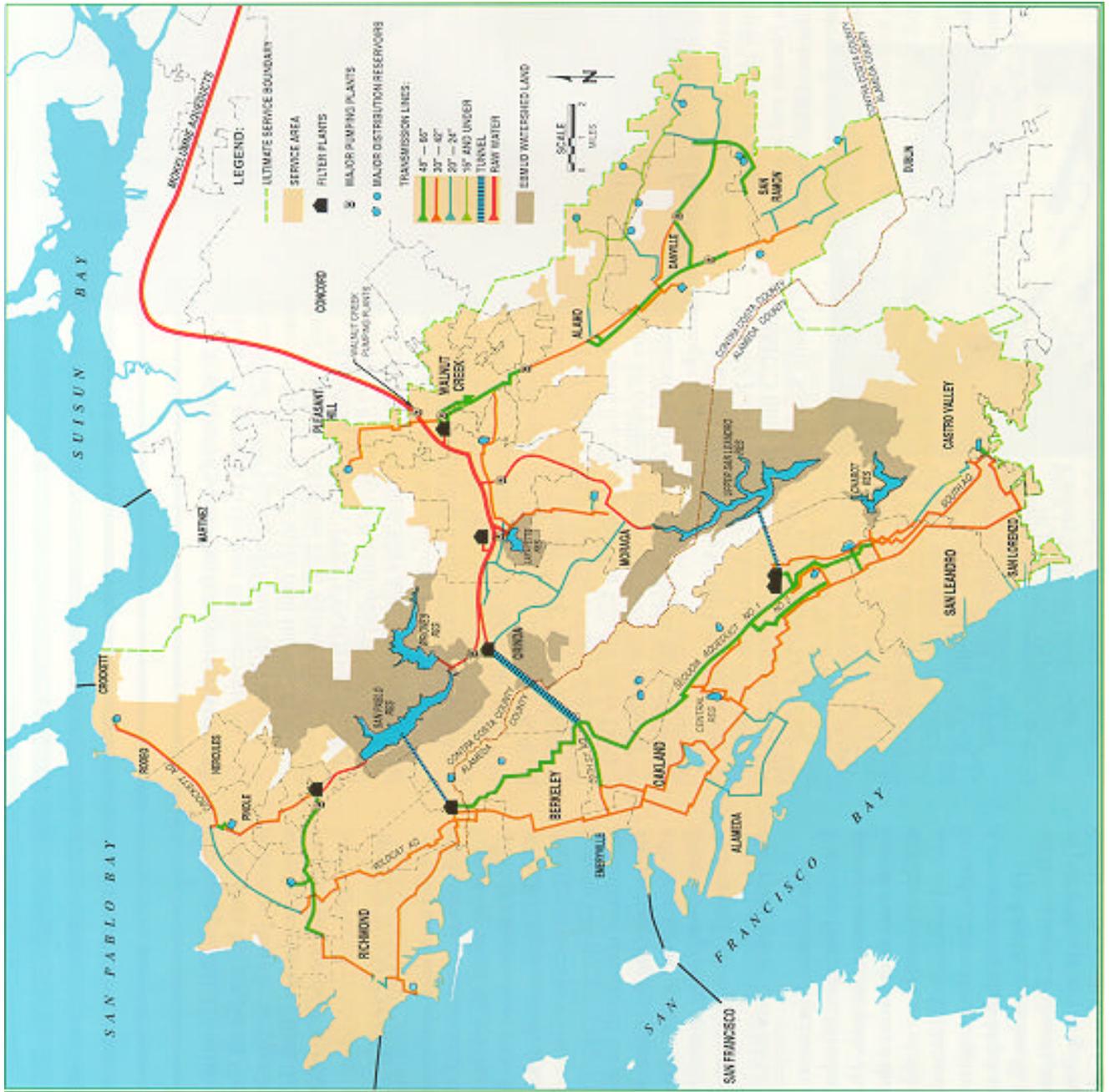
Estimating the Value Per Unit Installed to the Water Agencies

East Bay Municipal Utility District

Marginal cost of water	\$250 Cost per AF
Value to water agency	\$19 Annual savings
Present Value of saved water	\$218 Discounted @ 6% for 20 years
Agency investment	\$481 Invested @ 6%, 20 years
Internal Rate of Return	2%

Attachment 2: Maps of Geographic Boundaries of the Project

EAST BAY MUD'S SERVICE AREA



Proposed Breakdown of Proposition 13 Funding for Waterless Urinal Retrofit in the Schools Project

**Attachment 3.
Three Year Budget**

TIME (See note)	TASK	BUDGET ITEM	AMOUNT	EBMUD HRS.	EBMUD \$	ANN. BUDGET \$	EBMUD ANN. BUDGET \$	
Oct. 2002	Execute Final Contract	30 hours of agency	\$2,880	30	\$1,440	\$960	\$480	Agency Rate: \$96.00 per hour (inc. of benefits)
Oct. - June 2003	Finalize arrangements with schools & participating agencies.	2472 hours, agency time	\$237,312	2472	\$118,656	\$79,104	\$39,552	
Jan. 2003	1st Quarter Report	42 hours, agency time	\$4,032	42	\$2,016	\$1,344	\$672	
Oct. - July 2003	Retrofit urinals	All vendor costs and equipment in one sum.	\$1,155,000		\$577,500	\$385,000	\$192,500	
Oct.- Sept. 2003	Administer Contract details with participating agencies,	72hours, agency time	\$6,912	72	\$3,456	\$2,304	\$1,152	
July 2003	Training Seminar	24hours, agency time	\$2,304	24	\$1,152	\$768	\$384	
April 2003	2nd Quarter Report	42 hours, agency time	\$4,032	42	\$2,016	\$1,344	\$672	
Oct. - July 2003	Customer follow-up, monitoring, and assessment.	150 hours, agency time	\$14,400	150	\$7,200	\$4,800	\$2,400	
July 2003	3rd Quarter Report	42 hours, agency time	\$4,032	42	\$2,016	\$1,344	\$672	
August 2003	Submit results for publication							
	Presentations (if requested)	84 hours, agency time	\$8,064	84	\$4,032	\$2,688	\$1,344	
September 2003	4th (and final) Quarter Report	42 hours, agency time	\$4,032	42	\$2,016	\$1,344	\$672	
Total			\$1,443,000	3000	\$721,500	\$481,000	\$240,500	
	Agency contribution at \$240.50/machine				\$721,500	\$240,500		
	Balance due from Proposition 13 Grant				\$721,500	\$240,500		

Note: Schedule repeats annually. Total project duration is 3 years.
Projected expenditures in time and dollars represent the total 3 year budget for the project.

Note: Budget is calculated using a figure of \$96.00 administration per fixture, \$300 per fixture, \$75.00 per fixture for installation, \$10.00 per fixture disposal fee, and one hour of administrative time per fixture at \$96.00.

RICHARD W. HARRIS, P.E.
MANAGER OF WATER CONSERVATION

EAST BAY MUNICIPAL UTILITY DISTRICT

As Water Conservation Manager, Richard Harris oversees the development and implementation of EBMUD's Water Conservation Master Plan in support of long-term water supply and demand management goals. With an annual budget of more than \$5 million, and a total projected program budget of \$92 million, EBMUD's water conservation efforts represent one of the largest staffed and budgeted conservation programs among major water utilities in the state. Mr. Harris is a licensed civil engineer and has been at EBMUD for more than 11 years. Prior to joining the Water Conservation Division, he managed the District's Water Recycling Program. Mr. Harris continues to serve as a District spokesperson on water use efficiency. Mr. Harris also serves as the EBMUD Energy Conservation Coordinator to the California Flex Your Power Campaign. Mr. Harris has more than 17 years experience in the environmental systems planning, engineering and resource management, and worked a number of years in the private sector specifically in the environmental engineering and energy management fields for Combustion Engineering Environmental, Inc. and Guaranteed Energy Savings, Inc.

Key Experience:

- 4/99 – Pres. Manager of Water Conservation - EBMUD*
Responsible for managing the District's Water Conservation Division and directing the planning and implementation of the Water Conservation Master Plan to achieve 34 million gallons per day in water savings by the year 2020. Manage 19 professional staff and administer a \$92 million capital and operating program budget, totaling in excess of \$5 million annually.
- 4/98 - 4/99 Senior Civil Engineer – EBMUD, DERWA*
Supervisor of ten professional staff in the Office of Reclamation and Wastewater Planning Sections. Served as the Engineering Program Manager for the DSRSD-EBMUD Recycled Water Authority, responsible for supervising and implementing a joint \$90 million water recycling project. Served as a member of the Executive Management Board and Chair of the Finance Committee for the Bay Area Regional Water Recycling Program.
- 11/96 - 4/98 Supervising Administrative Engineer – EBMUD*
Program Manager for \$120 million Water Recycling Program. Responsible for planning and administration of new capital projects (\$7M - \$60M), operating projects (\$38M) and consultant management. District spokesperson on all water recycling matters with the community and elected officials.
- 7/87 - 7/89 Technical Engineer – Combustion Engineering Environmental, Inc.*
Conducted environmental science and engineering field operations. Participated in all phases of the Materials Damage Study for the California Air Resources Board, including site installation and monitoring, sample preparation and processing, and report writing. A member of technical

team conducting field services for the Rocketdyne Wastewater Sampling Program. Services included flow meter installation and calibration, channel design, field sampling, laboratory preparation and report writing.

1/85 - 11/86

Manager, Southern Pacific Region/Conservation Engineer - Guaranteed Energy Savings, Inc.

Responsible for field service activities in California, Arizona, New Mexico and Texas. Responsibilities included marketing, new project development, site surveys, and management support of energy conservation systems for contracts exceeding \$2 million. Performed computer system installation and complete electrical system support. Directed the work of the field electrical crews on energy savings programs; conducted contract negotiations.

Education:

Masters Degree, Civil Engineering, University of California, Los Angeles.
Bachelors Degree, Business Economics, University of California, Santa Barbara.

Bachelors Degree, Environmental Studies, University of California, Santa Barbara.

Affiliations:

Richard serves on the Board for the California Urban Water Conservation Council and is active in the American Water Works Association, Water Environment Federation and WateReuse Association.



Alameda Unified School District
We Serve Children

Maintenance, Operations & Facilities
2200 Central Avenue Ste. C
Alameda, CA 94501
(510) 337-7090
fax (510) 337-7083

February 22, 2002

Water Use Efficiency Office
California Department of Water Resources
P.O. Box 942836
Sacramento, CA 994236-0001

Dear Staff,

This letter is to confirm Alameda Unified School District's (AUSD) support for the Waterless Urinal Retrofits in Schools Project. AUSD has 19 schools in our district. In conjunction with East Bay Municipal Utility District (EBMUD) we are interested in participating in water conservation retrofits in our schools.

AUSD serves a diverse population from elementary through adult education that includes many disadvantaged communities. In addition to the water conservation benefits for our region, we anticipate an educational benefit through exposure to the installations in our facilities.

Sincerely,

A handwritten signature in black ink that reads 'Robert De Luca'. The signature is written in a cursive, flowing style.

Robert De Luca
Administrative Director,
Maintenance, Operations &
Facilities

RD:fm

*EBMUD
P.O. BOX 24055
Oakland, CA 94623*