WATER EFFICIENCY GRANT PROGRAM

Application Submittal

1. The name and contact information of the entity seeking the grant.

Sean Chambers
General Manager
Cherokee Metropolitan District
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Colorado Springs, CO 80915
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2. A list of the organizations and/or individuals including those hired or otherwise retained by the entity that will assist in preparation of the Plan, and a written statement of their role and contributions.

Cherokee Metropolitan District plans to contract with Forsgren Associates Inc. to complete an update of the District's 2007 Water Conservation Plan (WCP). Roles and responsibilities for all working on the WCP will be as follows:

Cherokee Metropolitan District

- Sean Chambers, General Manager, will be Forsgren's main contact at the District for performance of the work.
- Art Sintas, CWP, is the Superintendent of Operations for the District.
- Rick McKay, Certified Water Professional (CWP), is the Lead Water Operator for the District.
- Cody English, CWP, is on the water distribution team.
- Kevin Niles is the Parks and Open Space System Foreman and will provide input specific to parks and open spaces.
- Richard Rainford is the Cherokee Ridge Golf Course Superintendent and will provide input specific to golf course irrigation and operations.
- Susan Meyer is the Customer Education and Administrative Liaison to the Citizen Parks Committee and will assist in public outreach.
- Jan Cederberg is on the Board of Directors, and is an advocate for parks and open space as well as the golf course. She will provide input on those areas of interest.
- Sandy DeCarolis, accountant, will assist in the analysis of impacts to revenues and expenses.

Sean, Art, and Rick will have primary input on the WCP update with respect to strategies, economics, operational implications, and budget implications. All process-oriented water operations and administrative support staff will vet the discussion and critique the update prior to final submittal.

Forsgren Associates Inc.

- Will Koger, P.E. is the project manager for development of the WCP update. He will be responsible for Forsgren's performance with respect to quality, budget, and schedule, and will be Forsgren's primary contact with the District.

- Jason Broome, P.E. is the senior engineer for the WCP update, and will be responsible for writing the majority of the report. In addition, he will acquire necessary data for development of the WCP update.
- Conner Burba, E.I. is the staff engineer for the project, and will provide technical support as needed in the development of the WCP update.

3. The identification of retail water delivery by the entity for each of the past five years (in acre-feet) and additional information characterizing past water use by sector (e.g., residential, commercial, industrial, irrigation) and source (e.g., surface water, groundwater, etc.).

Below are the retail water deliveries billed by the Cherokee Metropolitan District over the past five years. The District also serves a handful of wholesale customers, including Shriever Air Force Base.

2009: 2,476 acre-feet (AF)
2010: 2,745 AF
2011: 2,562 AF
2012: 2,698 AF
2013: 2,314 AF

Water usage for the District is roughly 65 percent single-family residential, 10 percent multi-family residential, and 25 percent commercial, including irrigation.

The District's water supply is largely comprised of alluvial groundwater from the Upper Black Squirrel Designated Groundwater Basin. They are developing a new supply of Denver Basin groundwater in the Black Forest area, however, and will be capable of delivering that water in late 2014. In the meantime, the District also leases water from the Pueblo Board of Water Works which is delivered via the Colorado Springs Utilities system. That leased water made up 200 AF of their supply in 2013.

4. A reasonable estimate must be submitted with detailed projections of future annual retail demand for the next five years.

The average retail demand, over the last five years when growth was relatively stagnant, was approximately 2,560 AF. The State Demographers Office projects an annual 1.8 percent growth rate for the Colorado Springs MSA in El Paso County for most of the next five years (re. SDO 2000-2040 projections). Based on consumption data, the District's number of SFEs grew at an average 2 percent annual rate from 2008-2012. Applying the 2 percent rate going forward, average-year retail demand projections for the next five years are estimated as follows:

2014: 2,610 AF
2015: 2,660 AF
2016: 2,720 AF
2017: 2,770 AF
2018: 2,830 AF

5. Background characterizing the water system, potential growth and any other pertinent issues that relate to the stated evaluation criteria:

a. Based on an analysis of consumption charges by rate-class, the average demands for residential single-family equivalents (SFEs) are shown for 2008-2012. The 2010 census data indicates an average of 2.56 persons/household in El Paso County. Rounding up to 2.6 persons/household for the District, per capita demand is also calculated. (The District is refining this data through a more accurate customer count, and will also include its 2013 averages.)

	2008	2009	2010	2011	2012
Average Demand per SFE (AF)	0.323	0.274	0.288	0.278	0.293
Per Capita Demand (gpcd)	111	94	99	95	101

b. For the same years, the single- and multi-family residential customer demands are converted to SFEs. Those SFEs are then multiplied by 2.6 persons/household to estimate population.

	2008	2009	2010	2011	2012
Residential SFEs	5551	5727	5713	5810	5796
Estimated Population	14,430	14,890	14,850	15,110	15,070

Applying a 2 percent annual growth rate, the District's population is projected to reach 19,110 in 2024.

c. Due to water supply limitations in recent years, the District has developed a culture of water conservation out of necessity, and now has some of the lowest per capita demands in the state. Through an aggressive program of water supply acquisition, the District is now in a much better position to meet demands. However, they plan to continue to improve on water conservation and have set a goal of three to five percent reduction in unit demands over the next five years. Applying that reduction to the projected 2018 demand of 2,830 AF identified in Item 4, the annual savings would be 85 to 140 AF.

d. Through its recent acquisitions, particularly its Black Forest well field now under development, the District's supply is adequate, stable, and reliable for the foreseeable future. The District is located in the Arkansas Basin, however, a region projected by the Statewide Water Supply Initiative (SWSI) to have a significant water supply gap by 2050. The District is very active in the Pikes Peak Regional Water Authority, and is working closely with other water providers in the region to address long-term water supply needs, likely to include acquisition of additional renewable water supplies.

6. Water Conservation Plan Scope of Work

Please see Exhibit A for a detailed scope of work which includes the requirements outlined in the "Grant Guidelines for Water Conservation Planning Projects." In a related effort, Forsgren is also preparing a Water Supply Master Plan for the District.

7. Detailed Budget

Please see Exhibit B for a detailed budget, broken down by tasks, identifying all costs associated with the WCP update. The update is budgeted at $36,000. The District respectfully requests grant funding in the amount of $27,000 and will provide a total match of $9,000; a $6,000 financial contribution and $3,000 of in-kind staff support.

8. The signature of an individual with the authority to commit the resources of the entity seeking the grant.

Sean Chambers — 5/15/14

Sean Chambers
General Manager
Cherokee Metropolitan District

Date

FORSGREN Associates Inc.

EXHIBIT "A" TO
STANDARD PROJECT AGREEMENT

SCOPE OF WORK

At the direction of Cherokee Metropolitan District (District), Forsgren Associates Inc. (Forsgren) will update the District's 2007 Water Conservation Plan (WCP) to meet current requirements, including integration with the State's new HB10-1051 Database. Forsgren will coordinate with the Colorado Water Conservation Board's Water Efficiency program manager at key points through development of the WCP update.

The WCP update will include evaluation of the current system, examination of past water conservation measures, proposal of new water conservation measures, and compilation of relevant information. Upon completion of the WCP update, Forsgren will assist the District with its public outreach program to allow for public and stakeholder involvement prior to implementation of the plan. In order to provide a WCP update that is effective and meets all the requirements set by the Colorado Water Conservation Board, the following items will be compiled, completed, and provided in the WCP.

1. **Profile of Existing Water Supply System.** Prior to looking into the possible water conservation measures to be implemented by the District, the existing water supply system will be evaluated. Through information obtained from the District and information from other water supply projects completed for the District, the following information will be provided in the WCP:
    a) **Overview of Existing Water Supply System** – This will include an overview of the existing service area and key components of the system, as well as a description of existing facilities and supply sources in the District.
    b) **Water Supply Reliability** – An overview of the reliability and efficiency of the water supply system will be provided. This will likely include a summary of the system's firm yield and a discussion of the various safety factors implemented by the District to handle emergency situations.
    c) **Supply-Side Limitations and Future Needs** – In order to evaluate how water conservation measures will assist the District currently, as well as in the future, the District's system limitations and future needs will be investigated and summarized.

2. **Profile of Water Demands and Historical Demand Management.** An in depth analysis of recent and historical water demands will be performed. From information

gathered, any trends in demand for the various water users in the District can be assessed and discussed. Data gathering and research will be conducted to determine the following demand characteristics:

a) **Demographics and Key Characteristics of the Service Area –** A general overview of the demands within the District service area will be included. This will include demands by customer class, service area demographics, and large water user demands. In addition, water supply system age and service area population information will be presented.
b) **Historical Water Demands –** Any available historical water demand information from past years will be gathered and compiled. General demands by customer class and large water users will be evaluated and presented.
c) **Past and Current Demand Management Activities and Impact to Demands –** Strategies implemented by the 2007 Water Conservation Plan will be evaluated. Information gathered on how these strategies and management activities have made an impact to the demands in the District will be presented. From data gathered, water savings will be quantified and evaluated.
d) **Demand Forecasts –** Using all applicable and available information, future demands will be estimated. These future demands will be estimated using current per capita demand data and anticipated population growth data.

3. **Integrated Planning and Water Efficiency Benefits and Goals.** This section will discuss the importance of water conservation planning in evaluating future needs. Through conservation efforts, reductions in water supply needs in the future are anticipated. The various benefits of water conservation and the goals for the District will be addressed by the following:

a) **Water Efficiency and Water Supply Planning** – Following evaluation of the various water conservation measures recommended to the District, a modified water demand for anticipated water savings will be developed. This may include a discussion of anticipated passive and active water conservation with a description of how these numbers were quantified. From this data, the impacts to future anticipated supply acquisitions and water facilities will be discussed.
b) **Water Efficiency Benefits** – Forsgren will delve into the many possible benefits to the District and its customers from the recommended water conservation measures. These benefits will help guide public outreach efforts that will be conducted.
c) **Water Efficiency Goals** – Correspondence between the District and Forsgren will be essential in evaluating the needs of the District, as well as what the District would like to see accomplished from the development of this Water Conservation Plan. If necessary, meetings will be facilitated by Forsgren to discuss the vision of the District and the anticipated outcomes. From information gathered, a more

focused approach to evaluating water conservation measures will be realized.

4. **Selection of Water Efficiency Activities**. Forsgren will use four distinct phases in order to select which water efficiency activities and strategies will best serve the District. These phases are assessment of the information gathered previously, identification of compatible water conservation measures, developing and implementing a set of qualitative screening criteria, and evaluation and selection of water conservation measures. In addition, applicable demand management activities will be sufficiently identified and evaluated.

5. **Implementation and Monitoring Plan.** An implementation plan and a monitoring plan for the water conservation measures selected will be provided, as is required by C.R.S. 37.60.126(4) for all State approved plans.
    a) **Implementation Plan** – All necessary steps to prepare for and put in place each of the selected water conservation measures will be provided. This will include any revenue, legal, or staffing implications that will occur due to implementation of each selected water conservation measure.
    b) **Monitoring Plan** – In order to evaluate the water savings that are realized from implementation of the selected water conservation measures, a monitoring plan that is both comprehensive and continuous will be laid out. Included in this comprehensive plan will be methods of data collection, evaluation and communication processes, and documentation.

6. **Adoption of New Policy, Public Review and Formal Approval.** Prior to a plan being implemented, various components of public review and opinion are required per C.R.S. 37.60.126(5) for all State approved plans. Forsgren will comply with all requirements put into place for State approved plans. Public opinion, as well as the District's board members comments, will be evaluated and discussed prior to plan implementation.

7. **Additional Tasks.** In addition to the requirements set in place for Municipal Water Efficiency Plans by CWCB, the following will be completed by Forsgren to facilitate a complete and effective plan:
    a) **Kickoff Meeting** - A kick-off meeting will be conducted to discuss details of the scope of work, communications, and overall direction on the District's interests in the WCP update. The goal will be to develop a shared vision for the project.
    b) **Additional Preliminary Research, Data Acquisition, and Data Input** - Prior to initiating work on the development of the WCP update, Forsgren will request, or confirm receipt of the following information:
        i. General GIS mapping information for the service area
        ii. Information on groundwater and surface water sources being used to

supply the service area

iii. Water use data will be entered into the HB10-1051 Database and will be coordinated with the WCP update. Clarifying notes will be added.

8. **Deliverables.** The Deliverables for this project will include the following:
   a) Draft WCP update, eight hard copies plus an electronic copy.
   b) Presentation to the District's board of directors.
   c) Complete and submit two progress reports at both 50% and 75% of overall project progress.
   d) Obtain public, stakeholder, staff, and board feedback on the Draft WCP update.
   e) Meeting to review feedback and discuss revisions.
   f) Final WCP update.

9. **Schedule.** Forsgren will strive to maintain the following milestone schedule. It should be noted that the schedule depends on others that Forsgren has no control over.

Notice to Proceed	7/22/14
Draft Water Conservation Plan	9/23/14
Submit Draft for Public/Stakeholder Feedback	9/23/14
Submit 50% Progress Report to CWCB	9/30/14
Public/Stakeholder Feedback Deadline	10/30/14
Presentation to District Board	11/11/14
Submit 75% Progress Report to CWCB	11/18/14
Feedback review meeting	11/19/14
Final Water Conservation Plan	12/10/14

Cherokee Metropolitan District
WATER CONSERVATION PLAN
FEE PROPOSAL
FORSGREN ASSOCIATES INC.
11-Jun-14

TASK	DESCRIPTION	Project Mgr W. Koger $180	Sr Engr J. Broome $150	Jr Engr C. Burba $90	Expenses	TOTAL HOURS	CHEROKEE METRO DISTRICT CONTRIBUTION	CWCB GRANT CONTRIBUTION	TOTAL FEES
1	**PROFILE OF EXISTING WATER SUPPLY SYSTEM**								
1a	Overview of Existing Water Supply System		2	6			$153	$687	$840
1b	Water Supply Reliability		2	6			$153	$687	$840
1c	Supply-Side Limitations and Future Needs		2	6			$152	$688	$840
	Subtotals-Task 1 Hours	0	6	18		24			
	Task 1 Fees	$0	$900	$1,620	$0		$458	$2,062	$2,520
2	**PROFILE OF WATER DEMANDS AND HISTORICAL DEMAND MANAGEMENT**								
2a	Demographics and Key Characteristics of the Service Area		2	6			$153	$687	$840
2b	Historical Water Demands		2	6			$153	$687	$840
2c	Past and Current Demand Management Activities and Impact to Demands		2	6			$153	$687	$840
2d	Demand Forecasts		2	6			$153	$687	$840
	Subtotals-Task 2 Hours	0	8	24		32			
	Task 2 Fees	$0	$1,200	$2,160	$0		$611	$2,749	$3,360
3	**INTEGRATED PLANNING AND WATER EFFICIENCY BENEFITS AND GOALS**								
3a	Water Efficiency and Water Supply Planning	2	2	6			$218	$982	$1,200
3b	Water Efficiency Benefits	2	2	6			$218	$982	$1,200
3c	Water Efficiency Goals	2	2	6			$218	$982	$1,200
	Subtotals-Task 3 Hours	6	6	18		30			
	Task 3 Fees	$1,080	$900	$1,620	$0		$655	$2,945	$3,600
4	**SELECTION OF WATER EFFICIENCY ACTIVITIES**	4	6	6					
	Subtotals-Task 4 Hours	4	6	6		16			
	Task 4 Fees	$720	$900	$540	$0		$393	$1,767	$2,160
5	**IMPLEMENTATION AND MONITORING PLAN**								
5a	Implementation Plan	2	4	8			$305	$1,375	$1,680
5b	Monitoring Plan	2	4	8			$305	$1,375	$1,680
	Subtotals-Task 5 Hours	4	8	16		28			
	Task 5 Fees	$720	$1,200	$1,440	$0		$611	$2,749	$3,360
6	**ADOPTION OF NEW POLICY, PUBLIC REVIEW, AND FORMAL APPROVAL**	8	4	8	$200				
	Subtotals-Task 6 Hours	8	4	8		20			
	Task 6 Fees	$1,440	$600	$720	$200		$538	$2,422	$2,960
7	**ADDITIONAL TASKS**								
7a	Kickoff Meeting	4		4	$200		$233	$1,047	$1,280
7b	Additional Preliminary Research, Data Acquisition, and Data Input	2	2	8			$251	$1,129	$1,380
7c	Administration, Coordination with CWCB	8		10			$425	$1,915	$2,340
7d	Obtain Public and Stakeholder Feedback	4		6	$180		$262	$1,178	$1,440
7e	Board Presentation	6		6	$80		$309	$1,391	$1,700
7f	Complete and Submit 50% and 75% Progress Reports	4		8			$262	$1,178	$1,440
7g	Meeting to Review Feedback and Discuss Changes	4		4	$150		$224	$1,006	$1,230
7h	Final Water Conservation Plan	8	8	16	$150		$769	$3,461	$4,230
	Subtotals-Task 7 Hours	40	10	62		112			
	Task 7 Fees	$7,200	$1,500	$5,580	$760		$2,735	$12,305	$15,040
TOTAL HOURS		62	48	152		262			
GRAND TOTALS		$11,160	$7,200	$13,680	$960		$6,000	$27,000	$33,000

District In-Kind Services	**$3,000**
District Cash	**$6,000**
CWCB Grant	**$27,000**
Total Budget	**$36,000**

18.2% of total engineering b