Civil Engineering
Planning & Development
Construction Management
Product Development

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Ken Young P.E., Principal

June 14, 2011

Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203
Attn.: Deborah Burrell

Re: Submittal of Water Efficiency Grant Application from the St. Charles Mesa Water District, Pueblo County, Colorado

Dear Ms. Burrell:

Please find attached one copy of the Water Efficiency Grant Application for the St. Charles Mesa Water District, Pueblo County, Colorado. In addition, one electronic copies were submitted to your office via e-mail. The attached application has been revised to address the following items:

1. Tables 3-4 and 3-5 have been revised to reflect a target reduction of "non-revenue" loss from 12.27% to 4%.
2. Page 7, commencing has been revised to reflect that fact that the meter replacement program is already underway.
3. The timeline has been revised to reflect the date change.
4. A copy of the informational attachment related to alerting the customers that the meters are being replaced, has been attached at the end of the application.

If you have any questions please contact me at the above numbers.

Sincerely,

YOUNG TECHNOLOGY GROUP

Ken Young, P.E.

cc: David K. Simpson, SCMWD District Manager

Water Efficiency Grant Application

for

St. Charles Mesa Water District

Revised: June 14, 2011

Prepared by:
Young Technology Group
702 Polk St., Pueblo, CO 81004
Ph.: (719) 543-2277

EXECUTIVE SUMMARY

In April, 2008, St. Charles Mesa Water District (SCMWD) made an application to the Colorado Water Conservation Board (CWCB) Office of Water Conservation and Drought Planning, for a grant in the amount of $15,700. This also included an "In-Kind" contribution from SCMWD valued at $5,450. The grant was approved in June of the same year. The purpose of the grant was to offset the cost of preparing a Water Conservation Plan for the District.

During the Water Conservation Plan preparation process, several goals and objectives were incorporated into same. They are:

1. Reduce the "Non-Revenue" water (water which is treated but does not show up in the accounting, mainly due to meter inaccuracies).
2. Increase efficient irrigation practices by customers.
3. Reduce overall use per customer, over time, without adversely impacting the District, financially.

During the Development of the Supply Side Conservation Measures and Programs, it was determined that a substantial portion of the "Non-Revenue" water loss was due to the large number of older, inaccurate water meters. The replacement of the existing meters is part of the Long Range Capital Improvement Plan (CIP). The original program entailed replacement of all existing meters over a 10 year span. The initial implementation commenced in 2009, with the replacement of 85 meters, which the District funded independently. In 2010, the District replaced 200 meters, at its own expense. Although the program is not proceeding at the pace which was originally intended, the potential benefits warrant the aggressive pursuit of this initial supply side program. This will benefit the district, and the individual customer(s) in the following manner:

1. The new meters shall provide a more accurate accounting of the individual customer usage. This will allow the district to better determine the amount of water which is being lost through leaks.
2. The new meters shall be radio-read, which will save the district time and money, related to the actual reading of the meters.
3. The new meters shall allow the district a more accurate accounting of the effects of the various conservation measures and programs, which the district implements.
4. The new meters come with the option of a Water Meter Monitor, which is a remote receiver and display, which allows customers to monitor their individual water use. The unit also comes with a leak detection alert.
5. The District shall purchase 10 Water Meter Monitors, at a cost of $75.00 each. They will be made available to Customers at a cost of $37.50 each, with the District providing a 50% rebate to each interested customer. This portion of the Meter Replacement Program is meant to serve as a pilot program in order to gauge the Customer interest in the Water Meter Monitors, and will be adjusted annually based on Customer demand.

The St. Charles Mesa Water District is a legally created and organized existing quasi municipal subdivision created under title 32, Special Districts Article I, 32-1-204.5 Colorado revised statues. St. Charles Mesa Water District was approved by election in May 1988, and The St. Charles Mesa Water Association was dissolved. The St. Charles Mesa Water Association incorporated in 1964. The District currently has a population of 10,589 (based on 2.7 persons per household/tap) and the District boundary encompasses 64 square miles.

The District serves 4,065 customers accounts; 3,883 are residential accounts, 182 are commercial accounts and there are 8 institutional accounts for the public school district number 70 facilities. The annual average raw water usage is approximately 2,000 acre feet per year. The District utilizes master meters to monitor the amount of water from its surface water plant, and ground water wells going into the system, and each customer account has an individual meter to track water use.

The District is a covered entity as defined in the Guidelines, and is eligible under the Grant Guidelines for Water Conservation Implementation & Public Education and Outreach Project.

In December, 2010 The Colorado Water Conservation Board approved the District's Water Conservation Plan. The initial grant application request shall be directed at continuing the meter replacement program, which was initiated in 2008. Demand Side Measures and Programs shall be targeted at those individuals and businesses which have had the meter recently replaced.

In 2005, the St. Charles Mesa Water District developed a Long Range Capital Improvement Plan, and it is attached in the folder at the end of this report. The proposed improvements contained therein are a comprehensive needs list, and not all of the items are directly related to water use, or conservation. However, the majority of the costs

associated are directly relevant to providing additional raw, or treated water, increased storage and distribution capacity. In addition, one of the main areas of concern is non-revenue water. That is, treated water, which is utilized by the customer, but which is not being properly metered, and therefore, not being paid for, by the customer. It is believed that this is due to inaccurate metering due to deterioration in the individual meters themselves. Many of the original water meters, which were installed in the early 1970's, are still in use today. Recently, a sample of these meters were replaced with radio read meters. The old meters were tested by the District, yielding the following results:

Table 3-0 – St. Charles Mesa Water District Meter Testing Data

Table 3-0						
METER TESTS						
TYPE	Flow rate	1/4 GPM		2 GPM		15 GPM
NEPTUNE	Accuracy	0%		90%		97.30%
SENSUS		85.50%		80%		98.40%
HERSEY		0%		20%		83.50%
SENSUS		3%		95%		95.40%
SENSUS		90.20%		100%		99.80%
TRIDENT		70.20%		100%		99.50%
SENSUS		74%		100.50%		99.20%
HERSEY		0%		90%		94.20%
HERSEY		80.10%		100%		98.50%
AVG.		**45%**		**86%**		**96.20%**

As can be seen from the test results, some of the low flows do not even register on 3 of the old meters. The moderate flows are off by an average of 14% (low), while the high flows are still relatively accurate.

The first priority shall be the reduction of non-revenue water. This is the difference between the total, treated finished water which is delivered from the treatment plants, and the sum of the individual meters at the customer's location. At present, the District loses 19% of the treated finished water. It is believed that the vast majority of this is due to the inaccuracies in the older existing water meters. The reasons for this item being given top priority are, firstly, this will, increase the overall water accounting efficiency by reducing the quantity of treated water which is put into the distribution system, but not registered by the individual customer meters. Secondly, it will encourage water conservation by requiring the customers to pay for the amount of water that they are actually utilizing. One of the nine meters tested was not registering 80% of the use at a moderate flow rate, and 16.5% of the use at a high flow rate. Thirdly, this program shall, eventually, decrease treatment costs as water accounting becomes more accurate and increased efficiency on the part of the customers. The Automated Meter Reading (AMR) units offer the option of an individual Water Meter Monitor (WMM), which the individual customer can use to track water usage. The WMM unit also comes with a Leak Detection Alarm. We feel that the WMM will help individual customers conserve water, and that it offers the only method by which the customer can track their water usage, other than their monthly bill. Water Meter Monitors shall be available for purchase, through the District, for a cost of $37.50. Lastly, the automatic read feature will also reduce the cost of reading the meters and of billing. A copy of the meter replacement notification is attached, and shall be modified to reflect the availability of the WMM, upon approval of the grant request.

The ORION® Automatic Meter Reading (AMR) System is a one-way bubble-up RF system. The AMR system is comprised of an ORION transmitter located at the meter that transmits readings and tamper data to an ORION Receiver when the Receiver is in the proximity range of the transmitted signal. The automated meter reading Receiver may be part of a Handheld Programmer/Data Collector, or an ORION Mobile Reading System. Collected meter data is then uploaded into Badger Meter's ReadCenter® software, where information gathered from each meter is processed and maintained and appropriate consumption data is passed to the utility billing system. One automatic meter reading system can manage and read both water and gas meters.

Upon full implementation, almost all of the "non-revenue" water shall be accounted for. This will be tracked by comparing the monthly meter reading at the treatment plant, versus the sum of the individual meters. We expect the percentage of unaccounted for water to drop from an average of 12.27% to approximately 4%, upon full implementation, a savings of 67.4% of the current "non-revenue" water.

Target reduction of "Non-Revenue" water through the implementation of a program to replace all of the existing meters over a ten year period, commencing in the year 2008. The District intends to target the customers which have new radio-read meters installed, with the other demand side measures and programs. This is due to the uncertainty

involved with the majority of the existing meters. Targeting the customers with new meters will provide more accurate tracking of the demand side conservation measures proposed.

APPLICATION

1. Name and contact information for the entity seeking the grant:

St. Charles Mesa Water District
1397 Aspen Rd. Pueblo, CO. 81006
719-542-4380
Contact:
David K. Simpson, District Manager

2. Project Team Members:

This application shall be for the replacement of approximately 400 existing manually read water use meters, and replace them with new, electronic, radio read meters. The St. Charles Mesa Water District (SCMWD) staff shall perform the replacements. The key staff members are as follows:

David K. Simpson, District Manager – Mr. Simpson shall act as the Project Manager, and shall coordinate all transactions between the Water District and the Colorado Water Conservation Board (CWCB).

Don Williams, Distribution System Manager – Mr. Williams has worked for the District for over 38 years, holds a Class A Treatment Plant Operator's License and Class 3 Water Distribution System License. He will oversee all field installations and shall perform the GPS locates after the installations are complete.

Susan Long, Office Manager – Mrs. Long has worked for the District for 15 years and performs numerous duties related to billing, accounting and information systems. She shall perform the data entry for the GPS locations of the new meters.

Rudy Vigil, Water Distribution Technician – Mr. Vigil has worked for the District for 25 years, and is the senior equipment operator. He shall perform all machine excavations.

Travis Orcutt, Water Distribution Technician – Mr. Orcutt has worked for the District for 1 year. He maintains a Class A Operator's License and Class 1 Distribution System License. He shall assist in the physical replacement of the meters.
*

Doug Martin, Water Distribution Technician – Mr. Martin has worked for the District for 2 years. He maintains a Class 1 Water Distribution System License, and shall also assist in the physical replacement of the meters.

Ken Young, Principal Engineer for Young Technology Group – Mr. Young shall prepare the 50% and 75% completion reports, as well as the final report. In addition, he will assist with the update to the District's Conservation Plan.

3. a. Table 3-1 Illustrates the total raw water pumped or diverted, and the total retail delivery of water from 2006 through 2010:

Water Source	**Raw Water use, by Year, In Acre-Feet**				
Table 3-1 a	**2006**	**2007**	**2008**	**2009**	**2010**
Arkansas River & Bessemer Ditch	496.3	902.5	498.9	884.8	878.8
Cottonwood Creek	717.8	530.0	670.6	399.2	530.0
Zoeller Creek	529.7	504.6	530.5	421.2	504.6
Velazquez Creek	223.3	84.5	207.3	164.2	84.5
Well #1	69.7	112.9	133.3	98.9	154.8
Well #6	52.8	56.4	68.7	40.7	78.0
Well #8	9.4	18.1	11.9	6.0	11.2
Well #10	7.3	21.8	15.9	15.0	18.4
Project Water (Pueblo Reservoir)	0.0	0.0	0.0	0.0	0.0
Totals	2,106.3	2,230.8	2,137.1	2,030.0	2,260.3

Water Source	Retail Water use, by Year, In Acre-Feet				
Table 3-1 b	2006	2007	2008	2009	2010
Totals	1,917.3	1,793.4	1,937.6	1,788.2	2,000.4
Annual "Non-Revenue" Water Lost in Acre-Feet	189.0	437.4	199.5	241.8	259.9
Annual "Non-Revenue" Water Lost in Percent (%)	8.97%	19.61%	9.34%	11.91%	11.50%

The spike in 2007 was caused by a series of breaks and leaks, wherein several days passed before the leaks were discovered and repaired.

Table 3-2 Illustrates the potable water use by category from 2006 through 2010:

Year	# Taps	Growth	Usage	Use/Tap
	Residential	%	Ac.-Ft.	Ac.-Ft./Tap
2006	3,810	-	1,559	0.41
2007	3,835	0.66%	1,499	0.39
2008	3,850	0.39%	1,529	0.40
2009	3,863	0.34%	1,399	0.36
2010	3,883	0.52%	1,592	0.41
Year	**# Taps**	**Growth**	**Usage**	**Use/Tap**
	Commercial	%	Ac.-Ft.	Ac.-Ft./Tap
2006	177	-	242	1.37
2007	182	2.82%	249	1.37
2008	182	0.00%	250	1.37
2009	182	0.00%	248	1.36
2010	182	0.00%	253	1.39
Year	**# Taps**	**Growth**	**Usage**	**Use/Tap**
	Institutional	%	Ac.-Ft.	Ac.-Ft./Tap
2006	8	-	116	14.45
2007	8	0.00%	115	14.40
2008	8	0.00%	158	19.70
2009	8	0.00%	141	17.62
2010	8	0.00%	158	19.77

The increased use over time for the Institutional taps are due to fact that the schools are irrigating more frequently with water from the St. Charles Mesa Water District, in lieu of complete utilization of their existing wells.

In Table 3-1, the effect of a wetter than average year (precipitation) can be seen for 2009. This is also reflected in Table 3-2. Also, the impact of the meter replacement program, which was initiated in 2009, is apparent. The "non-revenue" water, by percentage, is beginning to drop below 12%. We expect this trend to continue, and to increase, as a direct result of the enhancement of the program.

b. i. Table 3-1 Summarizes the total and retail water delivery from 2006 through 2010. In 2009, there were more spring and summer rainstorms, which reduced the amount of use for lawn irrigation. The average total use for this period was 2,152.9 acre-feet per year. The average retail water delivery for this period was 1,887.4 acre-feet.

b. ii. Table 3-2 Summarizes the per capita water use by customer class. Originally, this table was divided into commercial use and residential use only. The Institutional use category was created to separate the 8 Public School facilities which are presently served.

b. iii. Table 3-3 Summarizes the number of past, present and future residential taps. The future forecasts are based on the assumption of a 1% growth rate, and 2.7 persons per household. The previous totals are based on actual residential tap sales. The growth rates after 2010 are projected, pre-recession growth rates.

Year	# Taps	Growth	# Persons	Population
	Residential	%	per Tap	-
2006	3,810	-	2.7	10,287
2007	3,835	0.66%	2.7	10,355
2008	3,850	0.39%	2.7	10,395
2009	3,863	0.34%	2.7	10,430
2010	3,883	0.52%	2.7	10,484
2011	3,922	1.00%	2.7	10,589
2016	4,122	1.00%	2.7	11,129
2021	4,332	1.00%	2.7	11,697

Table 3-3

b. iv. Table 3-4 Summarizes the projected water savings to be gained by the meter replacement program for residential customers. The average of the Non-Revenue water lost over the period from 2006 – 2010 is 12.27%. The target for Non-Revenue water is 4.0%. There is no efficiency depreciation on the replaced meters for the thirteem year period shown below. The original time frame of 10 years for this program, has been modified to allow for the replacement of all residential meters during the course of the entire program.

Table 3-4

Year	Growth Rate	Residential Taps	Residential Usage	# Replaced Meters	% Replaced Meters	Non-Revenue Water Lost	Projected Water Savings	Projected Water Savings
	%	-	Acre-Feet	-	%	Without Conservation	With Conservation	With Conservation
		-	-	-	-	Acre-Feet	Acre-Feet	%
2008	0.39%	3,850	1,529	0	0	142.8	**0.0**	**0.00%**
2009	0.34%	3,863	1,399	85	2.20%	166.6	**2.5**	**1.48%**
2010	0.21%	3,871	1,592	285	7.36%	183.1	**9.1**	**4.96%**
2011	1.00%	3,910	1,608	675	17.26%	197.2	**23.0**	**11.64%**
2012	1.00%	3,949	1,624	1,065	26.97%	199.2	**36.2**	**18.18%**
2013	1.00%	3,988	1,640	1,455	36.48%	201.2	**49.5**	**24.59%**
2014	1.00%	4,028	1,657	1,845	45.80%	203.2	**62.7**	**30.87%**
2015	1.00%	4,068	1,673	2,235	54.93%	205.2	**76.0**	**37.03%**
2016	1.00%	4,109	1,690	2,625	63.88%	207.3	**89.3**	**43.06%**
2017	1.00%	4,150	1,707	3,015	72.65%	209.4	**102.5**	**48.96%**
2018	1.00%	4,192	1,724	3,405	81.23%	211.5	**115.8**	**54.75%**
2019	1.00%	4,234	1,741	3,795	89.64%	213.6	**129.0**	**60.42%**
2020	1.00%	4,276	1,759	4,185	97.87%	215.7	**142.3**	**65.97%**
2021	1.00%	4,319	1,776	4,319	100.00%	217.9	**146.8**	**67.40%**

b. v. Table 3-5 Summarizes the projected water savings to be gained by the meter replacements program for commercial customers. The average of the Non-Revenue water lost over the period from 2006 – 2010 is 12.27%. The target for Non-Revenue water is 4.0%. The original time frame of 10 years for this program has been modified to allow for the replacement of all commercial meters during the course of the program. In the final year, 2022, all of the remaining commercial meters shall be replaced.

Table 3-5								
Year	Growth Rate	Commercial Taps	Commercial Usage	# Replaced Meters	% Replaced Meters	Non-Revenue Water Lost	Projected Water Savings	Projected Water Savings
	%	-	Acre-Feet	-	%	(Without Conservation)	(With Conservation)	(With Conservation)
	-	-	-	-	-	Acre-Feet	Acre-Feet	%
2008	0.39%	182	250	0	0	23.4	**0.0**	**0.00%**
2009	0.34%	182	248	0	0.00%	29.5	**0.0**	**0.00%**
2010	0.21%	182	253	0	0.00%	29.1	**0.0**	**0.00%**
2011	1.00%	184	256	10	5.44%	31.3	**1.1**	**3.67%**
2012	1.00%	186	258	20	10.77%	31.7	**2.3**	**7.26%**
2013	1.00%	188	261	30	16.00%	32.0	**3.4**	**10.78%**
2014	1.00%	189	263	40	21.12%	32.3	**4.6**	**14.24%**
2015	1.00%	191	266	50	26.14%	32.6	**5.7**	**17.62%**
2016	1.00%	193	269	60	31.06%	32.9	**6.9**	**20.93%**
2017	1.00%	195	271	70	35.87%	33.3	**8.0**	**24.18%**
2018	1.00%	197	274	80	40.59%	33.6	**9.2**	**27.36%**
2019	1.00%	199	277	90	45.21%	33.9	**10.3**	**30.47%**
2020	1.00%	201	279	100	49.74%	34.3	**11.5**	**33.53%**
2021	1.00%	203	282	110	54.17%	34.6	**12.6**	**36.51%**
2022	1.00%	205	285	205	100.00%	35.0	**23.6**	**67.40%**

b. vi. Table 3-1 indicates a decrease of 8% of lost, Non-Revenue water from 2007 to 2010. During that period approximately 370 residential meters have been replaced. The lost, or Non-Revenue water from 2006 to 2010 fluctuates to the extent that it is difficult to associate this decrease entirely to the small percentage of meters which have been replaced, to date. Other factors, such as leaks may have accounted for the large percentage of Non-Revenue water lost in 2007.

b. vii. The St. Charles Mesa Water District has an annual average use of 2,153 acre-feet of raw water, and an annual average retail use of 1,877.4 acre feet of potable water. Currently, the District has total raw water availability of 7,176 acre-feet, as indicated in Table 3-6.

Table 3-6	
Water Source	**Raw Water Availability**
	acre-feet
Arkansas River & Bessemer Ditch	2,511.0
Cottonwood Creek	1,040.0
Zoeller Creek	640.0
Velazquez Creek	340.0
Well #1	215.0
Well #6	215.0
Well #8	107.5
Well #10	107.5
Project Water (Pueblo Reservoir - Drought Reserve)	2,000.0
Totals	7,176.0

The District's present treatment capacity is 6 Million Gallons per Day (MGD). In addition, the current potable water storage capacity from the existing storage tanks is 4.7 Million Gallons. The existing main Treatment Plant also has space for one more filter bay, which would boost treatment capacity to 8 MGD, and the existing storage tank site at 25th Lane and LaSalle Road has space for an additional 2.5 Million Gallon Storage tank.

c. All of the grant monies shall be utilized to purchase new water meters. The program shall be implemented in stages of 400 new meters annually. Commercial customers shall constitute 10 of the 400 meter replacements annually. The remaining 390 meters shall be for residential replacements, annually. Table 3-7 is a cost estimate for the replacement of 400 existing meters. The material and labor unit costs are based on current material costs from a local supplier, and the District's wage rates.

The purpose of the meter replacement program is to reduce Non-Revenue water, which is most likely due to inaccurate meter readings due to old meters. This program is being initiated first, in order to more effectively track potential savings from the other conservation measures and programs which are outlined in the Water Conservation Plan.

In order to offset the potential loss of revenue caused by initial implementation of demand side measures, the replacement of the existing individual meters shall be top priority. This will allow the coincidental implementation of some of the demand side measures. For the fiscal years 2009 through 2022 the replacement of all of the older individual meters shall take place. This will coincide with the customer water audits, pilot programs and efficient irrigation and landscaping programs.

In 2010, customers who are targeted for meter replacement received written notification regarding the timing of the meter replacement. A copy of the notification is attached at the end of this application. Upon approval, the notification shall be modified so that each customer shall be given the option of receiving a Water Meter Monitor, with the new meter installation. The cost of each Water Meter Monitor is $75.00. Customer shall be given the opportunity to purchase a Water Meter Monitor at the time of notification, by the District. With a 50% rebate from the District, the cost of the Water Meter Monitor, to the customer, is $37.50. In addition, Customers may rent a Water Meter Monitor at a rate of $30 per month, from the District. This device is approximately the same size as a television remote controller, and allows the customer to track water usage. The Monitor has several features, including a leak detection alarm, which is outlined in detail on page 9 of the Design Manual.

In addition to the Water Meter Monitor, the customers who receive new meters shall be encouraged to participate in any or all of the Demand Side Programs and Measures. These customers who receive new meters shall be targeted for the other Demand Side Measures, so that the District can keep an accurate accounting of potential water savings.

d. The impact of the meter replacement will be monitored monthly, during the District's normal monthly billing cycle. The intended outcome to the District should match the anticipated decrease in Non-Revenue water which are outlined in Tables 3-4 and 3-5. The sum of all customers' use, which shall be measured by the individual water meters, is subtracted from the reading of the main meter at the main treatment plant. This method will give a monthly tally of the Non-Revenue water, which is expected to show a steady decrease, as the meter replacement program progresses. In addition, the annual report shall indicate the annual Non-Revenue water volume. Also, the District shall track the monthly use of the individual customers who receive the new meters, and compare the total use and billing to the previous year's use and billing, for each month. This will provide individual customer use tracking as well as total Non-Revenue Water.

5. Scope of Work

The purpose of this program is to reduce the Non-Revenue water, that is water that is treated and delivered into the potable water distribution system, but is not accounted for, generates no income and is essentially wasted. This is mainly due to inaccurate meters which are under reporting the use, due mainly to age. The Meter Replacement Program shall attempt to replace 400 meters annually.

In order to reduce costs, the District shall only replace the actual meter. In other words, the replacement shall involve physically removing the old meter from the existing meter yoke, and replacing just that part, the meter, into the existing meter yoke. This will eliminate the high cost of replacing the meter pit and will avoid having the individual customers have to hire a plumber to reconnect the service line, on the customers side of the meter.

Once in place, the new meters will be located with a GPS device, which records the horizontal and vertical location of the existing meter pit. This data is then downloaded into the District's GIS database, which is accessible through the Pueblo County GIS database. The final step is the entry into the District's billing software database, for billing and tracking for the Final Report and Conservation Plan update. The project timeline is attached at the end of this application.

6. Detailed Project Budget

Table 3-7 is a detailed cost estimate based on actual material and labor costs, and consulting fees. The total project budget is $88,309.24. The In-Kind contribution by the District shall be the Installation (Labor) Costs ($7,864.00), the GPS Locate Costs ($2,557.60), the Data Entry Costs ($482.64), the Consultant Fee ($1,875.00) and the purchase of 133 of the new meters and 10 Water Meter Monitors.

Table 3-7			
Meter Replacement Costs for the installation of 400 new radio read water Meters			
for			
St. Charles Mesa Water District, Pueblo County, Colorado			
Description	**Unit Cost**	**Units**	**Total Cost**
Material Costs			
Badger BR 25 Radio Read Meter w/Orion Data Profile	$186.95	400	$ 74,780.00
Badger IHD Water Meter Monitor (Incl. 50% Rebate)	$37.50	10	$ 375.00
Installation (Labor) Costs	**Rate**	**Time**	**Total Cost**
Senior Water Distribution Technician	$19.91	160.0	$3,185.60
Junior Water Distribution Technician	$16.49	160.0	$2,638.40
Water Distribution Technician	$12.75	160.0	$2,040.00
Sub-Total	-	-	$7,864.00
GPS Locate Costs	**Rate**	**Time**	**Total Cost**
Distribution System Manager	$31.97	80.0	$2,557.60
Data Entry Costs	**Rate**	**Time**	**Total Cost**
Office Manager	$20.11	24.0	$482.64
Consultant Fees	**Rate**	**Time**	**Total Cost**
Young Technology Group (Engineer)	-	-	$1,875.00
GRAND TOTAL			**$87,934.24**
Summary of In-Kind Contributions			
Material Costs			
Badger BR 25 Radio Read Meter w/Orion Data Profile	$186.95	133	$ 24,864.35
Badger IHD Water Meter Monitor (Incl. 50% Rebate)	$37.50	10	$ 375.00
Installation (Labor) Costs			$7,864.00
GPS Locate Costs			$2,557.60
Data Entry Costs			$482.64
Consultant Fees			$ 1,875.00
Sub-Total			**$ 38,018.59**
% of Total Budget			**43.24%**
Summary of Grant Request Costs			
Material Costs			
Badger BR 25 Radio Read Meter w/Orion Data Profile	$186.95	267	$ 49,915.65
Sub-Total			**$ 49,915.65**
% of Total Budget			**56.76%**

The total Grant request is in the amount of $49,915.65.

The following Table 3-8 Illustrates the Demand Side Measures and Programs which shall also be implemented by the District, for 2011.

Table 3-8 **Material Costs for Demand Side Conservation Measures** for **St. Charles Mesa Water District, Pueblo County, Colorado**					
Description	**Unit Cost**	**Units**	**Total Cost** (Customer)	**Rebate** (District)	**Saving** (to customer) %
Material Costs					
Low Flush Toilets	$500.00	10	$5,000	$500	10.00%
Low Flush Urinals	$225.00	10	$2,250	$500	22.22%
Low-Flow Showerhead	$90.00	20	$1,800	$200	11.11%
Low-Flow Kitchen Faucets	$275.00	20	$5,500	$200	3.64%
Low-Flow Bathroom Faucets	$180.00	20	$3,600	$200	5.56%
Efficient Washing Machines	$750.00	10	$7,500	$1,000	13.33%
Rainbird RSD-Bex Series Rain Sensor	$30.03	20	$600.60	$200	33.30%
GRAND TOTAL			**$26,250.60**	**$2,800**	**10.67%**

On behalf of the St. Charles Mesa, I respectfully submit the grant application for the Meter Replacement program.

David K Simpson 6-14-11

David K. Simpson, District Manager **Date**

Project Timeline for Meter Replacement Program - St. Charles Mesa Water District, Pueblo County, Colorado June 14, 2011									
Description	**Personnel**	**July 11-16**	**July18-23**	**July 25-30**	**Aug 1-Aug 5**	**Aug 8-Aug 12**	**Aug 15- Aug 19**	**Aug 22- Aug 26**
1. Identify area and individual meters to be replaced	David Simpson, Don Williams							
2. Order 400 New meters (and 10 Water Meter	Don Williams							
Monitors) from supplier	Don Williams							
3. Commence Installation Procedure	Rudy Vigil, Travis Orcutt, Doug Martin							
4. Locate new meter installations with GPS Unit	Don Williams							
5. Enter data into GIS database	Don Williams							
6. Enter data into Billing Software	Don Williams							
7. 50% Progress Report	Ken Young							
8. 75% Progress Report	Ken Young							
9. Final Report	Ken Young							
10. Meter Installation Complete	David Simpson, Ken Young							
The start date for the above timeline is contingent on grant approval and availability								

December 6, 2010

Dear Customer:

The St. Charles Mesa Water District staff installed a new radio read meter and blue fiber meter lid at your residence this month. The blue fiber lid has a transponder attached to it and allows the radio signal to transmit the meter reading to the meter reader. The meter lid does not allow the customer to access the meter pit. This is to prevent damage to the radio read meter and its components. The meter shut off valve located in the meter pit is for the District's personal use.

Damage to the meter lid, radio read meter or the meter shut off valve will be at the customer's expense (Water District Regulations, Article IX, Section 9.02)

Customer's should have a shut off valve in their homes for maintenance inside the residence (Pueblo City/County Building Department, Sec. 605.2 2009 Uniform Plumbing Code). If there is a leak from the meter to the residence, the customer should contact the District to have the main shut off. The District may charge a service fee for after business hours. (Water District Regulations Article XI, Section 11.06)

If you have any questions or concerns, please give me a call at the number listed below.

Sincerely,

David K. Simpson
District Manager

DKS/sl

1397 Aspen Road / Pueblo, Colorado 81006-1633 / Phone (719) 542-4380 / Fax (719) 542-4862
Website: www.stcharlesmesawaterdistrict.org