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June 10, 2009

Ms. Taryn Hutchins-Cabibi,
Colorado Water Conservation Board
Office of Water Conservation and Drought Planning
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Water-Efficiency Grant Application for Town of Windsor 2009 Water Rate Study

Dear Taryn:

The Town of Windsor completed a 2009 Water Conservation Plan, which is very close to being approved by the Colorado Water Conservation Board (CWCB). This is the first water conservation plan completed by the Town, and we are excited to do our part in saving water.

On behalf of the Town, Clear Water Solutions, Inc. is submitting the attached application for a water-efficiency grant. The grant will be used to cover a portion of the proposed 2009 Water Rate Study. As you can see in the application, the Town's current rate structure does not encourage meaningful water conservation. We believe this project will help us to achieve the conservation goals outlined in our Water Conservation Plan.

The total project cost is $47,762. The Town will meet its portion with both in-kind and monetary participation. The Town will contribute $17,191 total, which consists of $5,000 cash and $12,191 in-kind. This is 28.5% of the project. We request a CWCB water-efficiency grant of $30,570.

We truly appreciate your consideration and are excited to take this step in conserving water.

Sincerely,
Clear Water Solutions, Inc.

Kimberly K. Frick, P.G.
Water Resource Specialist

Encs.

cc: Dean Moyer, Windsor
Kelly Arnold, Windsor
CWS File 08-170

CWCB WATER-EFFICIENCY GRANT APPLICATION SUBMITTAL REQUIREMENTS

PROJECT: 2009 Water Rate Study

1. **Contact information of entity seeking grant**:

   Town of Windsor
   Attn: Dean Moyer, Finance Director
   301 Walnut Street
   Windsor, CO 80550
   T: (970) 686-7476
   F: (970) 686-7180

2. **Selected firms and individuals to assist in development of the Project**:

   Clear Water Solutions, Inc.
   Steve Nguyen, P.E.
   8010 S. County Road 5, Suite 105
   Windsor, CO 80528
   T: (970) 223-3706
   F: (970) 223-3763

   Water Consulting Group, LLC
   Webb Jones, P.E.
   1207 Twinberry Court
   Fort Collins, CO 80525
   T: (970) 219-1109
   F: (970) 223-6046

   Clear Water Solutions, Inc. completed the 2008 Water Conservation Plan for the Town of Windsor and is currently working on their 2009 Potable Water Master Plan.

   Steve Nguyen is a Professional Engineer registered in the State of Colorado. He has over twelve years of experience in the water rights and water planning arena. He has helped many clients manage their water resources including water supply, water acquisition, water usage, and water conservation. Through previous planning efforts with Windsor, Steve has gained detailed knowledge of the Town's water usage, revenue from water sales, and water infrastructure needs. Steve has the most knowledge of the Town's anticipated water and storage acquisition needs. He will help determine the revenue requirements for these acquisitions per the Potable Water Master Plan, so rates can be established accordingly. Steve will participate in coordinating the public-review process and conduct meetings as needed. Steve will also handle presentations to the Board at key milestones.

   Webb Jones, Water Consulting Group, LLC, was previously the rate analyst for the City of Fort Collins and served as the General Manager of East Larimer County Water District for 15 years. His experience with rate study modeling will be critical to the Project. Webb will design a spreadsheet model that will be specific to this Project. Webb will attend the public meeting and meetings with the Board as necessary.

Dean Moyer is the Finance Director and will serve as the primary contact for the Consultants. He will provide general direction on all aspects of the Project. Dean will also provide financial perspective and guidance as the plan is developed.

Kelly Arnold is the Town Manager and will serve as the primary liaison between staff and the Town Board. Kelly will insure this project is consistent with the Town's overall goals. Kelly will be very involved with public communication and staff recommendations to the Board.

Terry Walker is the Public Works Director and will provide input on the Town's planned capital improvements. He will assist in the development of new rates and be involved in discussions of cost of service rates versus water conservation rates. Terry has knowledge of projected revenue needs for the Town's capital improvement projects and was the staff member that managed the Town's recent Water Conservation Plan.

Dennis Wagner is the Engineering Director and will provide information related to anticipated Town water projects. Dennis coordinates all development review and is knowledgeable of the water utility and future needs. He will assist with providing revenue requirements for these anticipated projects.

Michelle Booren is in charge of billings at the Town of Windsor. Michelle has a good understanding of and access to information such as water use per customer category and revenues generated from each category. Megan Wheatcraft from the Town will also provide assistance with collecting data for this Project.

3. a) **Identification of retail water delivery by covered entity for past five years**:

Table 1 – Past Five Years Water Use by Customer Category

Category	2003	2004	2005	2006	2007
Residential	1149	1124	1259	1371	1334
Business	211	130	137	147	156
Industrial	140	142	165	193	204
Public (Schools & Churches)	25	25	30	31	36
Landscape	31	91	115	152	178
Total Ac-ft	1555	1513	1707	1894	1909
Population*	12,193	12,716	13,542	14,205	14,915
System Wide GPCD	114	106	112	119	114

* Population from CDOLA with exception of 2007 which is 5% increase from 2006

GPCD = Gallons per Capita per Day

Three separate water providers serve the Town of Windsor through master meters: Fort Collins-Loveland Water District (FCLWD), North Weld County Water District (NWCWD) and the City of Greeley. Long-term contracts with these water providers establish terms of service including amount, duration and payment. Windsor owns its water rights and turns the needed water over to the providers each year for treatment and delivery.

b) **Background characterizing the local water system, potential growth and any other pertinent issues**.

i) **Current and past per capita water use for the last five years.** Table 1 includes water use from Town records and population data from the Colorado Department of Local Affairs (CDOLA).

ii) **The past, current and predicted population served**.

Table 2 below includes past and predicted population.

Table 2 – Predicted Population

Year	Population	Change in Population	Population Growth
1990	5,062		
1991	5,162	100	2%
1992	5,292	130	3%
1993	5,550	258	5%
1994	5,874	324	6%
1995	6,288	414	7%
1996	6,897	609	10%
1997	7,371	474	7%
1998	8,082	711	10%
1999	9,115	1033	13%
2000	9,896	781	9%
2001	11,172	1276	13%
2002	11,876	704	6%
2003	12,193	317	3%
2004	12,716	523	4%
2005	13,542	826	6%
2006	14,205	663	5%
2007	14,915	710	5%
2008	15,512	597	4%
2009	15,977	465	3%

2010	16,776	799	5%
2011	17,615	839	5%
2012	18,496	881	5%
2013	19,420	925	5%
2014	20,391	971	5%
2015	21,411	1020	5%
2016	22,482	1071	5%
2017	23,606	1124	5%
2018	24,786	1180	5%
2019	26,025	1239	5%
2020	27,326	1301	5%
2021	28,693	1366	5%
2022	30,127	1435	5%
2023	31,634	1506	5%
2024	33,215	1582	5%
2025	34,876	1661	5%

Population Data: 1990 - 1999 from NISP. 2000 - 2006 CDOLA

Population data was obtained from the 2008 Water Conservation Plan. Future projections are based on the past and current rate of growth and the potential development projects the Town has in the queue.

iii) **Estimated water-savings goals to be achieved**.

Estimated water-savings goals from Windsor's 2008 Water Conservation Plan over the ten-year planning horizon are as follows:

- Residential: 10 %
- Business: 15%
- Industrial: 5%
- Landscape: 15%
- Public: 10%

We anticipate this rate study will help the Town achieve 2% savings in each of the above categories. This equates to 42 ac-ft per year or 424 ac-ft over a ten-year period. Rate studies, if completed properly, can have tremendous impact in water conservation. The Town will target these savings and measure success through tracking residential per capita use and analyzing individual commercial accounts over the next five years.

iv) **Estimates of water savings realized in the past five years through water conservation**.

The 2008 Water Conservation Plan is Windsor's first conservation plan. Although the Town has implemented some water conservation practices in the past, associated water savings have not been measured in detail. As proposed in the recently approved Water Conservation Plan, proper data will be collected to measure success.

v) **Adequacy, stability, and reliability of water system**.

The water service area for the Town of Windsor is approximately 25 square miles and includes water supplied from three different water providers. FCLWD supplies treated water to the west side of Town through a 24-inch metered transmission line. NWCWD supplies treated water to the north side of Town through a 14-inch metered transmission line from a connection that NWCWD has 2.5 miles north of Town. The third supplier, City of Greeley, supplies Windsor with treated water through a 16-inch transmission line from a connection with Greeley's 20-inch transmission line on the south side of Town. Additional water is supplied to Windsor from Greeley through an 8-inch meter that is connected to Greeley's two transmission lines that run parallel to US Hwy 34. This connection is used as a water supply for the South Gate Business Park area to the west of WCR 17. Figure 1.1 shows the Town's growth management area and the master meter locations with these water providers.

Windsor has one treated-water storage tank and a booster pump station that delivers water to elevations above that which can be delivered by gravity. The existing two-million gallon (MG) water storage tank provides water for fire protection, daily operating levels and emergency water storage. In early 2007, construction of the booster pump station was completed. The station is located immediately adjacent to Windsor's existing water storage tank. The pump station is necessary to supply water to future development above elevation 4,940 feet.

The current storage volume meets the State's recommendations for operating levels and emergency storage. The guideline requires the equivalent of at least 25 percent of the maximum daily demand for operating levels plus at least one average-day demand for an emergency supply.

The pipelines in the system consist of cast iron in the older part of the system and PVC in the newer areas. The cast-iron mains are slowly being replaced with PVC as their lifespan reaches the end. Windsor maintains 97 miles of pipeline within their system. Windsor does not currently operate a water treatment plant and is a wholesale purchaser of potable water as described above. The Town owns approximately 3,449 units of CBT Project water. Additional CBT water is turned over to the Town by new development as it occurs.

c) **Description of the Project**.

Windsor's current rate structure is as follows:

Table 3 – Current Rate Structure

Meter Size	User Description	Threshold (HCF)	Threshold (Gallons)	Base Charge	Rate under Threshold (per HCF)	Rate above Threshold (per HCF)
3/4"	In-Town Residential	21	15,710	$14.30	$2.38	$3.56
3/4"	Dual Use Residential	13	9,725	$14.30	$2.38	$3.56
1"	Dual Use Residential	13	9,725	$24.31	$2.38	$3.56
1.5"	Dual Use Residential	13	9,725	$47.19	$2.38	$3.56
3/4"	Multi-Family Residential	21	15,710	$9.30	$2.38	$3.56
3/4"-1.5"	Commercial, Industrial and School	210	157,101	$14.30 - $47.19	$2.38	$3.56
2"	Commercial	659	492,998	$75.79	$2.38	$3.56
2"	Industrial	1047	783,261	$75.79	$2.38	$3.56
2"	School	210	157,101	$75.79	$2.38	$3.56
3"	School	410	306,721	$167.31	$2.38	$3.56
4"	Industrial	3290	2,461,249	$344.63	$2.38	$3.56

Note: HCF = Hundred Cubic Feet

Windsor has never completed a formal rate study. As can be seen, their current rate structure does not encourage water conservation. Windsor would like to study their current cost of service, anticipated project needs, and water conservation goals to establish new rates appropriate for the Town.

The objective of the rate study is to determine water rates for all customer categories based on cost-of-service standards contained in AWWA Manual M1. The Base-Extra Capacity cost allocation methodology will be utilized. Rates will be developed to insure revenues are adequate to fund existing and anticipated water enterprise expenditures.

As recommended in the recently completed 2008 Windsor Water Conservation Plan, alternative rates that encourage conservation will be developed and presented for consideration by the staff and Town Board.

Rate-making principles and alternative rate structures will be presented to the Town Board. We will propose a maximum to three rate structures with one identified as the preferred alternative.

The tasks associated with the Project include:

Determine Revenue Requirements

In cooperation with financial managers for Windsor, we will determine annual revenue requirements. Revenue requirements reflect the total costs anticipated by the water utility during the current budget year. Any anticipated changes in costs will also be included in the revenue requirements. The wholesale contracts with FCLWD, NWCWD and City of Greeley will be studied to determine existing and future cost implications and opportunities to limit costs.

Determine Customer Classes and Water Usage Characteristics

The utility billing system for Windsor will be utilized to determine customer classifications and water use within each customer category. Customers will be analyzed by meter size and usage characteristics. The potential to further differentiate customers will be considered. It may be beneficial to differentiate between single-family and multi-family customers, non-residential and irrigation-only customers, and commercial and industrial customers. The number of customer classifications will be a function of the capability of the existing utility billing system. The number of categories needs to be adequate to insure equity between customers, but limited in number to insure rates are easily administered and understood by the public.

Allocation of Costs

Annual costs for operation, maintenance, and system improvements will be categorized and allocated to one of the following cost functions: water supply, transmission, distribution, treatment, storage and customer costs (billing, meter reading, administration, etc.). Different customers place different demands on the water system, so it will be critical to adequately determine costs by function.

Allocation of Costs to Customer Service Characteristics

The functionalized costs will be allocated to the different service characteristics. The result of this process will be the determination of unit costs of capacity for the various functions within the water utility; for example, base, maximum day, peak hour, meter and customer costs.

Determination of Revenue Requirements by Class

The revenue requirements for each customer category will be determined by multiplying the unit cost of capacity by the respective customer demands for each customer class. The resulting product of the multiplication is the revenue requirement for each customer classification.

Rate Design

The final step in the rate study will be the design of equitable rates for all customers. Rates will be designed to incorporate a minimum fixed charge and a volumetric (or variable) charge for the amount of water used during a 30-day billing period. Rates will insure recovery of the utility's revenue requirements without risk of shortage resulting from weather or greater than anticipated water use reductions. With input from the Town Board and public, rates will address the community's desire for equity, ease of administration, customer understanding and acceptance, conservation, sufficiency, and stability.

Conservation rates will be presented for consideration. At a minimum, the following conservation measures will be considered: seasonal rates, increasing block rates. With one or more of these options implemented, customers will have a greater incentive to conserve.

The rate study is scheduled for completion during the latter half of 2009, so it can be adopted in Spring 2010. Results of the rate study will be documented and presented in a final report (15 copies anticipated). A copy of the Excel spreadsheet developed during preparation of the Windsor Water Rate Study will be provided upon project completion.

The grant monies will be used toward the completion of the rate study, which we believe will help Windsor meet their water-savings goals listed above.

4. **Proposed Project Schedule**.

Table 4 – Proposed Project Schedule

Task	Date
Grant application submitted to CWCB for approval	June 10, 2009
CWCB approves grant and issues PO	January 15, 2010
CWS makes general rate study presentation to Board	February 10, 2010
Submit 50% progress report to CWCB	March 26, 2010
Submit 75% progress report to CWCB	April 23, 2010
Submit draft rate study to Town staff	May 14, 2010
Staff provides comments to CWS	May 28, 2010
Present draft study to Town Board	June 7, 2010
Public meeting to introduce study	June 21, 2010
Public comment period	June 21 - July 20, 2010
Incorporate comments and present final study	July 30, 2010

5. **Project Budget**. See attached Table 5.

6. **List all funding sources**. See attached Table 5.

7. The Town intends to use the grant money for completion of a 2009 Water Rate Study. The study will help the Town achieve the water-savings goals outlined in their 2008 Water Conservation Plan through an adjustment of their water rates.

   "The Town Board of Windsor is committed to water resource sustainability and water conservation. The Town intends to do its part to preserve water for future generations. Both staff and the Board understand the needs and benefits to implement long-term water conservation measures. This 2009 Water Rate Study is a large step for us toward water conservation. We are committed to complete a 2009 Water Rate Study, which will evaluate conservation rates, for the grant money requested."

   _____

   John Vazquez, *Mayor*

Table 8 - Project Fee Estimate
2009 Windsor Rate Study

TASKS	CWS - Steve Nguyen		CWS- Kim Frick		WCG - Webb Jones		Windsor - Kelly Arnold		Windsor - Terry Walker		Windsor - Dean Moyer		Windsor - Dennis Wagner		Windsor - Michelle Booren		Windsor - Megan Wheatcraft		Total	Town of Cash Contribution	CWCB Grant Request
	HOURS $140	SUB TOTAL	HOURS $105	SUB TOTAL	HOURS $112	SUB TOTAL	HOURS $86	SUB TOTAL	HOURS $64	SUB TOTAL	HOURS $68	SUB TOTAL	HOURS $69	SUB TOTAL	HOURS $24	SUB TOTAL	HOURS $19	SUB TOTAL			
Kick-off meeting and presentation	2	$280	2	$210	4	$448	2	$173	2	$127	2	$137	2	$139	2	$48		$0	$1,562		
Determine Revenue Requirements	4	$560	4	$420	8	$896	2	$173	2	$127	4	$274	2	$139		$0		$0	$2,589		
Determine Customer Classes and Water Usage Characteristics	12	$1,680	8	$840	4	$448		$0		$0	4	$274		$0	24	$573	4	$77	$3,891		
Allocation of Costs and Determination of Unit Costs of Capacity	32	$4,480	4	$420	18	$2,016	4	$346		$0	4	$274		$0	4	$95	4	$77	$7,708		
Determination of Revenue Requirements	4	$560	4	$420	4	$448	4	$346	4	$255	4	$274	4	$278	12	$286	4	$77	$2,943		
Rate Design	8	$1,120	8	$840	16	$1,792	2	$173	2	$127	8	$547	2	$139	12	$286	4	$77	$5,102		
Report preparation	4	$560	4	$420	24	$2,688	2	$173	2	$127	2	$137	2	$139	2	$48		$0	$4,292		
50% progress report	1	$140	2	$210		$0		$0		$0		$0		$0		$0		$0	$350		
95% progress report	1	$140	2	$210		$0		$0		$0		$0		$0		$0		$0	$350		
Project Meetings - 5 x 3 hrs/mtg	15	$2,100	15	$1,575	15	$1,680	15	$1,296	15	$956	15	$1,026	15	$1,041		$0		$0	$9,673		
Public Meeting and Public Comment Period Coordination	12	$1,680	12	$1,260	8	$896	4	$346		$0	4	$274		$0	4	$95		$0	$4,551		
Final Presentation	4	$560	2	$210	4	$448	4	$346		$0	4	$274		$0		$0		$0	$1,837		
Project Management - monthly invoicing and progress memos	10	$1,400		$0		$0													$1,400		
Reproduction of Reports - 15 copies x $80/copy + 3 hours x $60/hr																			$1,380		
Travel - 10 meetings x $0.645/mi x 10 mi (x 32 miles for WCG)																			$135	$5,000	
Total	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]