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

CONTACT:
Yasser Abouaish
Utilities Engineer
City of Englewood
1000 Englewood Parkway
Englewood, CO 80110
303-762-2652

B. Individuals from the City of Englewood who will be involved in the project include:

Yasser Abouaish is a professional engineer registered in several states and has twenty-five years of experience in water resources planning and management. His role will include reviewing demand projections, establishing water savings goals, brainstorming water conservation measures and screening through the final list. He will serve as the project manager and primary contact for completion of the Water Conservation Plan.

Tom Brennan is a professional engineer registered in the State of Colorado. He has over twenty years of experience in water rights and water planning arena. Tom will serve as the technical advisor for completion of the Water Conservation Plan. He will assist with the identification and quantification of conservation measures, associated water savings, and overall plan development.

John Bock is the Utilities Department's Manager of Administration. He oversees the operation of the CIS Infinity customer information and billing system and the Department's GIS system and will coordinate technical assistance for this project.

Amy Church is one of the Utilities Department's two system support specialists. She possesses expertise in the operations of the CIS Infinity Billing System. She will support the project in the extraction of necessary information from the billing system.

Paul Rodeck is the Utilities Department's GIS Analyst. He will furnish the project with information it may need from the GIS system. Cathy Burrage is the Department's Executive Assistant. She will support the clerical needs of the project.

Stewart Fonda is a professional engineer registered in the State of Colorado and has over thirty years of experience in water resources planning and management. Stewart is the Utilities Director for the City of Englewood. He will advise and provide general direction on all aspects of the project. He will also be paramount in the development of conservation measures that the City Council will ultimately adopt and implement. His role will include final review of plan, and presentation to the City Council.

The City of Englewood will take the lead in the plan development. Mr. Yasser Abouaish, Utilities Engineer, will be responsible for this project. In addition, the City will utilize the services of specialized outside expert (***Clear Water Solutions, Inc.***) to provide technical assistance and participate in the various tasks of the plan – Please refer to the attachment.

The CWCB grant will cover Consultant's fee and to partially offset the City's staff cost.

Finally, the Water and Sewer Board and Englewood City Council will be involved in the project, by providing discussion forums, policy guidance and public participation platforms throughout the Plan development and approval stages.

C. Englewood retail water delivery for each of the past ten years

Table 1 - Annual Water Delivered (Overall Production) & Associated Rainfall

YEAR	Annual Water Delivery (Million Gallons)	Rainfall (Inches)
2011	1,863.217	13.40
2010	2,040.886	9.90
2009	1,851.714	24.70
2008	2,224.461	11.15
2007	2,070.913	16.33
2006	2,589.758	11.03
2005	2,559.701	13.54
2004	2,273.170	18.47
2003	2,647.287	12.14
2002	2,920.646	5.96

Table 1 shows steady decline in overall water consumptions (see notes below)

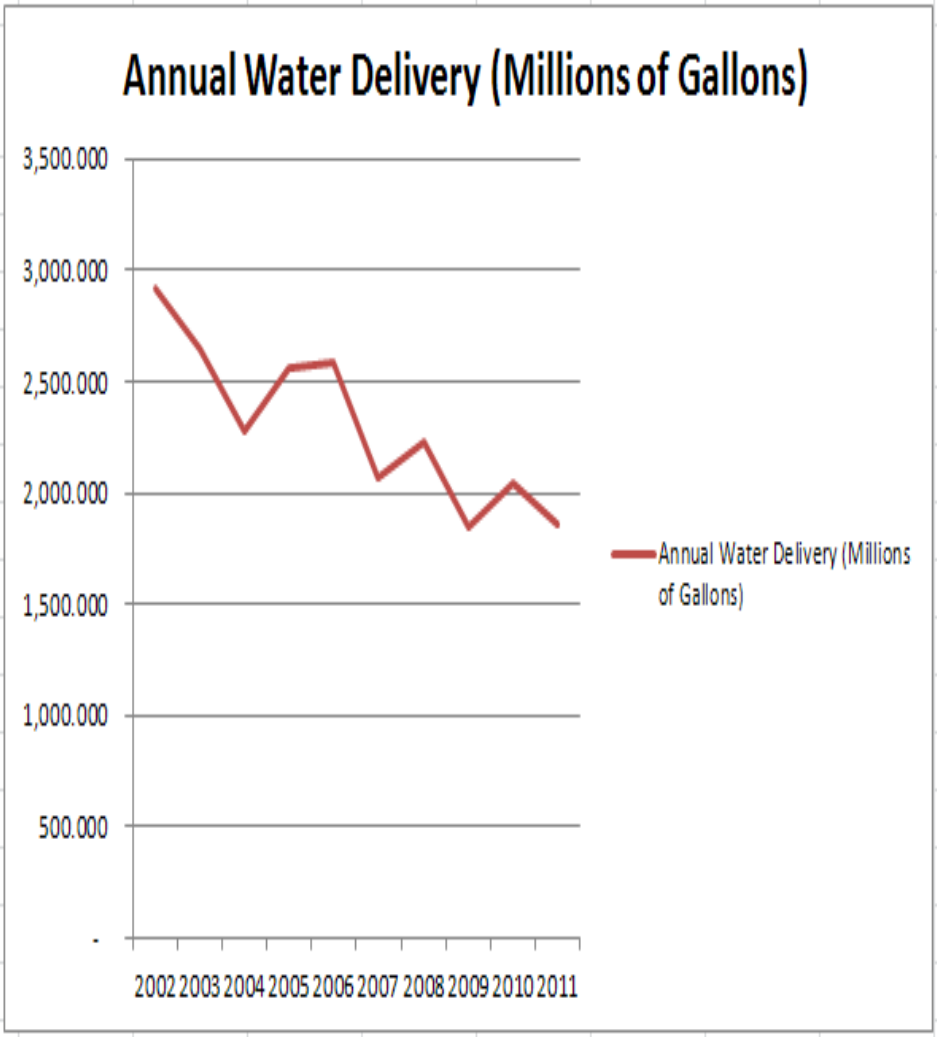
- Annual average of approx. 2,000 MG for the past 5 years
- Annual average of approx. 2,600 MG for the previous 5 years

NOTES:

- In 1987 the Englewood City Council passed an ordinance requiring the installation of water meters (and switching to consumption-based rate) at properties receiving flat rate upon transfer of ownership
- An average of 220 meters has been installed annually for the past 25 years, and
- **An associated 30% reduction in water use has taken place.**

Annual Water Delivered

Year	Annual Water Delivery (Millions of Gallons)
2002	2,920.646
2003	2,647.287
2004	2,273.170
2005	2,559.701
2006	2,589.758
2007	2,070.913
2008	2,224.461
2009	1,851.714
2010	2,040.886
2011	1,863.217



D. Englewood population has been stable (approx. 31,000**) for the past 10 years

- **1990 Population 29,918**
- **2000 Population 31,727**
- **2010 Population 30,525**
- **2011 Population (estimate will be available in June 2012)**

**** Source: U.S. Census Bureau: State and County QuickFacts. Data derived from Population Estimates, American Community Survey, Census of Population and Housing.**

E. Englewood water system characteristics and pertinent growth issues are as follows:

- Colorado Department of Public Health and Environment's Water Quality Control Division conducted its Source Water Assessment of Englewood Water System in 2004, which rendered the following results; the water supply consists of:
    - 3 active surface water sources
    - 0 active ground water sources under the influence of surface water
    - 0 active, purchased surface water sources and/or purchased ground water sources under the influence of surface water

- Based on the City's billing system, average water use for the last 5 years is:

    - **TOTAL:** 174 Gallons Per Capita Per Day (GPCPD) system-wide

    - **RESIDENTAIL:** 104 GPCPD for single family homes (Only)

- The system-wide (total) per capita water use for the past five years is listed below:

Year	GPCPD
2007	186
2008	199
2009	166
2010	183
2011	167

- Estimated annual water saving to be achieved through implementation of the plan is 12.5%, which equals approximately 250 MG (767 acre-feet)

- The US Census Bureau predicts Englewood's population to remain the same for the next five (5) years.

- Englewood water system stability and reliability are adequate based on its location and availability of multiple sources (compared to areas of current and future water needs as identified by the Statewide Water Supply Initiative (SWSI).

The City of Englewood Water Conservation Plan Scope of Work:

This scope of work describes the work to be performed by the City of Englewood. The scope outlines the tasks required to successfully complete a water conservation plan in accordance with CWCB's Water Conservation Plan guidelines and policies.

Water conservation plans are required under the Water Conservation Act of 2004 for covered entities that seek financial assistance from the CWCB or the Colorado Water Resources and Power Development Authority. The objective of this task is to develop a plan that meets the CWCB requirements, makes beneficial and responsible use of the City's water supplies, and ultimately enables the City to apply for state financial assistance for subsequent projects.

The Water Conservation Plan will be developed following CWCB's Water Conservation Plan Development Guidance Document. Public-review comments will be incorporated prior to submitting the plan to the City Council for final approval and adoption.

The information characterizing past water use by sector (residential, commercial, industrial, etc.) and per capita use (residential and total) is not readily available due to the current water billing system's reporting limitations (since 2004). Englewood Utilities has recently contracted with the billing system software developer in order to be able to generate the needed reports during the course of developing its conservation plan (June 2012 to January 2013).

The development of the plan is divided into the following tasks (similar to what is indicated in the CWCB Model Plan Template):

Task 1. Profile the Existing Water System

The activities described under this task will provide information on the City's existing water supply system.

1.1 Profile physical characteristics of the existing water supply system:
Will describe the physical characteristics of the water system. Included in the summary will be key system characteristics, geographic area served, population and connections served, types of key water users, existing facilities and demand.

1.2 Identify all water sources:
Identify and describe all of the system's water supply sources including attributes, age, seniority and conditions of its use. Estimates will be made for any missing information.

1.3 Identify system limitations:
Describe the City's water system limitations.

1.4 Characterize water costs and pricing structures:
Document past and current history of water sales.

1.5 Review current policies and planning initiatives:
Discuss major policies the City has in place that affect water use under normal and drought conditions, and summarize major planning efforts to date.

1.6 Summarize current water conservation activities:
Estimate water savings from previously implemented conservation measures

Task 2. Characterize Water Use and Demand Forecast

The activities described under this task will provide information on the City's existing and projected water use.

2.1 Characterize current water use:
Review billing records to summarize current water use. Included will be detailed customer sector data, quantifications of indoor vs. outdoor use and potable vs. non-potable use, and examination of historical water use by tap size.

2.2 Select forecasting method:
A demand forecasting method will be selected and described.

2.3 Prepare demand forecast:
Estimate future water demand by tap size or customer category according to the selected forecasting method.

Task 3. Profile Proposed Facilities

The activities described under this task will identify and describe planned improvements based on the results from step two and estimate the associated costs.

3.1 Estimate supply costs based on the demand forecast:
Prepare incremental and total costs for water supplies that are appropriate.

3.2 Identify and describe anticipated capital facility improvements and additions:
Summarize facility needs over a similar time horizon used for demand forecasting.

3.3 Estimate total, annual and unit cost of the improvements:
Develop cost estimates of improvements. Worksheet will be used as a guide.

3.4 Develop a water supply capacity forecast:
Provide a summarized supply capacity forecast.

Task 4. Identify Conservation Goals

The activities described under this task will identify conservation goals for the City.

4.1 Develop water conservation goals:
Develop water conservation goals in collaboration with the City Council. Areas for water conservation will be identified based on results from Tasks 2 and 3. A specific water-savings target, as well as how the savings will be measured, will be identified.

4.2 Document the goals development process:
Document the process used to develop the water conservation goals.

Task 5. Identify Water Conservation Measures and Programs

The activities described under this task will identify conservation measures and programs the City may implement to reach the conservation goals identified in Task 4.

5.1 Identify conservation measures and programs:
Develop water conservation measures.

5.2 Develop and define screening criteria:
Describe the screening criteria used to evaluate and eliminate some of the water conservation measures and programs.

5.3 Screen conservation measures and programs:
The screening criteria will be applied to the "universal" list of conservation measures and programs to determine which ones will be further evaluated in the planning process.

Task 6 Evaluate and Select Conservation Measures and Programs

The activities described under this task are intended to evaluate and select the optimal conservation measures and programs the City may implement.

6.1 Create combinations of measures and programs:
Review all conservation measures and programs that passed the screening criteria and group them, so similar measures and associated water-savings are not double counted.

6.2 Estimate costs and water savings of conservation options:
Estimate the cost of each conservation measure/program and the associated water savings using Worksheet 6-1 as a guide. A cost/benefit analysis will also be included.

6.3 Compare benefits and costs:
Summarize conservation measure costs and water savings, including a net benefit from all suggested measures.

6.4 Define evaluation criteria:
Develop criteria used to select the conservation measures/programs for implementation. Key criteria will be cost for implementation and potential water savings.

6.5 Select conservation measures and programs:
Summarize the evaluation of each measure/program based on the evaluation criteria and indicate, with Council input, which measures/programs will be implemented. The water savings from the implementation will be estimated.

Task 7 Integrate Resources and Modify Forecasts

The activities described under this task will modify the supply and demand forecasts to account for water savings from the selected conservation measure and program. The benefits of conservation as well as revenue effects will also be addressed.

7.1 Revise demand forecast:
Revise the demand forecast prepared in Task 2 to account for the water savings of the measures/programs from Task 6.

7.2 Identify project-specific savings:
Determine the effect of water savings from conservation on the timing and capacity of facility improvement projects and quantify savings.

7.3 Revise supply-specific savings:
Determine the effect of water savings from conservation on the timing and capacity of facility improvement project and quantify savings.

7.4 Revise supply-capacity forecast:
Revise the supply capacity forecast based on findings from Task 7.2

7.5 Summarize forecast modifications and benefits of conservation:
Develop a graph showing demand and supply with and without conservation.

7.6 Consider revenue effects:
Quantify impacts to revenues from implementation of water conservation. Savings in capital improvement projects or delayed water acquisition will be presented against loss in sales revenue. Strategies to address this issue will be discussed.

Task 8. Develop Implementation Plan

The activities described under this task will present a strategy for implementing the selected conservation measures and describe methods for monitoring the plan's success.

8.1 Develop implementation schedule:
Discuss significant implementation actions and obstacles for implementing the selected conservation measures. Will develop a reasonable implementation schedule and timetable to follow.

8.2 Develop plan for public participation in implementation:
Describe how to involve the public in the implementation process.

8.3 Develop plan for monitoring and evaluation progress:
Determine and describe how the Water Conservation Plan will be measured for effectiveness.

8.4 Develop plan for updating and revising the plan:
Describe when it intends to update the Water Conservation Plan.

8.5 Define plan adoption date/plan completed date/plan approved date:
A copy of the approval resolution adopting the final Water Conservation Plan will be included. Will also develop a schedule for City Council adoption & adoption.

Task 9 – Monitor, Evaluate and Revise Conservation Activities and the Plan.

The plan will be implemented and monitored based on the schedule developed from Task 8. Will also commit to monitor the performance of the plan including updating the plan as required.

Task 10. Public Outreach and Participation

The draft conservation plan will be available for review and public comment for 60 days. During the public comment period two informational presentations will be made; at the Water & Sewer Board meeting and at the City Council meeting. The public is welcome to attend these meetings and comment on the plan; in addition, written input and suggestions will be encouraged.

Project Schedule

Table 2 – Proposed Schedule

Deliverable	Date
Grant application submitted to CWCB	07/9/2012
CWCB approves grant and PO issued	8/03/2012
Meeting with Consultant to coordinate task delivery	08/06/2012
Submit 50 % progress report to CWCB	09/30/2012
Submit 75% progress report to CWCB	10/30/2012
Submit final draft to Water & Sewer Board and City Council for review	11/30/2012
Collect Water & Sewer Board and City Council Comments	12/15/2012
Notify public of draft plan in official newspaper	12/30/2012
Public review period (60 days)	02/28/2013
Council formally adopts final draft	03/15/2013
Submit final plan to CWCB	03/20/2013
CWCB approves plan (90 days)	06/30/2013

PROJECT COST **Table 3 – Budget**

ITEMIZED WORK SCOPE	Clear Water Solutions *** Hrs.	Cost	Additional CITY STAFF Hrs.	Cost	GRANT REQUEST	CITY STAFF (in-kind) Hrs.	Cost	TOTAL COST
Task 1. Profile Existing Water System	18	$2,340	10	$1,000	**$3,340**	10	$1,000	**$4,340**
Task 2. Characterize Use and Demand Forecast	8	$1,050	15	$1,500	**$2,550**	15	$1,500	**$4,050**
Task 3. Profile Proposed Facilities	12	$1,620	15	$1,500	**$3,120**	20	$2,000	**$5,120**
Task 4. Identify Conservation Goals	15	$1,950	15	$1,500	**$3,450**	20	$2,000	**$5,450**
Task 5. Identify Conservation Programs	19	$2,460	10	$1,000	**$3,460**	20	$2,000	**$5,460**
Task 6. Evalu. & Select Conservation Measures	58	$7,110	30	$3,000	**$10,110**	30	$3,000	**$13,110**
Task 7. Integrate Resources	9	$1,200	20	$2,000	**$3,200**	15	$1,500	**$4,700**
Task 8. Develop Implementation Plans	9	$1,140	65	$6,500	**$7,640**	15	$1,500	**$9,140**
Task 9. Monitor, Evaluate and Revise the Plan	2	$270	10	$1,000	**$1,270**	15	$1,500	**$2,770**
Task 10. Public Outreach****	36	$4,860	20	$2,000	**$6,860**	40	$4,000	**$10,860**
Travel Expenses – 7 meetings x $0.55/mi x 130mi					**$506**			**$506**
Phone Conference with CWCB after final review & incorporate comments	6	$810			**$810**			**$810**
TOTAL COST	**192**	**$25,316**	**210**	**$21,000**	**$46,316**	**200**	**$20,000**	**$66,316**

*** Consultant Fee is calculated as an average of $131.85 hourly rate (See Attachment)

NOTES:

- The above Project Budget is based on a joint-effort approach, with City of Englewood staff leading and fully participating in all tasks in order to build in-house expertise that will regularly review and update it.

- City Staff Cost is calculated as an average of $100 per hour (including salary, all benefits overhead and indirect cost, etc.) based on:

Utilities Director	$130	Administration Manager	$110
Utilities Engineers	$90	Sys. Support Specialists	$85

**** Includes report preparation, general project cost , meetings, etc.

ATTACHMENT C
Project Fee Estimate
City of Englewood Water Conservation Plan

ITEMS OF WORK	CWS Michelle Hatcher HOURS $120	CWS Michelle Hatcher SUB TOTAL	CWS Steve Nguyen HOURS $150	CWS Steve Nguyen SUB TOTAL	Labor Total	Expense Total	Total
TASK A - Develop Water Conservation Plan							
Step 1 - Profile of Existing Water System							
1.1 Profile Existing Water System	2	$240	1	$150	$390		$390
1.2 Identify Sources of Water	2	$240	1	$150	$390		$390
1.3 Identify System Limitations	2	$240	1	$150	$390		$390
1.4 Characterize Water Costs and Pricing	2	$240	1	$150	$390		$390
1.5 Review Current Policies and Planning Initiatives	2	$240	1	$150	$390		$390
1.6 Summarize Current Water Conservation Activities	2	$240	1	$150	$390		$390
Sub-Total	***12***	***$1,440***	***6***	***$900***	***$2,340***		***$2,340***
Step 2 - Characterize Water Use and Forecast Demand							
2.1 Characterize Current Water Use	2	$240	1	$150	$390		$390
2.2 Select Forecasting Method	1	$120		$0	$120		$120
2.3 Prepare Demand Forecast	2	$240	2	$300	$540		$540
Sub-Total	***5***	***$600***	***3***	***$450***	***$1,050***		***$1,050***
Step 3 - Profile Proposed Facilities							
3.1 Identify and Cost Potential Facility Needs	2	$240	2	$300	$540		$540
3.2 Prepare an Incremental Cost Analysis	2	$240	2	$300	$540		$540
3.3 Develop Preliminary Capacity and Costs Forecasts	2	$240	2	$300	$540		$540
Sub-Total	***6***	***$720***	***6***	***$900***	***$1,620***		***$1,620***
Step 4 - Identify Conservation Goals							
4.1 Develop Water Conservation Goals	8	$960	4	$600	$1,560		$1,560
4.2 Document the Goal Development Process	2	$240	1	$150	$390		$390
Sub-Total	***10***	***$1,200***	***5***	***$750***	***$1,950***		***$1,950***
Step 5 - Identify Conservation Measures and Programs							
5.1 Identify Conservation Measures and Programs	4	$480	4	$600	$1,080		$1,080
5.2 Develop and Define Screening Criteria	1	$120	1	$150	$270		$270
5.3 Screen Conservation Measures and Programs	8	$960	1	$150	$1,110		$1,110
Sub-Total	***13***	***$1,560***	***6***	***$900***	***$2,460***		***$2,460***
Step 6 - Evaluate and Select Conservation Measures and Programs							
6.1 Create Combinations of Measures and Programs	4	$480	1	$150	$630		$630
6.2 Estimate Costs and Water Savings of Conservation Options	28	$3,360	1	$150	$3,510		$3,510
6.3 Compare Benefits and Costs	16	$1,920	1	$150	$2,070		$2,070
6.4 Define Evaluation Criteria	1	$120	1	$150	$270		$270
6.5 Select Conservation Measures and Programs	4	$480	1	$150	$630		$630
Sub-Total	***53***	***$6,360***	***5***	***$750***	***$7,110***		***$7,110***
Step 7 - Integrate Resources and Modify Forecasts							
7.1 Revise Demand Forecasts	1	$120	1	$150	$270		$270
7.2 Identify Project Specific Savings	1	$120	1	$150	$270		$270
7.3 Revise Supply-Capacity Forecasts	1	$120	1	$150	$270		$270
7.4 Summarize Forecast Modifications and Benefits of Conservation	1	$120		$0	$120		$120
7.5 Consider Revenue Effects	1	$120	1	$150	$270		$270
Sub-Total	***5***	***$600***	***4***	***$600***	***$1,200***		***$1,200***
Step 8 - Develop Implementation Plan							
8.1 Develop Implementation Schedule	2	$240	2	$300	$540		$540
8.2 Develop Plan for Public Participation in Implementation	1	$120		$0	$120		$120
8.3 Develop Plan for Monitoring and Evaluation Processes	2	$240		$0	$240		$240
8.4 Develop Plan for Updating and Revising the Conservation Plan	1	$120		$0	$120		$120
8.5 Define Plan Adoption Date/Plan Completed Date/Plan Approved Date	1	$120		$0	$120		$120
Sub-Total	***7***	***$840***	***2***	***$300***	***$1,140***		***$1,140***
Step 9 - Monitor, Evaluate, and Revise Conservation Activities							
9.1 Implement the Plan	1	$120	1	$150	$270		$270
Sub-Total	***1***	***$120***	***1***	***$150***	***$270***		$270
TASK A TOTAL	**112**	**$13,440**	**38**	**$5,700**	**$19,140**		**$19,140**
TASK B - Public Outreach							
Meeting w/W&S Board and City Council to discuss potential measures/programs	12	$1,440	12	$1,800	$3,240		$3,240
Public meeting to solicit feedback	6	$720	6	$900	$1,620		$1,620
TASK B TOTAL	***18***	***$2,160***	***18***	***$2,700***	***$4,860***		***$4,860***
General Project Expenses							
Travel - 7 meetings x $0.556/mi x 130 mi						$506	$506
Phone conference with CWCB after final review and incorporate comments	3	$360	3	$450	$810		$810
GENERAL PROJECT EXPENSES TOTAL	**3**	**$360**	**3**	**$450**	**$810**	**$506**	**$1,316**
TOTAL FEE	**133**	**$15,960**	**59**	**$8,850**	**$24,810**	**$506**	**$25,316**

Notes:

Assumes Englewood staff will prepare report and CWS will complete a final review

Fee estimate is primarily for technical assistance and to attend W&S Board and Council meetings to answer questions

Water savings calculations of selected measures and programs is the largest portion of Consultant's fee