



MEMORANDUM

CWS File #08-110

To: Ms. Veva Deheza, CWCB

cc: Earl Smith, City of Evans

From: Michelle Hatcher *mjh*

Date: June 2, 2009

Subject: 95% Progress Report for the City of Evans Water Conservation Plan

Clear Water Solutions (CWS) has completed the City of Evans ("City" or "Evans") Water Conservation Plan in accordance with the Guidance Document produced by the Colorado Water Conservation Board (CWCB). The Guidance Document outlines nine steps in the water conservation planning process. To date, CWS and the City have completed nine of the nine steps per the scope of work. The Draft Plan was reviewed by City staff, City Council, and was open for public review.

Table 1 shows the water conservation goals as they evolved throughout the planning process. Original goals were set after characterizing the Evans' water distribution system, customer categories and past and future water use in each of those categories. Water conservation measures were then selected by the City staff and City Council through two screening processes including a cost/benefit analysis. Estimated savings from the final measures were then compared to the original water saving goals and those goals were adjusted to better meet expected water savings.

Table 1 – Water Conservation Goals

Water Use Categories:	Total Projected Water Use (2009 to 2018)	Reduction Goals for Planning Horizon		Total Water Savings from Selected Programs	Resulting Reduction	Adjusted Reduction Goals for Planning Horizon	
	(AF)	(%)	(AF)	(AF)	(%)	(%)	(AF)
Potable - Residential	23,187	12.0%	2,782	2,551	11.0%	11%	2,551
Potable - Multi-Family	8,871	5.0%	444	1,021	11.5%	10.0%	887
Potable - Commercial	7,809	12.0%	937	1,132	14.5%	14.0%	1,093
Potable - Irrigation	1,441	15.0%	216	331	23.0%	20.0%	288
Potable - City Usage	1,752	1.5%	26	28	1.6%	1.6%	28
Non-Potable - Residential	1,925	12.0%	231	470	24.4%	15.0%	289
Non-Potable - Multi-Family	132	5.0%	7	13	10.1%	10.0%	13
Non-Potable Commercial	571	12.0%	68	210	36.8%	20.0%	114
Non-Potable City Usage	758	1.5%	11	10	1.3%	1.3%	10
Unaccounted-for Losses (currently 9%)	4,593.6	2.5%	1,276	1,274	2.5%	2.5%	1,276
Total Water Production:	51,040						
Total Demand Reduction:			5,999	7,039			6,550
Total Percent Reduction:			11.8%		14%	13%	

The categories targeted for savings are Potable and Non-Potable Residential, Multi-Family, Commercial, and City Usage, as well as Irrigation and System Losses.

There were 43 water conservation measures and programs on the universal list that the City initially considered. Many of these were existing measures with plans for improving or continuing effort. The first screening included the following criteria and narrowed the list down to 33 measures and programs.

1. Staff and Council approval
2. Financial implications
3. Additional staff time required
4. Existing or planned City project

The second screening was accomplished by evaluating each measure/program based on the screening criteria and Evans' overall goal of this water conservation plan. The final list of water conservation measures and programs, and the proposed schedule are shown in Table 2.

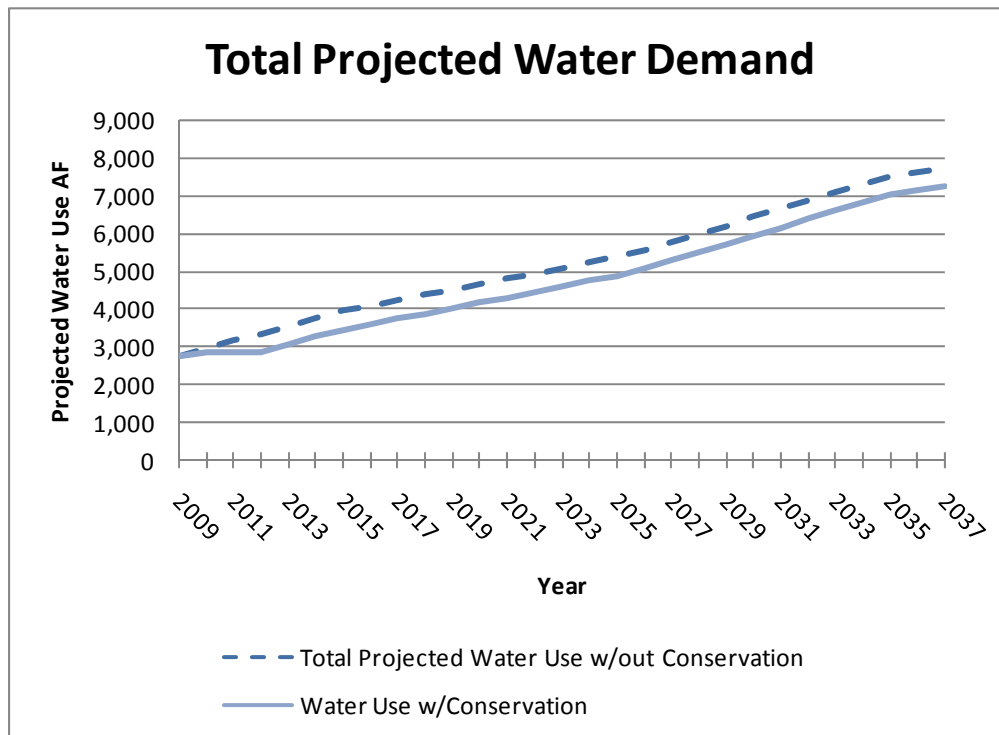
Table 2 – Final List of Measures/Programs and Implementation Schedule

Measure/Program	Cost to Implement (includes 1st year annual cost)	Annual On-going Costs (programs in 2nd or 3rd year of implementation)	% of Total Water Savings	Implementation Considerations	Grant Request
2010					
Utility Maintenance Programs					
Billing System Upgrades	\$50,000		5.7%	Staff time, Funding	Yes
Leak Detection & Repair	\$8,500		5.7%	Funding, obtaining 3rd Party	Yes
Leak Detection & Repair in Mobile Home Parks	\$2,000		0.5%	Funding, obtaining 3rd Party	Yes
Regulatory Standards Program (Phase 1)					
Water Rate Changes	\$40,000		4.3%	Funding	Yes
General Evaluation of Policies that Encourage Water Savings	\$6,000		0.5%	Staff time	
Total 2010 Cost	\$106,500				
2011					
Utility Maintenance Programs					
Leak Detection & Repair		\$8,500	see above	2nd Year of Program, obtaining 3rd Party	
Leak Detection & Repair in Mobile Home Parks		\$2,000	see above	2nd Year of Program, obtaining 3rd Party	
Regulatory Standards Program (Phase 2)			14.8%	Staff time	
Soil Amendment Ordinance for New Landscapes (improvements to existing ordinance)	\$750				
Water Waste Ordinance (improvements to existing ordinance)	\$750				
Restrict High Water-Use Turf on Medians and in Parking Lot Plantings	\$750				
Requiring Wind and/or Rain Sensors for Commercial and Open Space Irrigation	\$2,450				Yes
Restrictive Covenants Ordinance	\$750				
New Car Wash Standards (New Construction)	\$1,750				Yes
Irrigation System Standards for New Development	\$17,250				Yes
10% of Lot Irrigation Restriction	\$16,301				Yes

Measure/Program	Cost to Implement (includes 1st year annual cost)	Annual On-going Costs (programs in 2nd or 3rd year of implementation)	% of Total Water Savings	Implementation Considerations	Grant Request
2011					
Education Programs (Phase 1 - Web related measures)			2.9%	Staff time, Funding	Yes
Post or Distribute ET Irrigation Scheduling	\$1,100				
Water Conservation Website Upgrades	\$2,900				
Public Education - Bill Stuffers & Website	\$10,678				
Audit Program (Phase 1)			5.1%	Staff time, funding	Yes
Residential Water Audit Kits	\$16,175				
Total 2011 Cost	\$82,105				
2012					
Utility Maintenance Programs					
Leak Detection & Repair		\$8,500	see above	3rd Year of Program, obtaining 3rd Party	
Leak Detection & Repair in Mobile Home Parks		\$2,000	see above	4th Year of Program, obtaining 3rd Party	
Meter Testing and Replacement Program	\$116,250		5.7%	Staff time, Funding	Yes
Regulatory Standards Program (Phase 2, continued)					
Requiring Wind and/or Rain Sensors for Business and Open Space Irrigation		\$1,700	see above	The annual costs shown are for inspections. Staff time will be a consideration for implementation.	
New Car Wash Standards (New Construction)		\$1,000			
Irrigation System Standards for New Development		\$16,500			
10% of Lot Irrigation Restriction		\$15,551			
Education Programs (Phase 1, continued)			see above	Staff time, Funding	
Post or Distribute ET Irrigation Scheduling		\$500			
Water Conservation Website Upgrades		\$400			
Public Education - Bill Stuffers & Website		\$8,678.25			
Education Programs (Phase 2)			2.9%	staff time, Funding, & cooperation with the City of Greeley	Yes
Xeriscape Programs	\$5,500				
Property Manager/HOA Education and Training	\$2,625				
School Education Program (K-12)	\$2,000				
Rebate and Incentive Program			6.6%	Staff time, funding	Yes
Distribute Pre-Rinse Spray Heads to Restaurants and Institutions	\$3,000				
Irrigation System Efficiency Device Rebates	\$4,200				
Commercial Toilet Rebate	\$2,325				
Residential Rebate for Low-Flow Toilets	\$2,075				
Rebate for High Efficiency Clothes Washers	\$3,325				
Audit Program (Phase 1, continued)			see above	Staff time, funding	
Residential Water Audit Kits		\$800			
Audit Program (Phase 2)			4.0%	Staff time, funding	Yes
Commercial Water Audits	\$4,100				
Total 2012 Cost	\$201,030				
Total Implementation Costs	\$323,505				

The water conservation measures that the City intends to implement will result in an efficient system, fair water rates and plenty of information for customers to evaluate their own water use. Figure 1 shows the forecasted water demand for the City with and without water conservation.

Figure 1 – Comparison of Demand Forecast with and without Conservation



The annual savings after all of the measures/programs have been implemented is 493 AF (161 MG) per year without considering savings due to measures already in place, like watering restrictions. If NISP is permitted and Evans acquires 1,600 AF (521 MG) by 2015, Evans would need to purchase or potentially change the decreed use in Water Court of approximately 724 AF (236 MG) of new water supplies by 2018 in order to supplement the firm supply deficiency for their potable water needs. We estimate that a reasonable cost to either purchase or change the use of said water rights would cost approximately \$10,000 per AF (\$30.69 per 1,000 gallons), potentially costing the City \$7.3 Million over the next ten years.

If the estimated annual water savings of 493 AF (161 MG) after full implementation of the plan are considered a new supply and that amount of water is not purchased, the cost savings would equal the current market value of the water. As mentioned previously, a reasonable value of \$10,000 per AF (\$30.69 per 1,000 gallons) can be used, which is slightly less than the cost per AF of NISP water and about \$3,000 per AF less than the cost of CBT water. The value of the water savings from conservation is then \$4.9 Million (493 AF x \$10,000/AF).

Implementation will begin upon approval of this Plan according to the implementation schedule. Monitoring of the Plan will be completed on an annual basis and a formal update is required by CWCB within seven years. Public feedback is an integral part of this Plan and comments were solicited and incorporated into the final Plan.