FIRESTONE

A COMMUNITY IN MOTION

June 23, 2016

Mr. Ben Wade
Colorado Water Conservation Board
1313 Sherman Street, Room 721
Denver, CO 80203

RE: Town of Firestone Implementation Grant Application

Dear Mr. Wade:

The Town of Firestone is focused on implementing activities outlined in the Town's 2015 Municipal Water Efficiency Plan Update to continue effective and responsible use of their water resources. As you will see in the attached implementation grant application, the Town of Firestone is committed to the implementation of effective efficiency activities as outlined in the Scope of Work. As Interim Town Manager, I will authorize funds and staff time to dedicate towards implementing these water efficiency activities.

Clear Water Solutions, Inc. has prepared the attached implementation grant application for installation of water efficiency irrigation controls on park irrigation systems and a residential irrigation systems clock retrofit program. The total cost to complete the activities is $46,664.49. The Town proposes to match a total of $12,941.94, which consists of $11,941.94 of in-kind services and $1,000 cash. This equates to 28% of the total project. The Town requests a grant for $34,722.55 from CWCB to complete the activities. We respectfully submit this request for your consideration.

Respectfully,
Town of Firestone

David Montgomery, Chief of Police and Interim *Town Manager*
Enclosures

151 Grant Ave. • P.O. Box 100 • Firestone, CO 80520
(303) 833-3291 • fax (303) 833-4863

CWCB WATER EFFICIENCY IMPLEMENTATION GRANT APPLICATION SUBMITTAL REQUIREMENTS

PROJECT: Town of Firestone 2016 Implementation Grant for Installation of Water Efficiency Irrigation Controls on Park Irrigation Systems and a Residential Irrigation Systems Clock Retrofit Program

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

   Town of Firestone
   Attn: Town Manager
   151 Grant Avenue
   PO Box 100
   Firestone, CO 80520-0100
   T: (303) 833-3291
   F: (303) 833-4863

2. **Selected firm and individuals to assist in development of the activities that are included in the Implementation Grant:**

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

   Clear Water Solutions, Inc. (CWS) will complete the program reporting for this implementation grant for the Town of Firestone (*Town* or *Firestone*). Individuals from CWS that will be involved in the project include Michelle Hatcher and Steve Nguyen, P.E.

   Michelle Hatcher has worked on several CWCB-approved water efficiency plans and implementation grants. She has over ten years of experience in water resources planning and management. Michelle will serve as Project Manager for the implementation grant activities.

   Steve Nguyen is a Professional Engineer registered in the State of Colorado. He has over seventeen 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, water efficiency, and drought management. Steve will serve as a Technical Advisor on all portions of the implementation grant activities.

Town of Firestone

TJ Dlubac is the Director of Community Development and will provide general direction on all aspects of the water implementation programs. TJ will serve as one of the primary contacts for the Town on this project.

Julie Pasillas is the Resource and Sustainability Coordinator and is in charge of utility billing for the Town. Julie will be paramount in the development of these water implementation programs including gathering information on prior water use for targeted participations, cost estimates for contractors, and insight as to how the Town would like these programs to be structured. Julie will serve as one of the primary contacts for the Town on this project.

Jody McClurkin is the Budget and Finance Analyst for the Town and will provide input on the financial impacts of the proposed programs. Jody will also assist in the development of the programs to address any financial impacts to the Town.

Theo Abkes is the Town Public Works Director. Theo will provide coordination with Public Works staff for the implementation of the Installation of Water Efficient Irrigation Controls on Park Irrigation Systems and Residential Irrigation System Clock Retrofit Program.

Mark Martinez is the Town Parks and Water Foreman. Mark will provide assistance for both the Installation of Water Efficient Irrigation Controls on Park Irrigation Systems and Residential Irrigation System Clock Retrofit Program.

The Town Manager will provide general direction on all aspects of the water implementation programs. The Town Manager is essential in implementing these programs for the Town.

3. Identification of retail water delivery of the covered entity for past five years.

The Town's average water usage for five years (2011 – 2015) for each customer category is shown on **Table 1**. The total water usage has ranged from 1,799 to 2,235 acre-feet (AF) and averaged 1,978 AF.

Table 1: Annual Water Delivery (Acre-Feet)

Customer Category	2011	2012	2013	2014	2015	Average
Residential	1,381	1,558	1,301	1,355	1,486	1,416
Multi-Family	7	10	9	8	7	8
Commercial	185	206	177	192	191	190
Industrial	11	12	12	14	15	13
Parks	263	302	179	166	179	218
Open Space	129	149	121	134	135	133
Total	1,975	2,235	1,799	1,868	2,013	1,978
Population	10,319	10,477	10,699	11,321	12,110	10,985
Residential GPCD	120	133	109	107	110	115
Total GPCD	171	190	150	147	148	161

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

The Town's water supply consists solely of Colorado-Big Thompson (C-BT) units managed by the Northern Colorado Water Conservancy District. This water is treated and supplied to the Town by a wholesale water provider, Central Weld County Water District (Central Weld).

(a) Current and past per capita water use for the last five years.
Within the last five years, Firestone has a total per capita water use that ranged from 147 to 190 gallons per capita per day (GPCD) with an average of 161 GPCD as shown in **Table 1**. This calculation was performed using the total billed usage and population estimates for the Town.

(b) The past, current and predicted population served.
Firestone's future population was projected utilizing data from the 2015 Municipal Water Efficiency Plan Update for the Town and a 2015 estimate provided by Town staff. **Table 2** shows the estimated population for the last five years, current year, and the next ten years. We obtained current population data from the 2010 census, which showed a population of 10,147 for Firestone. Town staff estimated a population in 2015 of 12,110 residents. Future growth rates were obtained from staff and show a 4% growth rate for 2016, 6% from 2016 to 2019, and 4% for 2019 to 2024.

Table 2: Firestone Population Growth

Year	Population	Growth Rate
2009	9,681	-
2010	10,147	4.81%
2011	10,319	1.70%
2012	10,477	1.53%
2013	10,699	2.12%
2014	11,321	2.46%
2015	12,110	3.00%
2016	12,594	4.00%
2017	13,350	6.00%
2018	14,151	6.00%
2019	15,000	6.00%
2020	15,600	4.00%
2021	16,224	4.00%
2022	16,873	4.00%
2023	17,548	4.00%
2024	18,250	4.00%

(c) Estimated water saving goals to be achieved.

The following provides additional information on the estimated water savings goals for each activity:

Installation of Water Efficient Irrigation Controls on Park Irrigation Systems

Based on the data gathered from the existing converted Parks, we estimate an annual savings rate of 0.87 acre-feet per irrigated acreage is evident through controller installation. The Town desires to install these controllers at all parks and estimate that approximately 2.2 acres of irrigated parks are left to be converted. Based on the remaining amount of acreage left to convert, we anticipate a water saving of approximately two acre-feet per year (20 acre-feet over the next ten years).

Residential Irrigation Systems Clock Retrofit Program

Based on 50 residents participating in the Clock Retrofit program, it is estimated that those residents could save approximately 10% or more from their current outdoor water use. We estimate that water savings would equate to approximately 0.7 acre-feet per year, for the 50 participants. If this program has a favorable public response and shows water savings, the Town would consider expanding the number of participants.

(d) Estimates of water savings realized in the past five years through water efficiency activities.

Firestone has implemented a variety of water efficiency activities since 2007 when the last water efficiency plan was prepared. The 2007 Plan called for savings of at least 280 AF by 2015. The water efficiency activities that have been implemented since 2007 are shown below in **Table 3**.

Table 3 – Firestone's Historical & Existing Water Efficiency Activities

Historical and Existing Water Efficiency Activities	Period of Implementation
Foundational Activities	
Automatic Meter Reading Installation and Operations	July 2014 - Present
Meter Upgrades	2012
Water Efficient Rate Structure with Regular Updates to Rate Study	2009 - Present
Targeted Technical Assistance and Incentives	
Irrigation Audits for Town Parks	2011
Installation of Water Efficient Irrigation Controls on Park Irrigation Systems	2012 - Present
Toilet Rebates	April 1, 2010 - Present
Water Efficient Washing Machine Rebates	April 1, 2010 - 2014
Give-Aways	2003 - Present
Ordinances and Regulations	
Time of Day Watering Restriction (Voluntary)	2004 - Present
Water Waste Ordinance	2007 - Present
Rain Sensors Installed On New Properties	May 2003 - Present
Wind Sensors Installed On New Properties Greater than 1 Acre	May 2003 - Present
Education Activities	
Water Efficiency Page on Town Website	Prior to 2007 - Present
Historic Water Usage Provided on Water Bills	
Bill Stuffers	
Newsletter	
K-12 Teacher and Classroom Education Programs	
Water Booth at Town Events	
Social Networking (e.g. Facebook)	
Customer Surveys	

Water Savings Estimates Using Demand Data

The water savings for the remaining activities shown in **Table 3,** whose saving were not analyzed above, are more difficult to quantify. Therefore we estimated the water savings of the remaining activities using demand

data to compare historical annual per capita water demands before and after the implementation of the water efficiency activities.

Water Savings Estimates of Individual Activities

The water savings from several of the Town's Targeted Technical Assistance and Incentives activities are shown below in **Table 4**. The estimated water savings evident from 2009 - 2013 was approximately 124 AF.

Table 4 – Water Savings Estimates of Individual Activities

Historical and Current Water Efficiency Activities	Annual Water Savings for Past Five Years (ac-ft)					Total Five-Year Water Savings	Average Annual Savings
	2009	*2010*	*2011*	*2012*	*2013*		
Targeted Technical Assistance and Incentives							
Irrigation Audits for Town Parks *Installation of Water Efficient Irrigation Controls on Park Irrigation Systems*	n/a	n/a	n/a	0	112	112	56
Toilet Rebates	n/a	0.2	0.6	0.9	1.1	3	0.7
Water Efficient Washing Machine Rebates	n/a	1.1	2.1	2.9	3.4	10	2.4
Total Savings		1	3	4	117	**124**	**59**

Demand data suggests a decreasing trend in GPCD despite a significant increase in population. We conclude that the water efficiency activities enacted since at least 2007 have contributed to the reduction of per capita demands. The Town estimates that implementation of the 2007 Plan has conserved at least 124 AF through 2013 and based on this data, Firestone is on track to reaching future conservation goals.

(e) Adequacy stability and reliability of the entity's water system.

The Town of Firestone owns and operates a water distribution network of approximately 58.5 miles of pipeline and associated facilities. Over 95% of this network was installed after 1995 and is in excellent operating condition. The remaining portion of the network is located in the historic "old town" area and was installed in the early 1970's. This older portion of the network is primarily 4", 6", and 8" diameter asbestos cement pipe. The integrity of the older pipe is adequate but system capacity evaluations have shown that over time this portion of the network needs to be replaced with larger capacity pipe to improve delivery, especially for fire suppression flows.

The pipe network installed since 1995 has been subject to design and installation in strict accordance with the Town's published criteria and standards. Meticulous adherence to these standards has helped to create a pipe network that has been virtually maintenance free. The Town has excellent maintenance staff that performs regular preventative maintenance to the system, but has been able to operate with a very minimal budget for repair and replacement of system components. Every service connection on the distribution system, regardless of use, is metered. All of the system meters are read monthly (at a minimum) so that every bit of water used within the Town is accounted for. This includes hydrant meters used by contractors that buy construction water from the Town. The water use monitoring program that the Town has been using for the past seven to eight years has been an integral part of the maintenance department's efforts to eliminate any level of system leakage.

Firestone currently does not operate a water treatment plant and is a wholesale purchaser of potable water. The sole supplier of treated water is the Central Weld County Water District. The Town owns 5,103 units of Colorado-Big Thompson Project water. Additional C-BT water is conveyed to the Town by new development as it occurs. C-BT water is transferred to Central Weld's water treatment plant at Carter Lake, outside of Berthoud. Central Weld treats and then delivers the water to Firestone through their own distribution network. Firestone has ten points of connection to Central Weld's system, each consisting of a master meter vault and appurtenances. The Town owns and operates a 1.5 million gallon water storage tank to meet peak demands and maintain pressure in the system.

5. Project Scope and Tasks

See Appendix A – Installation of Water Efficient Irrigation Controls on Park Irrigation Systems
See Appendix B – Residential Irrigation Systems Clock Retrofit Program
See Appendix C – Program Reporting

6. Project Schedules

See Attached **Table 5**

7. Project Budgets and Funding Sources

The Town will use the grant money for completion of the three activities to be implemented and will provide CWS all information, including billing and financial information, as well as staff time to successfully complete the implementation of

the activities. See **Table 6** for the breakdown of Project Fees including projected hours and rates.

8. Commitment of Resources

"The Town Board of Firestone is committed to water resource sustainability and water efficiency. 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 efficiency activities. We are committed to implementing these water efficiency activities."

X 

Paul Sorensen, Mayor

Table 5 – Town of Firestone Implementation Grant Schedule

Town of Firestone Board of Trustees meets on the 2nd and 4th Wednesday of each month at 7 pm. A work session occurs on the 3rd Wednesday.

Installation of Water Efficient Irrigation Controls on Park Irrigation Systems

Task	Date
Grant application submitted to CWCB	7/1/2016
CWCB approves grant and PO issued	10/29/2016
Purchase 4 iCentral Controllers	12/26/2016
Install iCentral Controllers at the selected Parks:	3/11/2017
Verify that iCentral Controllers were installed correctly and are working properly	4/10/2017
Link newly installed iCentral Controllers to existing network of Town iCentral Controllers	5/10/2017
Analyze historical water use for the selected Parks	6/9/2017
Submit 50% progress report to CWCB	6/14/2017
Submit 75% progress report to CWCB	11/15/2017
Complete water use data tracking and analysis	12/16/2017
Complete final report documenting activities and savings	12/16/2017
Presentation to District Board and final adoption of program	1/17/2017
Submit final report to CWCB	1/31/2017

Residential Irrigation Systems Clock Retrofit

Task	Date
Grant application submitted to CWCB	7/1/2016
CWCB approves grant and PO issued	10/29/2016
Town will publicize the Residential Irrigation Systems Clock Retrofit program.	1/27/2017
The Town will evaluate the Retrofit applications to verify that all rules and requirements have been met	2/26/2017
Once an initial response occurs, the Town will estimate how many clocks of each type will be needed	3/28/2017
Clocks will be purchased	4/27/2017
The Town will contact the individual water utilities customers to notify them that the clocks are available; customers will install clocks; inspections will be performed	5/4/2017
Submit 50% progress report to CWCB	5/11/2017
The Town will begin to analyze the historical water use of customers that picked up the clocks	6/3/2017
Submit 75% progress report to CWCB	2/8/2018
Complete water use data tracking and analysis	10/16/2018
Complete final report documenting activities and savings	11/15/2018
Presentation to District Board and final adoption of program	12/12/2018
Submit final report to CWCB	12/26/2018

Program Reporting

Task	Date
Grant application submitted to CWCB	7/1/2016
CWCB approves grant and PO issued	10/29/2016
Prepare and complete 50 percent progress report per CWCB requirements including discussion of project status, project success and obstacles, and potential budget and schedule impacts	See Individual Project Schedules
Prepare and complete 75 percent progress report per CWCB requirements including discussion of project status, project success and obstacles, and potential budget and schedule impacts	See Individual Project Schedules
CWS and the Town will prepare the final program report for the Installation of Water Efficient Irrigation Controls on Park Irrigation Systems and the Residential Irrigation Systems Clock Retrofit Programs and provide said report to the CWCB	Near the end of 2018 (for both programs to reach fruition)
Presentation to District Board and final adoption of program	12/12/2018
Submit final report to CWCB	12/26/2018

Table 6 - Project Fee Estimate
Town of Firestone Implementation Grant

			CWS				Town of Firestone Staff (In-Kind)																
			Michelle Hatcher		Steve Nguyen		Town Manager		Public Works Director		Director of Community Development		Budget and Finance Analyst		Parks and Water Foreman		Resource and Sustainability Coordinator		Labor Total	Expense Total	Grand Total	Cash Contribution	In-Kind Matching Percentage	CWCB Grant Request
APPENDIX	TASKS	DESCRIPTION	HOURS $150	SUB TOTAL	HOURS $180	SUB TOTAL	HOURS $91.22	SUB TOTAL	HOURS $64.18	SUB TOTAL	HOURS $60.96	SUB TOTAL	HOURS $44.04	SUB TOTAL	HOURS $38.84	SUB TOTAL	HOURS $37.16	SUB TOTAL						
Installation of Water Efficient Irrigation Controls on Park Irrigation Systems																								
Appendix A	1.1	Purchase 4 iCentral Controllers		$0.00		$0.00		$0.00	2	$128.36		$0.00	1	$44.04		$0.00	2	$74.32	$246.72	$13,514.55	$13,761.27	$500.00		$13,014.55
	1.2	Install iCentral Controllers at participating Parks		$0.00		$0.00		$0.00	16	$1,026.88		$0.00		$0.00	24	$932.16		$0.00	$1,959.04		$1,959.04			$0.00
	1.3	Verify that iCentral Controllers were installed correctly and are working properly		$0.00		$0.00		$0.00	4	$256.72		$0.00		$0.00	8	$310.72		$0.00	$567.44		$567.44			$0.00
	1.4	Link newly installed iCentral Controllers to existing network of Town iCentral Controllers		$0.00		$0.00		$0.00	4	$256.72		$0.00		$0.00	4	$155.36		$0.00	$412.08		$412.08			$0.00
	2.1	Analyze historical water use for the participating Parks		$0.00		$0.00		$0.00	2	$128.36		$0.00		$0.00		$0.00	8	$297.28	$425.64		$425.64			$0.00
	2.2	Compile water use data for a period of 12 months after the installation of the iCentral Controller		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00	8	$297.28	$297.28		$297.28			$0.00
	2.3	Conduct analysis on historical and post installation water use to determine water savings evident from the installation of iCentral Controllers	6	$900.00	4	$720.00	1	$91.22	1	$64.18	1	$60.96		$0.00		$0.00	4	$148.64	$1,985.00		$1,985.00			$1,620.00
		Sub-Total	**$900.00**		**$720.00**		**$91.22**		**$1,861.22**		**$60.96**		**$44.04**		**$1,398.24**		**$817.52**		**$5,893.20**	**$13,514.55**	**$19,407.75**	**$500.00**	**25%**	**$14,634.55**
Residential Irrigation Systems Clock Retrofit																								
Appendix B	1.1	Development of Residential Irrigation System Clock Retrofit Program Promotional Materials		$0.00		$0.00	1	$91.22	1	$64.18	1	$60.96	1	$44.04		$0.00	6	$222.96	$483.36		$483.36			$0.00
	1.2	Evaluate applications		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00	10	$371.60	$371.60		$371.60			$0.00
	1.3	Estimate how many clocks of each type is needed		$0.00		$0.00		$0.00		$0.00		$0.00	1	$44.04		$0.00	6	$222.96	$267.00		$267.00			$0.00
	1.4	Purchase clocks		$0.00		$0.00		$0.00	2	$128.36		$0.00	1	$44.04		$0.00	2	$74.32	$246.72	$11,648.00	$11,894.72	$500.00		$11,148.00
	2.1, 2.2 & 2.3	Notify customers that clocks are available & make them available for pick up. Track customers that picked up clocks.		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00	4	$148.64	$148.64		$148.64			$0.00
	2.5 & 2.6	Customers will notify Town of clock installation and schedule an inspection. Town will inspect the clock installation.		$0.00		$0.00		$0.00	25	$1,604.50		$0.00		$0.00	50	$1,942.00	12	$445.92	$3,992.42		$3,992.42			$0.00
	3.1	Produce a follow-up survey and submit to participants		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00	4	$148.64	$148.64		$148.64			$0.00
	3.2	Compile water use data for a period of 12 months prior and 12 months after the retrofits are conducted.		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00	8	$297.28	$297.28		$297.28			$0.00
	3.3	Conduct data analysis regarding pre- and post-water use for retrofit participants	6	$900.00	4	$720.00	1	$91.22	1	$64.18	1	$60.96		$0.00		$0.00	4	$148.64	$1,985.00		$1,985.00			$1,620.00
		Sub-Total	**$900.00**		**$720.00**		**$182.44**		**$1,861.22**		**$121.92**		**$132.12**		**$1,942.00**		**$2,080.96**		**$7,940.66**	**$11,648.00**	**$19,588.66**	**$500.00**	**35%**	**$12,768.00**
Program Reporting																								
Appendix C	1.1	50% progress report	6	$900.00	2	$360.00		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00	$1,260.00		$1,260.00			$1,260.00
	2.1	75% progress report	6	$900.00	2	$360.00		$0.00		$0.00		$0.00		$0.00		$0.00		$0.00	$1,260.00		$1,260.00			$1,260.00
	3.1	Prepare the Final Report	20	$3,000.00	10	$1,800.00	1	$91.22	1	$64.18	2	$74.32	1	$44.04		$0.00	2	$74.32	$5,148.08		$5,148.08			$4,800.00
		Sub-Total	**$4,800.00**		**$2,520.00**		**$91.22**		**$64.18**		**$74.32**		**$44.04**		**$0.00**		**$74.32**		**$7,668.08**	**$0.00**	**$7,668.08**	**$0.00**	**5%**	**$7,320.00**
		Total	44	**$6,600.00**	22	**$3,960.00**	4	**$364.88**	59	**$3,786.62**	5	**$257.20**	5	**$220.20**	86	**$3,340.24**	80	**$2,972.80**	**$21,501.94**	**$25,162.55**	**$46,664.49**	**$1,000.00**		**$34,722.55**

APPENDIX A – DESCRIPTION OF INSTALLATION OF WATER EFFICIENT IRRIGATION CONTROLS ON PARK IRRIGATION SYSTEMS

The Town of Firestone (*Town* or *Firestone*) desires to install Rain Master iCentral Irrigation Control Systems at all Town Parks. In 2011 Firestone conducted irrigation site assessments and audits for Settler's Park and Prairie Ridge Park. The intent of the irrigation site assessment was to obtain details regarding operation of the irrigation system, controller programming, general soil conditions, and discussion with maintenance staff to provide helpful insights of the irrigation system. Representative zones were audited to evaluate irrigation system performance and to gain an understanding of water efficiency opportunities.

Among the many recommendations made in the irrigation audit was the recommendation to replace existing Hunter ICC controller with a centrally controlled, weather based controller. By 2013 the Town had begun replacing the old irrigation controllers with Rain Master iCentral Controlled Irrigation Systems. By the end of 2013, ten controllers had been replaced.

Firestone staff estimated that the 2013 usage for the Parks with the new controllers decreased by 37% when compared to 2012. A total of 5.27 inches of precipitation was received in Firestone prior to the September 2013 rain storm that brought an additional 8.44 inches. 2013 was on track to be dryer than 2012, which makes the amount of water saved in 2013 very remarkable. 36,617,000 gallons of water was saved compared to 2012, which equates to 112.37 acre-feet of water.

Some of the features included with the iCentral System include:

- Local weather information is automatically sent to each controller every day
- ***Smart Alerts***™ are sent by iCentral for all field alarms generated when a "fault" occurs; text messages are sent to cell phone(s) and email address(es)
- Automatic initiation of "rain shutdown" to each controller if iCentral determines that precipitation in a designated area necessitates a shutdown
- Automatically modifies irrigation schedules based upon daily ET, as well as plant watering requirements
- Manually turn on/off any station or program

Based on the data gathered from the existing converted Parks, we estimate an annual savings rate of 0.87 acre-feet per irrigated acreage is evident through controller installation. The Town desires to install these controllers at all parks and estimate that approximately 2.2 acres of irrigated parks are left to be converted. Based on the remaining amount of acreage left to convert, we anticipate a water saving of approximately 1.9 acre-feet per year.

Approximately four controllers are needed to convert the remaining irrigated parks. The Town of Firestone obtained a price quote from Site One Landscape Supply which is

attached to this Appendix. The quote of $13,514.55 includes controllers and required accessories for the following irrigated areas:

- Firestone Trail near Adams Bank
- Town Hall
- Onorato Park
- 4th & Buchanan Pocket Park

The Installation of Water Efficiency Irrigation Controls on Park Irrigation Systems includes the following tasks:

1. Purchase and install water efficiency irrigation controls for Town Park irrigation systems
2. Reporting and measuring success

TASK 1 – PURCHASE AND INSTALL WATER EFFICIENCY IRRIGATION CONTROLS FOR TOWN PARK IRRIGATION SYSTEMS

Purpose

This task includes the purchase of 4 Rain Master iCentral Controlled Irrigation Systems (iCentral Controllers) and install said systems at selected Town Parks.

Subtasks

1.1 Purchase 4 iCentral Controllers

1.2 Install iCentral Controllers at the following Parks:

- Firestone Trail near Adams Bank
- Town Hall
- Onorato Park
- 4th & Buchanan Pocket Park

1.3 Verify that iCentral Controllers were installed correctly and are working properly

1.4 Link newly installed iCentral Controllers to existing network of Town iCentral Controllers

Task Responsibilities

Firestone
The Town will coordinate the purchase of the iCentral Controllers. Town Staff will install and link data for the newly installed controllers with existing controllers. Town Staff will make certain the iCentral Controllers are installed and working properly. Additionally,

Town Staff will provide Rain Master Representatives with any additional information or assistance needed.

Task Deliverables

- The Town will purchase 4 iCentral Controllers
- The Town will install the iCentral Controllers
- The Town will make certain meters are installed correctly and are working properly
- The Town will link the new iCentral Controllers to existing network of Town iCentral Controllers

TASK 2 – REPORTING AND MEASURING SUCCESS

Purpose

The purpose of this task is to compare the historical water use of the Parks with newly installed iCentral Controllers to the water use after the controllers are installed. This task also includes compilation and review of all data collected and preparation of required reports.

Subtasks

2.1 Analyze historical water use for the following Parks:

- Firestone Trail near Adams Bank
- Town Hall
- Onorato Park
- 4th & Buchanan Pocket Park

2.2 Compile water use data for an irrigation season after the installation of the iCentral Controller

2.3 Conduct analysis on historical and post installation water use to determine water savings evident from the installation of iCentral Controllers

Task Responsibilities

Firestone
The Town will gather data and analyze the historical water use of the participating Parks. Following the installation of the iCentral Controller, Town Staff will track water use at the participating Parks for the irrigation season following the installation. Town Staff will compile this information to determine water savings and present information in the Program Reporting (See Appendix C).

CWS
CWS will analyze the historical water use of the Parks. CWS will obtained post iCentral Controller installation data from Town Staff and assist in the Program Reporting (See Appendix C).

Task Deliverables

- The Town and CWS will determine the water savings evident through the installation of the iCentral Controllers and present their findings in the Program Reporting (Appendix C).

Quotation

SiteOne LANDSCAPE SUPPLY
Stronger Together

Green Tech 349
22010 N 21st Ave
Phoenix, AZ 85027-2004
W: (949)455-7465

Bill To:

Town Of Firestone (#1070710)
PO BOX 100
Firestone, CO 80520
W: (303)833-3544

Ship To:

Town Of Firestone (#1070710)
PO BOX 100
Firestone, CO 80520
W: (303)833-3544

Created	Quote#	Due Date	Expected Award Date	Expiration Date
02/23/2016	2576654	03/23/2016	03/23/2016	03/23/2016

Printed	Job Name	Job Description	Job Start Date
02/24/2016 11:21:03	Town of Firestone, CO	Eagle Quote	03/23/2016

Line #	Item #	Item Desc	Qty	Unit Price	Extended Price
1	C	Pedestal Mount Controllers			
2	RME6EGI-SPED	Eagle 6 St Egi S.S. Ped.	1	3,239.308	3,239.31
3	RME12EGI-SPED	Rainmaster Eagle 12Sta.S.S.Ped W/Ic	1	3,417.923	3,417.92
4	RME18EGI-SPED	Rm 18 Eagel-I Central Ssped	1	3,667.846	3,667.85
5	RME24EGI-SPED	Rm 24 Eagle-I Central Ssped	1	3,953.077	3,953.08
6	RME30EGI-SPED	Rm Eagle Ss Ped W/Icard	1	4,273.615	4,273.62
7	RME36EGI-SPED	Rainmaster 36 Eagle W/Icard Ss Ped	1	4,630.154	4,630.15
8	PMRKIT	Rainmaster Pmr Kit	1	594.000	594.00
9	C	Wall Mount Controllers			
10	RME6EGI-SB	Rm 6Eg Sswm W/Icard	1	1,813.154	1,813.15
11	RME12EGI-S	Eagle W/Icard Ss Wall Mt	1	2,009.077	2,009.08
12	RME18EGI-SB	18 Sta Cont W/I-Card Ss Enc	1	2,276.308	2,276.31
13	RME24EGI-SB	24 Sta Cont W/ I-Card Ss Enc	1	2,579.538	2,579.54
14	RME30EGI-SB	30 Sta Cont W/I-Card Ss Enc	1	2,918.077	2,918.08
15	RME36EGI-SB	Rainmater 36 Eagle W/ I Card	1	3,292.615	3,292.62
16	PMRKIT	Rainmaster Pmr Kit	1	594.000	594.00
17	PROMAX	Complete Remote Set/ Rain Master Controllers Only	1	1,080.000	1,080.00

Total Price: $ 40,338.71

~Firestone Trail near Adams Bank location will need line # 13 & 16 = $3,173.54
~Town Hall location will need line # 6 & 16 = $4,867.62
~Onotato Park location will need line # 12 & 16 = $2,870.31
~4th & Bunchanan Pocket Park location will need line # 11 & 16 = $2,603.08

APPENDIX B – RESIDENTIAL IRRIGATION SYSTEMS CLOCK RETROFIT PROGRAM

In 2003 the Town of Firestone began requiring that each new residential construction receive an irrigation system clock. The goal was to help Town residents be more efficient with their outdoor water. In an effort to continue encouraging water utilities customers with original clocks to continue their water saving success, Firestone would like to take steps to replace malfunctioning and defective clocks. Additionally, Firestone would like to encourage water users that might not have a clock to be able to obtain one.

In Firestone's 2015 Water Efficiency Plan, two activities were outlined that encompass the irrigation clocks. The first activity is "Give-Aways"; Firestone already gives away other water saving fixtures such as faucet aerators and low-flow shower heads. As a sign of good faith to its water utilities customers, Firestone would also like to give away the clocks to replace the current malfunctioning clocks. This activity also works in conjunction with the activity "Rain Sensors Installed on New Properties". Firestone realizes that the most efficient irrigation system is one where all parts are functioning properly to water at the right times and during the right conditions.

Firestone has created an application process with several stipulations for water utilities customers to receive a new replacement clock. The stipulations include the following list:

- Applicant must be Town of Firestone water utilities customer.
- Program is not available for new construction.
- Only single-family residential properties can apply.
- Only one application can be submitted per property.
- At least one year of prior water usage at the property is required to qualify.
- Prior year's total water consumption must be 175,000 gallon or more to qualify for this program.
- Smart irrigation clock retrofit must be installed and applicant must schedule an onsite inspection of clock retrofit with the Town of Firestone within 30-day of receipt.
- All blanks (within application) must be completed for application to be processed.
- Provide proof of US citizenship or legal status in the United Sates by providing a photocopy of one of listed forms of identification on the Affidavit of Lawful Presence sheet. Complete the Affidavit of Lawful Presence form.
- Please allow up to 3 to 4 weeks for application to be processed.

The application process also includes some additional terms and conditions. These can be viewed in the actual application attached to the end of this Appendix.

The Town would like to start the program by making available 50 clocks. Each clock costs an estimated $207.48 for a four-station clock or $232.96 for an eight-station clock. Most clocks fall under the eight-station category, so the cost for the clocks themselves

is estimated at $11,648. Clocks can be installed by the customer, or they can be installed by a professional. As mentioned in the clock retrofit application, the clock installation will need to be inspected by a Town of Firestone Water Utilities Staff in order for the customer to receive a retrofit.

Based on 50 residents participating in the Clock Retrofit program, it is estimated that those residents would save approximately 10% from their current outdoor water use. Basing calculations on a conservative estimate for average lot size of 8,500 square feet (approximately 0.2 acres) and average amount of irrigated area (approximately 35%), we calculated that water savings would equate to approximately 0.68 acre-feet per year.

The Residential Irrigation Systems Clock Retrofit Program can be broken down into the following tasks:

1. Publicize retrofits and establish actual retrofit quantities
2. Perform clock retrofit process
3. Measure and Report Success

TASK 1 – Publicize retrofits and establish actual retrofit quantities

Purpose

The activities described under this task will include the Town publicizing to the residents the opportunity to have malfunctioning clocks retrofitted with new clocks. The task will also include establishing the quantity and type of clocks needed for the initial retrofit.

Subtasks

1.1 The Town will publicize the Residential Irrigation Systems Clock Retrofit program. The Town will notify the residents using the website, social media, bill inserts, and newsletter notices.

1.2 The Town will evaluate the Retrofit applications to verify that all rules and requirements have been met.

1.3 Once an initial response occurs, the Town will estimate how many clocks of each type will be needed.

1.4 Clocks will be purchased.

Task 1 Responsibilities

Town
The Town will publicize the Retrofit program. The Town will monitor the responses. The Town will purchase the quantity of clocks needed.

Task 1 Deliverables

- The Town will publicize the Retrofit program.
- The Town will monitor the responses.
- The Town will purchase the quantity of clocks needed.

TASK 2 – Perform clock retrofit process

Purpose

The activities within this task include those steps of the actual clock retrofit process.

Subtasks

2.1 The Town will contact the individual water utilities customers to notify them that the clocks are available.

2.2 The qualified water utilities customers will pick up the clocks from Town Hall customer service office.

2.3 The Town will track the water utilities customers that picked up the clocks.

2.4 The water utilities customers will install the clock retrofits.

2.5 The water utilities customers will notify the Town of the installation and schedule an inspection.

2.6 The Town will inspect the clock installation

Task 2 Responsibilities

Town
The Town will notify the customers of the availability of the clocks. The Town will inspect the clock installation.

Utilities Customer
Customer will need to pick up the new clock. Customer will install the new clock. Customer will notify the Town and schedule an inspection.

Task 2 Deliverables

- Town's tracking data base of customers who picked up the clocks.
- Town's records of inspections performed.

TASK 3 – Measure and Report Success

Purpose

This task includes analyzing the pre-retrofit and post-retrofit water usage data from customers who received the clocks. This task also includes the preparation of the required reports.

Subtasks

3.1 Produce a follow-up survey for the customers to determine how successful the clock retrofit process occurred. The follow-up survey will be mailed and emailed to all of the participants approximately one week following the Town's inspection.

3.2 Compile water use data for a period of 12 months prior and at a minimum 12 months after the retrofits are conducted.

3.3 Conduct data analysis regarding pre- and post-water use for retrofit participants.

Task Responsibilities

Town
The Town will gather data and analyze the historical water use of the participants. Following the installation of the retrofit, Town Staff will track water use for the participating water customers following the installation. Town Staff will compile this information to determine water savings and present information in the Program Reporting (See Appendix C).

CWS
CWS will analyze the historical water use of the participants. CWS will obtained post clock installation data from Town Staff and assist in the Program Reporting (See Appendix C).

Task Deliverables

- The Town will create a follow-up survey.
- The Town and CWS will present their finding in the Program Reporting (Appendix C).

Smart Irrigation Clock Retrofit Pilot Program Application

Program Rules and Requirements

- Applicant must be Town of Firestone water utilities customer.
- Program is not available for new construction.
- Only single-family residential properties can apply.
- Only one application can be submitted per property.
- At least one year of prior water usage at the property is required to qualify.
- Prior year's total water consumption must be 175,000 gallon or more to qualify for this pilot program.
- Smart irrigation clock retrofit must be installed and applicant must schedule an onsite inspection of clock retrofit with the Town of Firestone within 30-day of receipt.
- All blanks below must be completed for application to be processed.
- Provide proof of US citizenship or legal status in the United Sates by providing a photocopy of one of listed forms of identification on the Affidavit of Lawful Presence sheet. Complete the Affidavit of Lawful Presence form.
- Please allow up to 3 to 4 weeks for application to be processed.

Applicant Information

Town of Firestone Water Account Number: _____
(Located on your water bill)

Property Owners Name: _____

Property Address: _____
(Address where clock is being installed)

Mailing Address: _____
(If different from the property address)

City: _____ State: _____ Zip: _____

Telephone Number: _____ Email address: _____

Property / Installation Site Information

Does the property currently have a programmable irrigation system? ☐Yes ☐No

If yes, is the irrigation system installed in the front and back yard? ☐Both front and back ☐Front only ☐Back only

If no, do you have plans to install a programmable irrigation system in the front and back yard? ☐Yes ☐No

If yes, where? ☐Both front and back ☐Front only ☐Back only If yes, when? _____

Number of total zones in existing or planned irrigation system: _____

How many days per week is the property currently being irrigated: _____

Length of time irrigated per zone each time: _____

If no programmable irrigation system is currently installed, what is the length of time yard is irrigated each time: _____

Property / Installation Site Information Continued

Current programmable irrigation clock Brand: _____

Current programmable irrigation clock Model No.: _____

Date of installation of current programmable irrigation clock: _____

Terms and Conditions

In order to receive the Smart Irrigation Clock Retrofit, the property owner understands and agrees to the following conditions:

1. I understand that the clock retrofit program is subject to availability of funding and is provided on first-come, first-served basis.
2. I understand and I meet all specified program rules and requirements from the first page and I understand that the Town of Firestone Water Utilities Department can deny any application that does not meet program rules and requirements (which can change without notification).
3. I understand I will be responsible for picking up the clock retrofit from the Town of Firestone at 151 Grant Ave., Firestone, CO 80520 once I am notified that my application has been approved.
4. I understand the installation of clock and material are my responsibility.
5. I understand and agree that all work performed will comply with applicable state and local laws, ordinances, and regulations.
6. I understand and agree that the Town of Firestone Water Utilities Department staff will inspect my property to confirm that the clock was installed, done so properly, and is operating for its intended purpose. If the inspection, whenever performed, shows that the device is not installed or being used as represented in this application, I agree to reimburse the Town the full price of $207.48 for a four-station clock or $232.96 for an eight-station clock, which ever I received. I agree the reimbursement would be a charge placed on my water bill for the full amount of the clock I received.
7. I understand that property shall be available for future inspection and monitoring (up to five years) by Town of Firestone Water Utilities Department staff. Town of Firestone Water Utilities Department staff may take photos of the project. Properties addresses participating in the clock retrofit program will be available to the public. Customer names will not be made public or associated with the property address. The property owner will cooperate with any additional reporting needs that are required by the Town of Firestone or outside funding organization
8. I understand and agree that installation of irrigation equipment or landscape materials may not result in lower water bills.
9. If this application is approved by Town of Firestone Water Utilities Department and the work proceeds, I agree to defend, indemnify, and hold harmless Town of Firestone, its agents and employees against any and all loss, liability, expense, claims, suits and damages, including attorney's fees, arising out of or resulting from the installation of irrigation equipment and landscape equipment. I have read, understand, and agree to the terms and conditions of the program for which I am applying.

_____ _____ _____

Property Owner Signature Date Print name

Send completed application to:

Town of Firestone

Retrofit Program

151 Grant Ave.

P.O. Box 100

Firestone, CO 80520

Office Use Only

Verification by: _____ Date: _____

Application: ☐ Approved ☐ Denied

Additional notes: _____

_____

_____

FIRESTONE
COLORADO
A COMMUNITY IN MOTION

Dear Town of Firestone Water Customers,

We would like to inform you of a step in the application process with which you must comply before receiving your clock retrofit.

On July 31, 2006, Governor Bill Owens signed into law House Bill 06S-1023, which restricts who may receive public benefits in the State of Colorado. Under the new law, any individual person older than 18 years of age must prove lawful presence in the United States in order to receive non-emergency public benefits, such as the rebate for which you have applied. The new law went into effect August 1, 2006.

In order to prove lawful presence in the United States, you must produce one of the following forms of identification:

- a valid driver's license from one of the following states that the Colorado Department of Revenue has deemed eligible: Colorado, Alabama, Arizona, Arkansas, California, Connecticut, Delaware, District of Columbia, Florida, Georgia, Idaho, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Minnesota, Mississippi, Missouri, Montana, Nevada, New Hampshire, New Jersey, New York, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Virginia, West Virginia, or Wyoming;
- a valid Colorado identification card;
- a United States military card;
- a United States military dependent's identification card;
- a United States Coast Guard Merchant Mariner card;
- a Native American tribal document;
- a Naturalization or citizenship certificate;
- a Court-issued adoption order;
- an I-94 immigration form with refugee or asylum status;
- an unexpired resident alien card, permanent resident card, temporary resident card or employment authorization card.

You may mail or drop off a photocopy of your identification (in one of the forms listed above) to the Town of Firestone at 151 Grant Ave/P.O. Box 100 Firestone, CO 80520. We assure you that this information will remain highly confidential. You may remove/darken all sensitive information such as social security numbers from the copy of your identification that you submit to the Town of Firestone.

In addition, completion of the affidavit attached is also required.

We regret any inconvenience these requirements may cause you.

Sincerely,

Town of Firestone

FIRESTONE
COLORADO
A COMMUNITY IN MOTION

AFFIDAVIT OF LAWFUL PRESENCE

I, _____ (print name legibly), swear or affirm under penalty of perjury under the laws of the State of Colorado that (check one):

___ I am a United States citizen, or

___ I am not a United States citizen, but I am a Permanent Resident of the United States, or

___ I am not a United Stated citizen, but I am lawfully present in the United States pursuant to Federal law.

I understand that this sworn statement is required by law because I have applied for a public benefit. I understand that state law requires me to provide proof that I am lawfully present in the United States prior to receipt of this public benefit. I further acknowledge that making a false, fictitious, or fraudulent statement or representation in this sworn affidavit is punishable under the criminal laws of Colorado as perjury in the second degree under Colorado Revised Statute 18-8-503 and it shall constitute a separate criminal offence each time a public benefit is fraudulently received.

_____ _____
Signature Date

Tape/Staple copy of identification here….

APPENDIX C – PROGRAM REPORTING

Program Reporting includes the following tasks:

1. Complete 50 percent progress report
2. Complete 75 percent progress report
3. Complete final reporting on programs

TASK 1 – COMPLETE 50 PERCENT PROGRESS REPORT

Purpose

The activities described under this task will be used to develop and complete the 50 percent progress report required by CWCB.

Subtasks

1.1 Prepare and complete 50 percent progress report per CWCB requirements including discussion of project status, project success and obstacles, and potential budget and schedule impacts.

Task Responsibilities

CWS and Town
Clear Water Solutions (CWS) and the Town will prepare the 50 percent progress report for the Installation of Water Efficient Irrigation Controls on Park Irrigation Systems and the Residential Irrigation Systems Clock Retrofit Programs and provide said report to the CWCB.

Task Deliverables

- A 50 percent progress report

TASK 2 – COMPLETE 75 PERCENT PROGRESS REPORT

Purpose

The activities described under this task will be used to develop and complete the 75 percent progress report required by CWCB.

Subtasks

2.1 Prepare and complete 75 percent progress report per CWCB requirements including discussion of project status, project success and obstacles, and potential budget and schedule impacts.

Task Responsibilities

CWS and Town
CWS and the Town will prepare the 75 percent progress report for the Installation of Water Efficient Irrigation Controls on Park Irrigation Systems and the Residential Irrigation Systems Clock Retrofit Programs and provide said report to the CWCB.

Task Deliverables

- A 75 percent progress report

TASK 3 - COMPLETE FINAL REPORTING

Purpose

This task includes completion of the final reporting for the programs as required by CWCB.

Subtasks

3.1 Prepare and complete the final program reporting.

Task Responsibilities

CWS and Town
CWS and the Town will prepare the final program report for the Installation of Water Efficient Irrigation Controls on Park Irrigation Systems and the Residential Irrigation Systems Clock Retrofit Programs and provide said report to the CWCB.

Task Deliverables

- The Town will complete the final reporting for the programs required by CWCB.