

Application Number		Application for (a-urban, b-agriculture, c-DWR/WUE:	
155		a) Prop 13 Urban Water Conservation	
Principle Applicant(Organization/Affiliation)			
Covina Valley Unified School District			
Project Title			
Campus ET controller/Irrigation System Conservation Upgrade			
First Name-Authorized	Last Name (AA):	Title	
Ron	Murrey	chief Business Officer	
Street Address		PO Box	
519 East Badillo Street			
City		State	
Covina		CA	
Zip Code		Telephone Number(Include Area Code)	
91723		(626) 974-7600	
Fax Number (Include Area Code)		E-mail Address	
(626) 974-7032		rmurrey@cvusd.k12.ca.us	
First Name-Contact Per	Last Name-CP:	Contact-Title	
Bob	Macauley		
Contact-Street Address		Contact-PO Box	
519 East Badillo Street			
Contact-City		Contact-State	
Covina		CA	
Contact-Zip Code		Contact-Phone Number	
91723		(626) 974-7600	
Contact-Fax Number		Contact-E-Mail Address	
(626) 974-7032		bmacauley@cvusd.k12.ca.us	
Funds Requested (dollar amount)	Applicant Funds Pledged (dollar amount)	Total Project Costs (dollar amount)	
\$614,812.00	\$410,000.00	\$1,024,812.00	
Estimated Total Quantifiable Project Benefits (dollar amount)	Percentage of Benefits to be Accrued by App		
\$1,260,043.00	1		
Percentage of Benefits to be Accrued by CALFED or other	Estimated Annual Water to be Saved (acre-fe		
	176.3		
Estimated Total Amount of Water to be Saved (acre-fee	Over _____	Number of Years	
2644	15		
Estimated Benefits to be Realized (terms of water qual,instream			
Duration of Project (month/year-month/year):		State-Wide	
11/02-05/03		<input type="checkbox"/>	
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County-location of project	Most recent Urban Water Mgt Plan Submitt		
Los Angeles			
Type Applicant-Urban(a)Agricl Feas Study(b) Gra	DWR WUE Projects	Project Focus	
e) other-subdivision of state(include public water)		b) Urban	
Project Type:			
d) other- specify			

Quantifiable Objectives

Specify from choice (d) above
ET Controller Installation
Specify from (k) above
Does Proposal involve change in land use (planned/future) Check box if yes
<input type="checkbox"/>

Proposal Part Two:

Project Summary

In 2002 the Covina Valley Unified School District embarked on an aggressive water conservation program. The program is to be implemented in phases over a three-year period. In phase one, the District plans to employ the services of an irrigation management-consulting firm who will complete an extensive irrigation/landscape audit for the entire 153+ acres of landscaped areas. As part of the consultants recommendations, modifications (zone reconfigurations, correct nozzle installations, booster pumps added or when required complete system replacements) to the system will be implemented so as to meet or surpass the targeted efficiency rating of 70+%. Upon completion of those modifications, the District, under the direction of Bob Macauley and the support of the consultant, the District would like to install ET Controllers at each of its sites so as to maximize the efficiency of each system and greatly reduce its irrigation water usage. Upon completion of this project, **the District expects to be able to conserve in excess of 176 AF of water annually**, calculated on a base year (average of 1999 and 2000 usage) usage of 432.5 AF. At current water rates, that equates to savings in excess of \$84,000 annually.

The ET. Controller replaces the conventional time clock used to control when sprinklers come on and how long the watering cycle continues. The ET Controller used in this Proposal receives a signal in the same manner as a pager. The signal originates from a local weather station that measures the Eto rate, or the weather conditions that determine the moisture evaporation rate from the soil and plants. The ET controller uses the data from the weather station, which adjust the watering cycle to meet the varying needs.

A. Scope of work: Relevance and Importance

Water Issues, Need and Consistency with other Plans:

Efficient use of the limited supplies of water available in California is critical. Landscape irrigation, as demonstrate through substantial research, is an essential element of effective water conservation. Currently CVUSD does not have the option to utilize reclaimed water and must rely on potable water only. Therefore all efforts to curtail unnecessary, and unwise irrigation practices contributes directly to the goals of **CALFED. The District is committed to being a responsible public agency.** In addition, reduction in irrigation results in lower levels of undesired chemicals (salts, fertilizers, pesticides and herbicides) which directly impact the water quality of our groundwater supplies. The proposed program is a new component of CVUSD current "Integrated Utility/Resource Conservation Plan." This program is an ongoing effort by the District to become a "more responsible neighbor" by reducing waste and expenses in an attempt to better meet the educational needs of a growing community on what seems to be an ever shrinking budget. Water waste directly impacts the District's ability to provide much needed facilities improvements not to mention the acquisition of learning supplies and equipment. With the State's budget in turmoil, the District is being forced to reduce cost. Water conservation is a very painless proactive way to save funds, which has no negative impact on the local community, while having a very positive impact on the environment.

Proposal Part Two:

The installation of ET Controllers:

- ET controllers embedding breaking technology can be operated via broadcast signal by the District's horticulture expert from a central location.
- Behavior is key to landscape savings and savings persistence (training, controller adjustment, sprinkler system maintenance and adjustment, choice of crop palate); ET controllers remove variability in water savings induced by behavioral factors.
- Controllers can be adjusted to water at night, and can adjust throughout the year based on seasonal pattern and recent climate conditions.
- The broadcast signal can be used to turn off irrigation on rainy days.
- As part of this ongoing program, the District will perform periodic surveys to ensure the delivery system is being maintained to perform at least at a minimum uniformity rating of 70%. ET controllers can improve overall cost-effectiveness of the irrigation system.

Statement of Critical Local, Regional, Bay-Delta, State and Federal Water Issues

Why is this project needed?

- Historically, there has been a low level of investment in landscape conservation because of the relatively low cost of water as compared to other utilities, even though irrigation utilizes more than 80% of the District's water.
- Efficient landscape irrigation needs seasonal adjustments, which requires knowledge and time that because of a shortage man-hours may not be attended to.
- Landscape water needs are seasonal and correlated with water supply climate and seasonal patterns (summer high, winter low, temperature correlation; rainfall inverse correlation).
- Runoff from landscape irrigation is a major source of water contaminants to surface waters and sewer systems—efficient irrigation practices can reduce runoff.
- Runoff is also important to shallow aquifers where groundwater is under the influence of surface water.
- Landscape irrigation needs associated with energy demand peaks (diurnal and seasonal variation)
- Southern California, including Los Angeles County rely substantially on imported water—including the water imported from the Bay-Delta ecosystem.
- Runoff is one of the major contributing factors to pollution in along the Southern California coast.

B. Scope of Work: Technical/Scientific Merit, Feasibility, Monitoring and Assessment

Methods, procedures and facilities:

It is generally accepted throughout the landscape and conservation industry that ET Controllers are the most effective tools available for delivering and monitoring proper amounts of water to landscaped areas. This is true as long as the actual irrigation system is maintained to a proper standard. The District is very motivated to complete this project and has already spent a considerable amount of time and resources researching and planning this project to ensure its success. The District is committed to

Proposal Part Two:

upgrading their irrigation systems efficiency to ensure the effectiveness of the ET Controllers will be maximized.

Task List, Schedule & Associated Cost:

- Initial Irrigation/Landscape Audit, Consulting fees.....\$60,000
- Irrigation System Retrofits.....\$350,000
- Total shared cost by CVUSD \$410,000**
- ET Controllers (51):
 - Hardware and Materials.....\$538,312
 - Labor (\$1,500 per controller).....\$76,500
 - Total financial requirement for project completion \$614,812**

Total Project Cost, \$1,024,812

(Note: All cost are based on planning numbers. Actual cost may be less due to the competitive bid process. Upon completion of the bid process, the District will be able to provide a line item by line item breakout of cost.)

- Completion time: A complete time line will be available after the consultant completes its initial audit. Major irrigation upgrades are tentatively scheduled to begin in 06/02

Monitoring and assessment:

The following “pre-survey” was developed by the Irrigation Management Consulting firm as part of its proposal. The base year numbers were calculated using historical usage data from the years 1999 and 2000. The actual water requirement was calculated from historical ET data received from CIMIS. The monthly usage requirements for each individual site will act as the District’s target numbers.

- Monthly usage will be monitored and recorded as water bills are received. Actual requirements will be based on “real time ET.”

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Barranca	Jan	417.35	465.8	442	1.0	204	0.5	237	0.5	204.89
account #(s)	Feb	0	0	0	0.0	0	0.0	0	0.0	0.00
204-9500-00-00A	Mar	117.3	193.8	156	0.4	398	0.9	0	0.0	0.00
204-9500-00-00B	Apr	0	0	0	0.0	0	0.0	0	0.0	0.00
	May	395.25	424.15	410	0.9	749	1.7	0	0.0	0.00
	Jun	0	0	0	0.0	0	0.0	0	0.0	0.00
	Jul	1174	1560	1367	3.1	899	2.1	468	1.1	404.02
	Aug	0	0	0	0.0	0	0.0	0	0.0	0.00
	Sep	1442	1472	1457	3.3	787	1.8	670	1.5	579.13
	Oct	0	0	0	0.0	0	0.0	0	0.0	0.00
	Nov	851.7	783.7	818	1.9	353	0.8	464	1.1	401.07
	Dec	0	0	0	0.0	0	0.0	0	0.0	0.00
	TOTAL	4398	4899	4649	10.7	3390	7.8	1839	4.2	\$1,589.12
	note: usage reduced by 15% for human consumption									
	BASE RATE	\$0.86	TOTAL ACRES	4.04						

Proposal Part Two:

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Ben Lomond	Jan	0	0	0	0.0	0	0.0	0	0.0	0.00
account #(s)	Feb	566.1	583.1	575	1.3	250	0.6	324	0.7	274.39
229-1910-00-00A	Mar	0	0	0	0.0	0	0.0	0	0.0	0.00
229-1910-00-00B	Apr	705.5	704.65	705	1.6	610	1.4	95	0.2	80.20
	May	0	0	0	0.0	0	0.0	0	0.0	0.00
	Jun	863	914	889	2.0	854	2.0	34	0.1	29.18
	Jul	0	0	0	0.0	0	0.0	0	0.0	0.00
	Aug	974	1035	1005	2.3	1016	2.3	0	0.0	0.00
	Sep	0	0	0	0.0	0	0.0	0	0.0	0.00
	Oct	404.6	382.5	394	0.9	551	1.3	0	0.0	0.00
	Nov	0	0	0	0.0	0	0.0	0	0.0	0.00
	Dec	481.1	530.4	506	1.2	369	0.8	136	0.3	115.42
	TOTAL	3994	4150	4072	9.3	3651	8.4	590	1.4	\$499.19
note: usage reduced by 15% for human consumption										
	BASE RATE	\$0.85	TOTAL ACRES	4.23						

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Covina Elem.	Jan	348.5	329.8	339	0.8	207	0.5	132	0.3	111.96
account #(s)	Feb	0	0	0	0.0	0	0.0	0	0.0	0.00
206-1200-00-00	Mar	139.4	192.1	166	0.4	402	0.9	0	0.0	0.00
206-1000-00-00	Apr	0	0	0	0.0	0	0.0	0	0.0	0.00
	May	614.55	822.8	719	1.6	758	1.7	0	0.0	0.00
	Jun	0	0	0	0.0	0	0.0	0	0.0	0.00
	Jul	1313	1341	1327	3.0	910	2.1	417	1.0	352.92
	Aug	0	0	0	0.0	0	0.0	0	0.0	0.00
	Sep	1225	1746	1486	3.4	796	1.8	690	1.6	583.44
	Oct	0	0	0	0.0	0	0.0	0	0.0	0.00
	Nov	1127.95	906.95	1017	2.3	358	0.8	660	1.5	558.23
	Dec	0	0	0	0.0	0	0.0	0	0.0	0.00
	TOTAL	4768	5339	5054	11.6	3430	7.9	1899	4.4	\$1,606.56
note: usage reduced by 15% for human consumption										
	BASE RATE	\$0.85	TOTAL ACRES	4.09						

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Cypress	Jan	716.55	379.95	548	1.3	170	0.4	379	0.9	458.02
account #(s)	Feb	81.6	299.2	190	0.4	228	0.5	0	0.0	0.00
301-0260-01-3	Mar	61.2	306	184	0.4	432	1.0	0	0.0	0.00
	Apr	104.55	537.2	321	0.7	538	1.2	0	0.0	0.00
	May	245.65	578	412	0.9	706	1.6	0	0.0	0.00
	Jun	830.00	829.00	830	1.9	652	1.5	178	0.4	215.24
	Jul	533.00	1397.00	965	2.2	842	1.9	123	0.3	149.07
	Aug	932.00	1172.00	1052	2.4	773	1.8	279	0.6	338.06
	Sep	1303.05	1284.35	1294	3.0	534	1.2	760	1.7	919.60
	Oct	1467.1	769.25	1118	2.6	342	0.8	776	1.8	939.11
	Nov	649.4	573.75	612	1.4	245	0.6	367	0.8	443.65
	Dec	821.95	349.35	586	1.3	170	0.4	416	1.0	503.27
	TOTAL	7746	8475	8111	18.6	5630	12.9	3278	7.5	\$3,966.02
note: usage reduced by 15% for human consumption										
	BASE RATE	\$1.21	TOTAL ACRES	6.72						

Proposal Part Two:

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Grovecenter	Jan	196.35	196.35	196	0.5	111	0.3	85	0.2	103.32
account #(s)	Feb	73.1	73.1	73	0.2	149	0.3	0	0.0	0.00
303-0310-01-0	Mar	100.3	100.3	100	0.2	282	0.6	0	0.0	0.00
	Apr	209.95	209.95	210	0.5	352	0.8	0	0.0	0.00
	May	470.05	293.25	382	0.9	461	1.1	0	0.0	0.00
	Jun	277	509	393	0.9	426	1.0	0	0.0	0.00
	Jul	366	246	306	0.7	550	1.3	0	0.0	0.00
	Aug	834	737	786	1.8	505	1.2	280	0.6	339.28
	Sep	799.85	479.4	640	1.5	349	0.8	291	0.7	351.76
	Oct	158.95	230.35	195	0.4	224	0.5	0	0.0	0.00
	Nov	49.3	239.7	145	0.3	160	0.4	0	0.0	0.00
	Dec	229.5	86.7	158	0.4	111	0.3	47	0.1	57.04
	TOTAL	3764	3401	3583	8.2	3681	8.4	704	1.6	\$851.41
	note: usage reduced by 15% for human consumption									
	BASE RATE	\$1.21	TOTAL ACRES	4.39						

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Lark Ellen	Jan	386.75	255	321	0.7	70	0.2	251	0.6	303.63
account #(s)	Feb	90.1	106.25	98	0.2	94	0.2	4	0.0	5.10
303-0185-01-3	Mar	132.6	28.9	81	0.2	178	0.4	0	0.0	0.00
	Apr	196.35	240.55	218	0.5	222	0.5	0	0.0	0.00
	May	406.3	453.05	430	1.0	291	0.7	139	0.3	168.05
	Jun	916.00	634.00	775	1.8	269	0.6	506	1.2	612.86
	Jul	569.00	1,147.00	858	2.0	347	0.8	511	1.2	618.46
	Aug	609.00	1,200.00	905	2.1	318	0.7	586	1.3	709.22
	Sep	833	1433.95	1133	2.6	220	0.5	914	2.1	1105.40
	Oct	824.5	653.65	739	1.7	141	0.3	598	1.4	723.74
	Nov	674.9	623.9	649	1.5	101	0.2	548	1.3	663.66
	Dec	203.15	226.95	215	0.5	70	0.2	145	0.3	175.59
	TOTAL	5842	7003	6422	14.7	2320	5.3	4203	9.6	\$5,085.71
	note: usage reduced by 15% for human consumption									
	BASE RATE	\$1.21	TOTAL ACRES	2.77						

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Manzanita	Jan	119.85	351.9	236	0.5	127	0.3	109	0.3	131.88
Account #(s)	Feb	54.4	191.25	123	0.3	170	0.4	0	0.0	0.00
303-0910-01-8	Mar	238	90.95	164	0.4	323	0.7	0	0.0	0.00
	Apr	126.65	288.15	207	0.5	402	0.9	0	0.0	0.00
	May	459	514.25	487	1.1	528	1.2	0	0.0	0.00
	Jun	864	749	807	1.9	487	1.1	319	0.7	386.43
	Jul	647	1075	861	2.0	629	1.4	232	0.5	280.34
	Aug	722	948	835	1.9	578	1.3	257	0.6	311.47
	Sep	1134.75	1193.4	1164	2.7	399	0.9	765	1.8	925.76
	Oct	816	884	850	2.0	256	0.6	594	1.4	719.09
	Nov	512.55	294.1	403	0.9	183	0.4	220	0.5	266.47
	Dec	384.2	260.1	322	0.7	127	0.3	195	0.4	236.27
	TOTAL	6078	6840	6459	14.8	4209	9.7	2692	6.2	\$3,257.72
	note: usage reduced by 15% for human consumption									
	BASE RATE	\$1.21	TOTAL ACRES	5.02						

Proposal Part Two:

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Merwin	Jan	660.45	197.2	429	1.0	133	0.3	296	0.7	358.38
account #(s)	Feb	102.85	372.3	238	0.5	178	0.4	59	0.1	71.83
303-0710-01-4	Mar	321.3	144.5	233	0.5	338	0.8	0	0.0	0.00
	Apr	376.55	302.6	340	0.8	420	1.0	0	0.0	0.00
	May	337.45	228.65	283	0.6	552	1.3	0	0.0	0.00
	Jun	58	899	479	1.1	509	1.2	0	0.0	0.00
	Jul	882	763	823	1.9	658	1.5	165	0.4	199.17
	Aug	840	757	799	1.8	604	1.4	195	0.4	235.56
	Sep	888.25	690.2	789	1.8	417	1.0	372	0.9	450.27
	Oct	696.15	763.3	730	1.7	267	0.6	462	1.1	559.51
	Nov	625.6	283.05	454	1.0	191	0.4	263	0.6	318.12
	Dec	296.65	44.2	170	0.4	133	0.3	38	0.1	45.71
	TOTAL	6085	5445	5765	13.2	4400	10.1	1850	4.2	\$2,238.54
	note: usage reduced by 15% for human consumption									
	BASE RATE	\$1.21	TOTAL ACRES	5.25						

SITE	MONTH	1996	1997	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Mesa	Jan	184.45	66.3	125	0.3	144	0.3	0	0.0	0.00
account #(s)	Feb	79.9	48.45	64	0.1	194	0.4	0	0.0	0.00
120-B	Mar	42.5	154.7	99	0.2	367	0.8	0	0.0	0.00
	Apr	399.5	325.55	363	0.8	457	1.0	0	0.0	0.00
	May	625.6	714	670	1.5	599	1.4	70	0.2	104.82
	Jun	980	887	934	2.1	554	1.3	380	0.9	566.19
	Jul	1040	1057	1049	2.4	715	1.6	333	0.8	496.82
	Aug	1120	1527	1324	3.0	656	1.5	667	1.5	994.14
	Sep	813.45	419.9	617	1.4	453	1.0	163	0.4	243.36
	Oct	570.35	357	464	1.1	291	0.7	173	0.4	257.96
	Nov	61.2	617.1	339	0.8	208	0.5	131	0.3	195.34
	Dec	51.85	37.4	45	0.1	144	0.3	0	0.0	0.00
	TOTAL	5969	6211	6090	14.0	4782	11.0	1919	4.4	\$2,858.63
	note: usage reduced by 15% for human consumption									
	BASE RATE	\$1.49	TOTAL ACRES	5.70						

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Rowland	Jan	98.6	612	355	0.8	145	0.3	210	0.5	205.42
account #(s)	Feb	56.1	365.5	211	0.5	195	0.4	16	0.0	15.30
0360-017500.00	Mar	141.1	187.85	164	0.4	370	0.8	0	0.0	0.00
	Apr	116.45	176.8	147	0.3	460	1.1	0	0.0	0.00
	May	213.35	206.55	210	0.5	604	1.4	0	0.0	0.00
	Jun	371	378	375	0.9	558	1.3	0	0.0	0.00
	Jul	749	519	634	1.5	720	1.7	0	0.0	0.00
	Aug	882	904	893	2.1	661	1.5	232	0.5	226.66
	Sep	672.35	822.8	748	1.7	457	1.0	291	0.7	284.41
	Oct	1159.4	822.8	991	2.3	293	0.7	698	1.6	683.00
	Nov	1159.4	776.05	968	2.2	210	0.5	758	1.7	741.43
	Dec	1159.4	332.35	746	1.7	145	0.3	601	1.4	587.40
	TOTAL	6778	6104	6441	14.8	4818	11.1	2805	6.4	\$2,743.62
	note: usage reduced by 15% for human consumption									
	BASE RATE	\$0.98	TOTAL ACRES	5.75						

Proposal Part Two:

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Valencia	Jan	1088.85	226.1	657	1.5	126	0.3	532	1.2	643.48
account #(s)	Feb	165.75	193.8	180	0.4	169	0.4	11	0.0	13.23
301-0630-01-5	Mar	373.15	25.5	199	0.5	320	0.7	0	0.0	0.00
	Apr	170	153.85	162	0.4	398	0.9	0	0.0	0.00
	May	391	560.15	476	1.1	523	1.2	0	0.0	0.00
	Jun	500.00	818.00	659	1.5	482	1.1	177	0.4	213.59
	Jul	725.00	676.00	701	1.6	623	1.4	77	0.2	93.42
	Aug	563.00	834.00	699	1.6	572	1.3	126	0.3	152.98
	Sep	935.85	562.7	749	1.7	395	0.9	354	0.8	428.47
	Oct	577.15	589.9	584	1.3	253	0.6	330	0.8	399.62
	Nov	476	332.35	404	0.9	181	0.4	223	0.5	269.62
	Dec	487.9	78.2	283	0.6	126	0.3	157	0.4	190.43
	TOTAL	6454	5051	5752	13.2	4169	9.6	1987	4.6	\$2,404.84
	note: usage reduced by 15% for human consumption									
	BASE RATE	\$1.21	TOTAL ACRES	4.97						

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Vincent Childrens Ctr	Jan	374	730.15	552	1.3	135	0.3	417	1.0	504.11
account #(s)	Feb	139.4	164.05	152	0.3	182	0.4	0	0.0	0.00
303-1115-01-7	Mar	365.5	79.9	223	0.5	345	0.8	0	0.0	0.00
	Apr	158.95	50.15	105	0.2	429	1.0	0	0.0	0.00
	May	249.9	171.7	211	0.5	563	1.3	0	0.0	0.00
	Jun	534	702	618	1.4	520	1.2	98	0.2	118.54
	Jul	515	1034	775	1.8	672	1.5	103	0.2	124.25
	Aug	702	895	799	1.8	617	1.4	182	0.4	220.11
	Sep	715.7	266.9	491	1.1	426	1.0	65	0.2	79.10
	Oct	600.1	561.85	581	1.3	273	0.6	308	0.7	372.68
	Nov	437.75	379.1	408	0.9	195	0.4	213	0.5	257.68
	Dec	334.9	170.85	253	0.6	135	0.3	117	0.3	142.08
	TOTAL	5127	5206	5166	11.9	4493	10.3	1503	3.5	\$1,818.56
	note: usage reduced by 15% for human consumption									
	BASE RATE	\$1.21	TOTAL ACRES	5.36						

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Workman	Jan	42.5	242.25	142	0.3	121	0.3	21	0.0	20.81
account #(s)	Feb	396.95	376.55	387	0.9	163	0.4	224	0.5	219.13
7020-066000.00	Mar	482.8	191.25	337	0.8	308	0.7	29	0.1	28.15
	Apr	504.05	321.3	413	0.9	384	0.9	29	0.1	28.24
	May	532.95	482.8	508	1.2	503	1.2	4	0.0	4.28
	Jun	850.00	718.00	784	1.8	465	1.1	319	0.7	312.07
	Jul	862.00	676.00	769	1.8	601	1.4	168	0.4	164.69
	Aug	305.00	676.00	491	1.1	551	1.3	0	0.0	0.00
	Sep	503.2	740.35	622	1.4	381	0.9	241	0.6	235.69
	Oct	656.2	1127.1	892	2.0	244	0.6	648	1.5	633.36
	Nov	555.9	590.75	573	1.3	175	0.4	399	0.9	389.81
	Dec	164.9	58.65	112	0.3	121	0.3	0	0.0	0.00
	TOTAL	5856	6201	6029	13.8	4017	9.2	2082	4.8	\$2,036.23
	note: usage reduced by 15% for human consumption									
	BASE RATE	\$0.98	TOTAL ACRES	4.79						

Proposal Part Two:

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Las Palmas	Jan	387.63	570.825	479	1.1	202	0.5	277	0.6	335.35
account #(s)	Feb	360.195	69.915	215	0.5	271	0.6	0	0.0	0.00
303-0195-01-3	Mar	278.775	52.215	165	0.4	514	1.2	0	0.0	0.00
	Apr	310.635	136.29	223	0.5	640	1.5	0	0.0	0.00
	May	369.93	719.505	545	1.3	840	1.9	0	0.0	0.00
	Jun	1353.165	1324.845	1339	3.1	776	1.8	563	1.3	681.45
	Jul	709.77	1643.445	1177	2.7	1002	2.3	174	0.4	210.95
	Aug	1540.785	929.25	1235	2.8	920	2.1	315	0.7	381.31
	Sep	1059.345	1540.785	1300	3.0	635	1.5	665	1.5	804.21
	Oct	1246.965	938.1	1093	2.5	407	0.9	685	1.6	829.19
	Nov	1070.85	450.465	761	1.7	292	0.7	469	1.1	567.55
	Dec	493.83	346.92	420	1.0	202	0.5	218	0.5	264.14
	TOTAL	9182	8723	8952	20.6	6703	15.4	3367	7.7	\$4,074.15
	note: usage reduced by 11.5% for human consumption									
	BASE RATE	\$1.21	TOTAL ACRES		8.00					

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Sierra Vista	Jan	809.775	849.6	830	1.9	354	0.8	476	1.1	402.51
account #(s)	Feb	0	0	0	0.0	0	0.0	0	0.0	0.00
114-2200-01-00	Mar	655.785	504.45	580	1.3	688	1.6	0	0.0	0.00
	Apr	0	0	0	0.0	0	0.0	0	0.0	0.00
	May	995.625	1000.935	998	2.3	1297	3.0	0	0.0	0.00
	Jun	0	0	0	0.0	0	0.0	0	0.0	0.00
	Jul	1654	1558	1606	3.7	1557	3.6	49	0.1	41.44
	Aug	0	0	0	0.0	0	0.0	0	0.0	0.00
	Sep	2068	2157	2113	4.8	1362	3.1	751	1.7	634.97
	Oct	0	0	0	0.0	0	0.0	0	0.0	0.00
	Nov	1291.215	1215.99	1254	2.9	612	1.4	642	1.5	542.82
	Dec	0	0	0	0.0	0	0.0	0	0.0	0.00
	TOTAL	7474	7286	7380	16.9	5870	13.5	1917	4.4	\$1,621.73
	note: usage reduced by 11.5% for human consumption									
	BASE RATE	\$0.85	TOTAL ACRES		7.00					

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Traweek	Jan	594.72	299.13	447	1.0	159	0.4	288	0.7	281.90
account #(s)	Feb	546.93	364.62	456	1.0	213	0.5	243	0.6	237.25
7020-044000.00	Mar	325.68	119.475	223	0.5	404	0.9	0	0.0	0.00
7020-066200.00	Apr	489.405	338.07	414	0.9	503	1.2	0	0.0	0.00
	May	438.075	687.645	563	1.3	660	1.5	0	0.0	0.00
	Jun	990	907	949	2.2	609	1.4	339	0.8	331.83
	Jul	801	1017	909	2.1	787	1.8	122	0.3	119.30
	Aug	1089	946	1018	2.3	722	1.7	295	0.7	288.67
	Sep	1004.475	918.63	962	2.2	499	1.1	463	1.1	452.41
	Oct	770.835	774.375	773	1.8	320	0.7	453	1.0	442.85
	Nov	930.135	836.325	883	2.0	229	0.5	654	1.5	639.85
	Dec	717.735	478.785	598	1.4	159	0.4	440	1.0	429.91
	TOTAL	8698	7687	8193	18.8	5263	12.1	3296	7.6	\$3,223.97
	note: usage reduced by 11.5% for human consumption									
	BASE RATE	\$0.98	TOTAL ACRES		6.28					

Proposal Part Two:

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Covina High	Jan	4012.12	3907.24	3960	9.1	732	1.7	3228	7.4	2730.72
account #(s)	Feb	0	0	0	0.0	0	0.0	0	0.0	0.00
110-1200-00-00	Mar	1295.36	774.64	1035	2.4	1423	3.3	0	0.0	0.00
110-1000-00-00	Apr	0	0	0	0.0	0	0.0	0	0.0	0.00
	May	767.28	1781.12	1274	2.9	2681	6.2	0	0.0	0.00
	Jun	0	0	0	0.0	0	0.0	0	0.0	0.00
	Jul	6019	5554	5787	13.3	3220	7.4	2567	5.9	2171.34
	Aug	0	0	0	0.0	0	0.0	0	0.0	0.00
	Sep	4664	8372	6518	15.0	2816	6.5	3702	8.5	3131.47
	Oct	0	0	0	0.0	0	0.0	0	0.0	0.00
	Nov	4787.68	4391.16	4589	10.5	1266	2.9	3324	7.6	2811.99
	Dec	0	0	0	0.0	0	0.0	0	0.0	0.00
	TOTAL	21545	24780	23163	53.2	12138	27.9	12820	29.4	\$10,845.52
	note: usage reduced by 8.0% for human consumption									
	BASE RATE	\$0.85	TOTAL ACRES							

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Northview	Jan	1573.2	2145.44	1859	4.3	568	1.3	1291	3.0	1562.11
account #(s)	Feb	214.36	759	487	1.1	764	1.8	0	0.0	0.00
303-0145-01-5	Mar	367.08	345.92	357	0.8	1447	3.3	0	0.0	0.00
	Apr	383.64	1440.72	912	2.1	1801	4.1	0	0.0	0.00
	May	646.76	2078.28	1363	3.1	2363	5.4	0	0.0	0.00
	Jun	2499.00	3262.00	2881	6.6	2182	5.0	699	1.6	845.29
	Jul	1474.00	4474.00	2974	6.8	2819	6.5	155	0.4	187.85
	Aug	4320.00	4687.00	4504	10.3	2587	5.9	1916	4.4	2318.87
	Sep	4664.4	4540.2	4602	10.6	1787	4.1	2815	6.5	3406.42
	Oct	2617.4	2546.56	2582	5.9	1145	2.6	1437	3.3	1738.33
	Nov	2296.32	2645.92	2471	5.7	820	1.9	1651	3.8	1997.71
	Dec	2091.16	1393.8	1742	4.0	568	1.3	1174	2.7	1420.73
	TOTAL	23147	30319	26733	61.4	18851	43.3	11138	25.6	\$13,477.32
	note: usage reduced by 8.0% for human consumption									
	BASE RATE	\$1.21	TOTAL ACRES							

SITE	MONTH	1996	1997	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
South Hills	Jan	2443.52	2443.52	2444	5.6	399	0.9	2045	4.7	3046.37
account #(s)	Feb	161	161	161	0.4	536	1.2	0	0.0	0.00
120-A	Mar	287.96	1284.32	786	1.8	1016	2.3	0	0.0	0.00
	Apr	611.8	611.8	612	1.4	1264	2.9	0	0.0	0.00
	May	874	1614.6	1244	2.9	1659	3.8	0	0.0	0.00
	Jun	2071	727	1399	3.2	1532	3.5	0	0.0	0.00
	Jul	1760	4148	2954	6.8	1979	4.5	975	2.2	1453.00
	Aug	3334	1170	2252	5.2	1816	4.2	436	1.0	649.36
	Sep	1394.72	1938.44	1667	3.8	1255	2.9	412	0.9	613.89
	Oct	1280.64	885.04	1083	2.5	804	1.8	279	0.6	415.39
	Nov	753.48	747.04	750	1.7	576	1.3	175	0.4	260.03
	Dec	690	123.28	407	0.9	399	0.9	8	0.0	11.42
	TOTAL	15662	15854	15758	36.2	13234	30.4	4329	9.9	\$6,449.47
	note: usage reduced by 8.0% for human consumption									
	BASE RATE	\$1.49	TOTAL ACRES							

Proposal Part Two:

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Fairvalley High	Jan	439.76	192.28	316	0.7	144	0.3	172	0.4	208.00
account #(s)	Feb	112.24	284.28	198	0.5	194	0.4	5	0.0	5.60
302-0115-01-0	Mar	104.88	232.76	169	0.4	367	0.8	0	0.0	0.00
	Apr	59.8	218.96	139	0.3	457	1.0	0	0.0	0.00
	May	558.44	405.72	482	1.1	599	1.4	0	0.0	0.00
	Jun	760.00	1156.00	958	2.2	553	1.3	405	0.9	489.67
	Jul	846.00	442.00	644	1.5	715	1.6	0	0.0	0.00
	Aug	833.00	824.00	829	1.9	656	1.5	172	0.4	208.65
	Sep	1060.76	685.4	873	2.0	453	1.0	420	1.0	508.07
	Oct	954.96	874.92	915	2.1	290	0.7	624	1.4	755.64
	Nov	631.12	763.6	697	1.6	208	0.5	489	1.1	592.16
	Dec	402.96	483.92	443	1.0	144	0.3	299	0.7	362.18
	TOTAL	6764	6564	6664	15.3	4781	11.0	2587	5.9	\$3,129.96
	note: usage reduced by 8.0% for human consumption									
	BASE RATE	\$1.21	TOTAL ACRES		5.70					

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Griswold	Jan	397	1367	882	2.0	139	0.3	743	1.7	899.01
account #(s)	Feb	79	537	308	0.7	187	0.4	121	0.3	146.69
303-0605-01-6	Mar	40	241	141	0.3	354	0.8	0	0.0	0.00
	Apr	251	688	470	1.1	441	1.0	29	0.1	34.98
	May	171	617	394	0.9	578	1.3	0	0.0	0.00
	Jun	365	1053	709	1.6	534	1.2	175	0.4	212.10
	Jul	359	691	525	1.2	689	1.6	0	0.0	0.00
	Aug	1599	310	955	2.2	633	1.5	322	0.7	389.24
	Sep	1221	741	981	2.3	437	1.0	544	1.2	658.08
	Oct	1607	814	1211	2.8	280	0.6	930	2.1	1125.71
	Nov	947	46	497	1.1	201	0.5	296	0.7	358.03
	Dec	269	236	253	0.6	139	0.3	113	0.3	137.32
	TOTAL	7305	7341	7323	16.8	4611	10.6	3274	7.5	\$3,961.15
	note:									
	BASE RATE	\$1.21	TOTAL ACRES		5.50					

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
Pioneer	Jan	150	1330	740	1.7	59	0.1	681	1.6	666.20
account #(s)	Feb	147	447	297	0.7	79	0.2	218	0.5	213.18
0540-111500.00	Mar	297	575	436	1.0	150	0.3	286	0.7	279.99
	Apr	656	95	376	0.9	186	0.4	189	0.4	184.93
	May	182	92	137	0.3	245	0.6	0	0.0	0.00
	Jun	100.00	909.00	505	1.2	226	0.5	279	0.6	272.56
	Jul	152.00	998.00	575	1.3	292	0.7	283	0.7	277.05
	Aug	243.00	682.00	463	1.1	268	0.6	195	0.4	190.48
	Sep	1020	479	750	1.7	185	0.4	565	1.3	552.13
	Oct	1083	616	850	2.0	119	0.3	731	1.7	714.89
	Nov	826	231	529	1.2	85	0.2	444	1.0	433.87
	Dec	734	305	520	1.2	59	0.1	461	1.1	450.55
	TOTAL	5590	6759	6175	14.2	1951	4.5	4331	9.9	\$4,235.82
	note:									
	BASE RATE	\$0.98	TOTAL ACRES		2.33					

Proposal Part Two:

SITE	MONTH	1999	2000	BASE YEAR		H2O REQUIREMENT		SAVINGS		YEAR 1
		HCF	HCF	HCF	AF	HCF	AF	HCF	AF	\$ SAVINGS
District Field	Jan	457	597	527	1.2	124	0.3	403	0.9	340.72
account #(s)	Feb	0	0	0	0.0	0	0.0	0	0.0	0.00
128-6500-02-00	Mar	180	352	266	0.6	242	0.6	24	0.1	20.63
128-7000-02-00	Apr	0	0	0	0.0	0	0.0	0	0.0	0.00
	May	385	580	483	1.1	455	1.0	27	0.1	23.08
	Jun	0	0	0	0.0	0	0.0	0	0.0	0.00
	Jul	1168	1115	1142	2.6	547	1.3	595	1.4	503.24
	Aug	0	0	0	0.0	0	0.0	0	0.0	0.00
	Sep	1302	1178	1240	2.8	478	1.1	762	1.7	644.51
	Oct	0	0	0	0.0	0	0.0	0	0.0	0.00
	Nov	840	761	801	1.8	215	0.5	586	1.3	495.45
	Dec	0	0	0	0.0	0	0.0	0	0.0	0.00
	TOTAL	4332	4583	4458	10.2	2061	4.7	2397	5.5	\$2,027.63
	note:									
	BASE RATE	\$0.85	TOTAL ACRES		2.46					

Usage Summary

	SITE	BASE YEAR		ANNUAL H2O REQUIREMENT		SAVINGS		YEAR 1 \$
		HCF	AF	HCF	AF	HCF	AF	SAVINGS
1	Barranca	4649	10.7	3390	7.8	1839	4.2	1589.12
2	Ben Lomond	4072	9.3	3651	8.4	590	1.4	499.19
3	Covina Elem.	5054	11.6	3430	7.9	1899	4.4	1606.56
4	Cypress	8111	18.6	5630	12.9	3278	7.5	3966.02
5	Grovecenter	3583	8.2	3681	8.4	704	1.6	851.41
6	Lark Ellen	6422	14.7	2320	5.3	4203	9.6	5085.71
7	Manzanita	6459	14.8	4209	9.7	2692	6.2	3257.72
8	Merwin	5765	13.2	4400	10.1	1850	4.2	2238.54
9	Mesa	6090	14.0	4782	11.0	1919	4.4	2858.63
10	Rowland	6441	14.8	4818	11.1	2805	6.4	2743.62
11	Valencia	5752	13.2	4169	9.6	1987	4.6	2404.84
12	Vincent Childrens Center	5166	11.9	4493	10.3	1503	3.5	1818.56
13	Workman	6029	13.8	4017	9.2	2082	4.8	2036.23
14	Las Palmas	8952	20.6	6703	15.4	3367	7.7	4074.15
15	Sierra Vista	7380	16.9	5870	13.5	1917	4.4	1621.73
16	Traweek	8193	18.8	5263	12.1	3296	7.6	3223.97
17	Covina High	23163	53.2	12138	27.9	12820	29.4	10845.52
18	Northview	26733	61.4	18851	43.3	11138	25.6	13477.32
19	South Hills	15758	36.2	13234	30.4	4329	9.9	6449.47
20	Fairvalley High	6664	15.3	4781	11.0	2587	5.9	3129.96
21	Griswold	7323	16.8	4611	10.6	3274	7.5	3961.15
22	Pioneer	6175	14.2	1951	4.5	4331	9.9	4235.82
23	District Field	4458	10.2	2061	4.7	2397	5.5	2027.63
TOTAL ACRES 153	TOTAL	188390	432.5	128452	294.9	76807	176.3	\$84,002.87

- The District will employ the services of an irrigation consultant to oversee this project. As part of the consultant's duties, they will be responsible for providing any required training to the district staff. As part of the maintenance department's reorganization plan, a District person will be designated as the "Water Manager" and

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will be responsible for the monitoring/reporting of all water use on a monthly or bi-monthly basis (depending on how water bills are received).

C. Benefits

Non-Quantified Project Outcomes and Benefits:

Regional and State Perspectives

- Reduced demand for water imported from Northern California and the Colorado River ecosystems
- Reduced surface runoff and contamination
- Reduced demand on groundwater resources
- Reduce electrical demand for import related pumping and distribution system electricity demand management

Water Agency Perspectives

- Reduced demand for water imported from Northern California and the Colorado River ecosystems

Wastewater Agency Perspectives

- Reduced TDS load into system

Groundwater Agency Perspectives

- Reduced demand on groundwater resources

Local Community Perspectives

- Reduce urban runoff from landscape irrigation by controlling irrigation more effectively
- Increased aesthetics due to less leaching of soil nutrients

Benefit Summary and Breakdown:

As the largest single user of water within the City of Covina, the District feels they have an obligation to be as conservative as possible when utilizing a very limited resource such as water. But at the same time, the local community utilizes many of the schools sports facilities and open spaces for community-based projects and events. Therefore, we are obligated to maintain these venues to a safe and esthetically pleasing level. Our sports field and open areas meet those criteria, unfortunately our water use is not where we would like it to be. ET controllers will solve that problem. **Our goal is to reduce our consumption of water for the purpose of irrigation by 176AF annually or 41%.**

With proper maintenance, we expect the useful life of the ET Controllers to be 15 years. Over that time frame, we anticipate water savings of **2640AF**, which equates to a total cost savings of **\$1,260,043** (based on current water rates).

D. OUTREACH, COMMUNITY INVOLVEMENT AND INFORMATION TRANSFER

The current financial constraints facing state funding of education in California are well documented. It has become a challenge to appropriately house and effectively educate students in many areas in the state. By obtaining outside funding for irrigation water conservation, the monies in the school's budgets can be directly funneled into educational needs with a portion of the internal water savings redirected to irrigation system maintenance. All school districts (and most public agencies in general) are able to identify problems, where as this proactive approach allows for solutions to these problems from within. Since schools fall

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into a not-for-profit status with the state and provide a needed benefit to local communities, all segments of the area population are effected, including the disadvantaged. In addition to school related programs, the majority of the sites affected by this project are multi-use sites, being utilized by local youth sports programs, after school programs and various other non-profit community based programs.