

## **Attachment A**

Contact: Jesse Schmid Race Director  
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### **30 K Road Race- 18.3 Miles**

**Starting Line (And Finish Line):** Clarkston City Square (100 S)

90% in unincorporated county areas.

**When:** Saturday June 3, 2017, at 6:30 AM –

Will close the course within 6-7 hours

Will Occupy the Park/Square from approximately 5 AM – 3PM

Aid Stations will be provided approximately every 2-3 miles along the route.

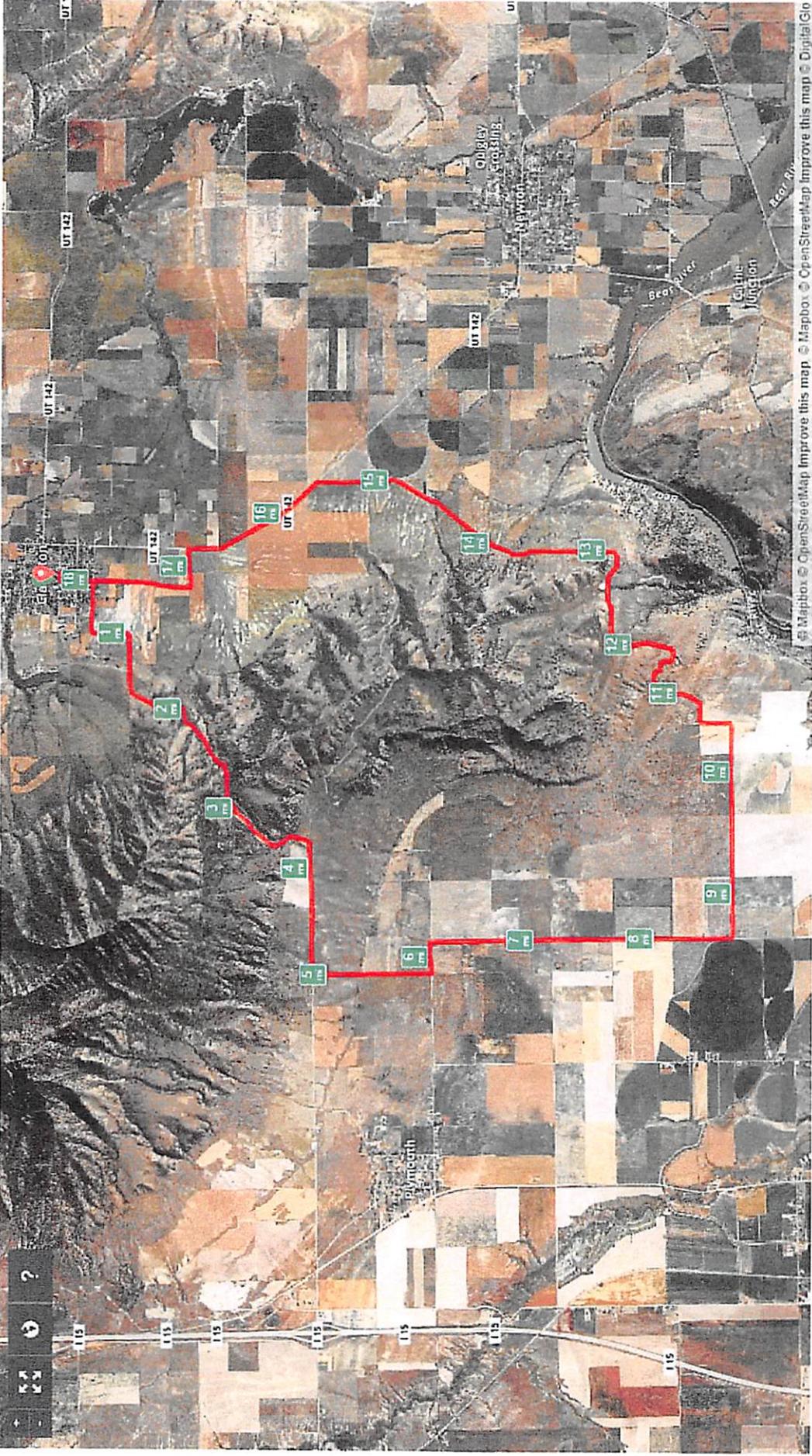
Would use the covered pavilions, parking lot for set up, prizes, vendors, runners

Parking lot for any other potential vendors-

**Parking:** Possibly leaving the parking lot for runners, or around the square.

**Our Mission:** Would like to put on a race that is well organized, clean, and fun. We hope to provide a course that challenges the runners, but is also a fun and beautiful place to run. Running for mental illness and those involved, encouraging taking that first step towards a healthy mind and body. We enjoy the beautiful valley in which we live, and want to share that with others. This will be a well-organized, clean race, and respects those living in these areas!

Approval through Clarkston, Box Elder and Cache Counties

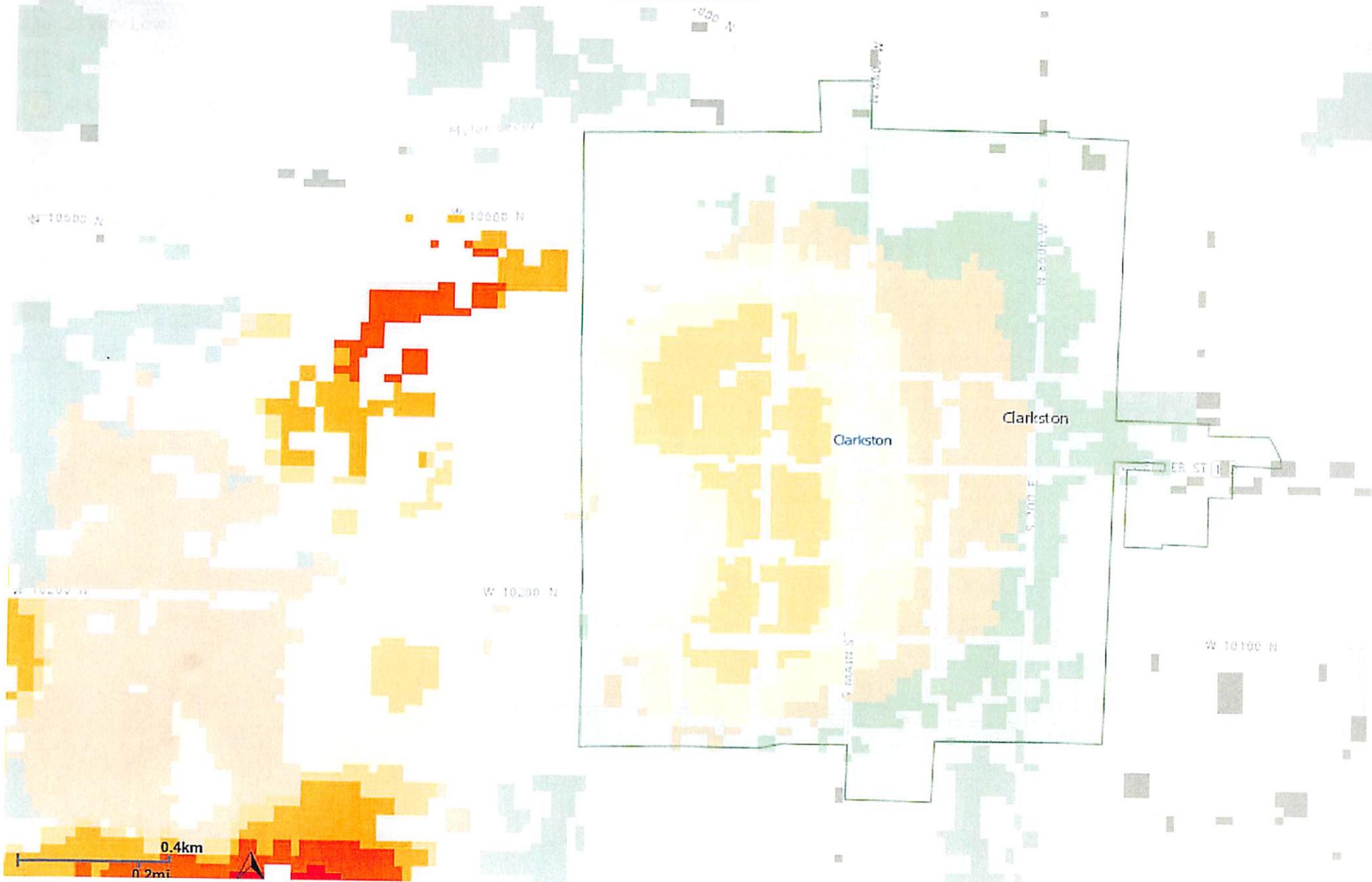


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Map for Dirty 30K Road Race



# Attachment B Clarkston

Utah Wildfire Risk Assessment Portal - <http://www.utahwildfirerisk.com>



## PARTICIPATION COMMITMENT ACTIONS

### For Local Governments

(Suggested actions, not a conclusive or final list. Other actions will be added as appropriate)



#### WILDFIRE PREVENTION

Activities directed at reducing the number of human-caused fires. (Goal: *Fire-Adapted Communities*)

- Costs of wildfire prevention campaigns
- Costs of wildfire mitigation educational materials (defensible space, firewise landscaping etc)
- Costs of implementing Ready, Set, GO! program
- Law enforcement patrols to enforce fire restrictions and/or burn permit violations
- Volunteer hours for meetings and events that promote, plan or implement CWPPs
- Costs of wildfire prevention media campaigns/ PSAs
- Costs of designing, producing and installing community awareness and/or wildfire prevention boards/displays

#### WILDFIRE MITIGATION (50% min)

Actions taken to reduce or eliminate risks to persons, property or natural resources. (Goal: *Resilient Landscapes*)

- Costs of equipment and labor (including volunteer hours) used to reduce hazardous fuels in accordance with CWPP (i.e. *fuel breaks, prescribed fire, timber harvests and certain activities that support grazing*)
- Costs or volunteer value of equipment and labor toward ongoing maintenance of existing CWPP fuel reduction projects
- Volunteer hours toward removing hazardous fuels from community common areas identified in CWPPs
- Volunteer hours toward improving ingress/egress in community common areas identified in CWPPs
- Costs associated with community fuel reduction events (i.e. chipper days)
- Costs of vegetation management equipment

#### WILDFIRE PREPAREDNESS (25% max.)

Activities that lead to a safe, efficient and capable wildfire suppression response (Goal: *Strong Initial Attack Capability*)

- Costs of improving wildland fire apparatus, communication or support
- Costs of improving or creating additional ingress/egress into Wildland Urban Interface (WUI) areas identified in CWPPs
- Costs of improving or increasing firefighter access to secondary water systems through hydrants, tanks or drafting sites
- Actual costs for providing wildfire suppression training to fire department and/or emergency management personnel
- Volunteer hours spent in training for wildland fire suppression
- Costs of wildland-specific Personal Protective Equipment (PPE)
- Costs of producing and installing road signs and address markers (including evacuation routes) as part of a CWPP
- Costs of certifying bulldozer operators
- Costs associated with enforcement of WUI code
- Costs associated with installing/maintaining helicopter dip sites
- Costs of inspecting resident defensible space work to certify for individual tax incentives
- Costs of producing and/or updating city emergency response plans that address CWPPs
- Costs of land-use planning that support objectives of CWPPs
- Costs supporting the development of Community Wildfire Protection Plans (CWPPs)
- Costs associated with gaining "Firewise Community" recognition

#### Activities that DO NOT qualify:

- Any activity funded by other state or state-administered federal funds
- Any previously-matched prevention/preparedness
- Costs of state or federally-provided trainings
- Costs of initial attack suppression of wildfires
- Costs of improving culinary water systems
- Costs to improve individual structures
- Costs of existing county employees or programs including weed departments

# TRANSITIONING FISCAL RESPONSIBILITY FROM LOCAL GOVERNMENT TO STATE



1

Requested by the Local Fire Official on Scene (I.C.)

Cities and Counties Empowered to Request Assistance and Creates Incentives for Local Mutual and Automatic Aid Agreements

2

When State or Federally Managed Lands are Involved

In this scenario, the Cost-Share is between State and Federal Entities

3

Resources are Ordered through an Interagency Fire Center

Local Capacity Reinforced through the Interagency System

4

At The Discretion of the State Forester

Maintaining the Language of Current Statute Requiring State Forester to "Make Certain that Appropriate Action is Taken to Control Wildland Fires on Non-Federal...Lands"

## REMEMBER!

### Unified Command:

Transfer of Fiscal Responsibility Does NOT Remove Local Government From the Command Structure or the Decision-Making Process

### All Aircraft Costs:

Become the Fiscal Responsibility of the **State** (both Initial and Extended Attack)

Options Key:	Class	Revenue	Option 2 Total
Amalga	Town	75844	\$494
Clarkston	Town	103036	\$545
Hyde Park	City of the 5th class	742525	\$2,833
Hyrum	City of the 5th class	1232198	\$3,198
Lewiston	City of the 5th class	427924	\$298
Logan	City of the 3rd class	18860131	\$3,567
Millville	City of the 5th class	355261	\$1,159
Newton	Town	104225	\$439
Nibley	City of the 5th class	865536	\$577
North Logan	City of the 5th class	2546758	\$4,118
Paradise	Town	130062	\$487
Providence	City of the 5th class	1353891	\$2,580
Richmond	City of the 5th class	378902	\$616
River Heights	City of the 5th class	269079	\$75
Smithfield	City of the 5th class	1789204	\$2,621
Trenton	Town	56918	\$286
Wellsville	City of the 5th class	499360	\$6,501

# CLARKSTON WATER ANALYSIS

FOR THE  
TOWN OF CLARKSTON, UTAH

June 15, 2016



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CLARKSTON WATER ANALYSIS

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## CLARKSTON WATER ANALYSIS

### 1.0 INTRODUCTION

Clarkston Town has commissioned this Water Analysis Study in order to better understand how existing infrastructure will meet future demands. This Water Analysis Study covers the condition and adequacy of the current water system including: water usage, water rights, water sources, water storage, and distribution system. This study also projects population growth and future demands on the water network. Recommendations for upgrades and improvements to fix current and future deficits are also included in this study. The current water distribution network was also modeled using computer software.

### 2.0 GROWTH TRENDS AND RECOMMENDED GROWTH RATE

An essential element in the development of a culinary water study is projecting the community's population growth rate. The population growth rate projections, allow the community and planner, to see what future demands may need to be accommodated by the culinary water system.

As of the 2015 records, there are 680 residents living in Clarkston. Data for calculating historical growth rates were collected from state census data, Town records, and building permit records. The formula for calculating compound interest is shown below.

$$F = P (1 + i)^N$$

Where:

F	=	Future Population = 680 in 2015
P	=	Existing Population = 645 in 1990
i	=	Historic Growth Rate = ? %
N	=	Planning Period in Years = 25
		680 = 645 (1 + i) <sup>25</sup>

[Solving for "i" results in the historic growth rate of 0.21%, from 1990 to 2015]

According to Clarkston, the existing total number of culinary water connections is 260. This number includes all residential and commercial service connections being served by the water system. The 260 existing connections are composed of 259 residential connections, and 1 commercial connection. The commercial user is the Post Office. The one commercial user does not use exceedingly larger amounts of water than the residents. Therefore, due to the nature of the commercial users, no differentiation will be made between the commercial and residential connections.

Clarkston's building permit records indicate that over the last 12-years there has been a total of 30 new residences built, of which 16 were constructed in the last 5-years. Substituting the number of connections and building permit data into the compound interest formula, a residential building growth rate can be established. For Clarkston, over the last 12 and 5 years the building growth rate is calculated to be 0.90% and 1.26% respectively.

## **CLARKSTON WATER ANALYSIS**

For this analysis, the building permit growth rate of 1.5% will be used to estimate the needs of the water system for the next 25-years. Table 2-1 summarizes the population and water connection estimates over the next 25-years.

**Table 2-1: Projected Connections and Population**

	Connections	Population
2015	260	680
2020	280	733
2025	302	789
2030	325	850
2035	350	916
2040	377	987

### **3.0 CULINARY WATER USE**

#### **3.1 EXISTING CULINARY WATER USE**

Individual meter data was obtained from Clarkston for the year of 2015. During 2015 every meter was read each month. Summer months include: May, June, July, August, and September. Winter months include: January, February, November, and December. The meter data was analyzed and averages and peak day demands were calculated for the water system. Table 3-1 summarizes the water usage analysis.

**Table 3-1: Clarkston Existing Average Water Usage**

	Gallon per Day per Conn.	Gallons per Month per Conn.	2015 System Usage (GPM)
Average Use	700	21,000	120
Average Summer Use	1,000	30,000	173
Average Winter Use	400	11,000	64
Peak Day Usage	1,500		264

Throughout the Intermountain West it is common for the peak day demands to be 2-times as much as the average summer use. Also throughout the intermountain west the peak instantaneous demands are usually 2 times greater than the peak day demand. Therefore, current peak instantaneous demands on the system should be approximately 3,000 gallons per day per connection, which equates to 528 gpm.

Clarkston's billing rate structure is presented in the chart below:

## **CLARKSTON WATER ANALYSIS**

### **Connection Types and Base Water Amounts with Rates for Residents**

<u>Connection Size</u>	<u>Monthly Charges</u>	<u>Base Water Usage Amount</u>
¾ inch meter connection	\$32.75 Monthly	70,000 gallons
1 inch meter connection	\$98.25 Monthly	180,000 gallons
2 inch meter connection	\$196.50 Monthly	360,000 gallons

#### Resident Rates

Base up to 70,000 gallons	\$32.75
70,000 to 80,000 gallons	\$0.25 per 1000 gallons
80,000 to 90,000 gallons	\$0.50 per 1000 gallons
90,000 to 100,000 gallons	\$0.75 per 1000 gallons
Over 100,000 gallons	\$1.50 per 1000 gallons

#### Non-Resident Rates

Base up to 70,000 gallons	\$52.75
70,000 to 80,000 gallons	\$0.37 per 1000 gallons
80,000 to 90,000 gallons	\$0.80 per 1000 gallons
90,000 to 100,000 gallons	\$1.25 per 1000 gallons
Over 100,000 gallons	\$2.40 per 1000 gallons

For comparison purposes, Table 3-2 shows the rate structures for a few neighboring communities.

**Table 3-2: Local Water Rate Structures**

Town	Base Cost	Base Gallons	Cost per 1,000 Gal	Gallon Range
Smithfield	\$ 00.00	0		
			\$ 0.60	0-20,000
			\$ 0.70	20,000+
Lewiston	\$ 19.50	12,000		
			\$ 0.55	12,000-200,000
			\$ 0.70	200,000-400,000
			\$ 0.85	400,000-600,000
			\$ 1.00	600,000+
Richmond	\$ 55.00	10,000		
			\$ 1.00	10,000-100,000
			\$ 2.00	100,000+
Clarkston	\$ 32.75	70,000		
			\$ 0.25	70,000-80,000
			\$ 0.50	80,000-90,000
			\$ 0.75	90,000-100,000
			\$ 1.50	100,000+
Newton	\$ 21.50	20,000	\$ 0.50	20,000+

Also for comparison purposes, the average household (ERC) uses about 10,000 gallons a month for indoor needs. Clarkston's rate structure is very liberal, and as long as the spring

## CLARKSTON WATER ANALYSIS

flows are stable and population does not dramatically increase, the rate structure is adequate. But as the flows from the spring decrease from drought or as population increases significantly, the rate structure should be adjusted by reducing the amount of gallons allotted on the base rate.

### 3.2 FUTURE CULINARY WATER USE

Future water needs are based on a 1.5% growth rate during the 25-year design period. The projected number of culinary water connections at the end of the 25-year design period is 377 connections. Under the present operating scenario, future water needs are anticipated to be proportionate with the increase in population and number of new connections. Under the present usage patterns, the projected water usage data will increase as follows over the next 25-years. Table 3-3 summarizes the average future water usage for Clarkston Town.

Table 3-3: Clarkston Future Average Water Usage

	Gallon per Day per Conn.	2015 System Usage (GPM)	2040 Estimated System Usage (GPM)
Average Use	700	120	174
Average Summer Use	1,000	173	251
Average Winter Use (Estimated)	400	64	93
Peak Day Usage	1,500	364	382

Various conservation measures could contribute to a reduction in the future demand. These may include incentives or educating the citizens of Clarkston to use automatic sprinkler systems, indoor water conservation devices, nonfreezing pipe methods other than open faucets, or monthly water bills based on consumption.

## 4.0 WATER RIGHTS

### 4.1 EXISTING WATER RIGHTS

According to the Utah Division of Water Resources, Clarkston has water rights for five sources of which four are springs and the fifth is a well. These water rights are listed as municipal use. Clarkston also has other water rights in conjunction with the Clarkston Irrigation Co., however these will not be discussed in detail. Table 4-1 summarizes some of the information found on the individual water right filings owned by Clarkston

## **CLARKSTON WATER ANALYSIS**

**Table 4-1: Clarkston Water Rights**

Water Right No.	Source	Priority	Status	Flow
25-7202	Big Birch Spring	5/1/1864	DEC*	3.0 cfs
25-7203	Little Birch Spring	5/1/1864	DEC*	0.512 cfs
25-7201	City Spring	5/1/1864	DIL*	0.5 cfs
A17939	Myler Spring	3/24/1994	Approved	0.94 cfs
A21335	Well	7/11/1997	Approved	0.2902 cfs
			Total	5.2422 cfs or 2,352.7 gpm

\* Refers to decreed water rights that are approved and perfected with the State

The State requires communities to provide enough water rights for their source to meet the anticipated water demand on the day of highest water consumption. Therefore, Clarkston should own enough water rights to meet peak day demands. Therefore, subtracting the existing peak day demands (364 gpm) from the current amount of water rights (2,352.7 gpm) indicates that there is a **water right surplus of 1,988.7 gpm** or 4.43 cubic feet per second. A copy of Clarkston's water rights are included in **Appendix A**.

#### **4.2 FUTURE WATER RIGHTS**

It was projected that the peak day demand during the year 2040 will be 382 gpm. Clarkston currently has water rights to 2,352.7 gpm. Using the same methodology as before, there is a **future water right surplus of 1,970.7 gpm** or 4.39 cubic feet per second. Due to the surplus, Clarkston is not expected to need additional water rights well past the 25-year projection.

#### **5.0 WATER SOURCE**

Clarkston obtains their water from five sources located west and north of the community along the foothills. The sources are named as follows City Spring, Myler Spring, North Fork Spring, and Big and Little Birch Springs. Clarkston also owns a well. However, it produced approximately 15 gpm. Due to the low production volume, the well has never been plumbed into the water system. There are not any flow measuring devices at any of the springs. Thus, the exact amount of water being produced by each spring is unable to be determined. However, there is a main transmission line meter located just above the storage tanks that measures the water produced by the City Spring, Myler Spring, North Fork Spring, Big Birch Spring, and Little Birch Spring. The highest known instantaneous reading of this meter is approximately 1,300 gallons per minute or 2.89 cubic feet per second. During the past 4 years (2012-2016), drought has caused the spring flows to fluctuate between 450 and 750 gpm.

To ensure that Clarkston has enough water source capacity, the community should develop enough source capacity to meet the peak day demand. Peak day demands are typically determined by a community's indoor and outdoor use per equivalent residential connection (ERC). The calculations below are derived from minimum state standards.

## CLARKSTON WATER ANALYSIS

### Existing Requirement

Indoor use	$800 \text{ gpd} * 260 \text{ conn} * 1 \text{ day}$		= 144 gpm
	conn	1440 min	
Outdoor use	$3.96 \text{ gpm} * 260 \text{ conn} * 0.5 \text{ irrigated acre}$		= 515 gpm
	irrigated acre	conn	
	Total		= 659 gpm or 1.47 cfs

### Future Requirement

Indoor use	$800 \text{ gpd} * 377 \text{ conn} * 1 \text{ day}$		= 209 gpm
	conn	1440 min	
Outdoor use	$3.96 \text{ gpm} * 377 \text{ conn} * 0.5 \text{ irrigated acre}$		= 746 gpm
	irrigated acre	conn	
	Total		= 955 gpm or 2.13 cfs

By subtracting the existing and future requirements from the source capacity (450-750 gpm) one can determine the existing and future source needs of Clarkston. Currently, due to the range in spring flow, Clarkston experiences a range of shortages and surpluses; from a shortage of -209 gpm to a surplus of 91 gpm. In the year 2040, it is determined that there will be shortage ranging from -505 gpm to -205 gpm depending on the source capacity ranging from 450 to 750 gpm. Clarkston is in need of adding additional water sources to the system. Water conservation measures could extend the time before additional sources need to be added. It is recommended that Clarkston begin the process to develop additional water sources.

### 6.0 WATER STORAGE

Clarkston has three concrete storage tanks and a storage pond with a total capacity of 1,240,000 gallons. The storage facilities are located approximately 1/2 miles west of the community.

In determining the amount of storage required for a community several factors come into play. However, there are two main design criteria used to size water storage facilities. The first is the volume of needed storage to meet the peaking demands on the system. This volume is used as a buffer, to supply the peak demands when the community's use is greater than what the source can provide. The second is determined by the required amount of fire flow.

The Uniform Fire Code states that a system must be capable of supplying a minimum fire flow of 1,000 gpm for a 2-hour duration (totalling 120,000 gallons), for buildings which do not exceed 3,600 square feet. For buildings greater than the 3,600 square feet the minimum fire flow requirements are 1,500 gallons per minute for a 2-hour duration (totalling 180,000 gallons). The Fire Chief can approve a reduction in required fire flow when a building is provided with an approved automatic sprinkler system. Churches and schools typically are found in this category and must be dealt with case by case. We

## CLARKSTON WATER ANALYSIS

recommend that the minimum fire storage shall not be less than 1,500 gpm for a 2-hour duration for a total of 180,000 gallons.

The following calculations illustrates the current and future required water storage needs using the average day demand to meet peaking requirements. The calculations below are derived from minimum State standards.

### Existing Requirement

Indoor use	400 gal * 260 conn	=	104,000 gallons
Outdoor use	2,848 gal. * 0.5 irrigated acre * 260 conn =		370,250 gallons
Fire Storage	1500 gal/min * 120 min		180,000 gallons
		Total =	654,250 gallons

### Future Requirement

Indoor use	400 gal * 377 conn	=	150,800 gallons
Outdoor use	2,848 gal. * 0.5 irrigated acre * 377 conn =		536,848 gallons
Fire Storage	1,500 gal/min * 120 min		180,000 gallons
		Total =	867,648 gallons

According to the state minimum calculations above, there is an existing water storage surplus of 585,760 gallons. By the year 2040, it is projected that Clarkston will have a water storage surplus of 372,352 gallons. No additional storage is required, storage requirements for the 20-year growth projection are met with the existing storage.

### 7.0 DISTRIBUTION SYSTEM

The existing water distribution system and transmission lines were upgraded in the Clarkston 1980 Water Improvement Project. The distribution network consists of 8, 6 and 4-inch PVC pipes with a 12-inch PVC pipe coming from the storage tanks to feed the Town. The current distribution system is currently able to meet the needs of the community. According to the plans of the 1980 water project there are still a few cast iron pipes that were left in service. It is recommended that these cast iron pipes be inspected and possibly replaced in the near future.



## CLARKSTON WATER ANALYSIS

The improvement project also included the installation of fire hydrants at every major intersection of the community. Currently, there are fire hydrants that cannot meet the legal fire flow limits. The community has not noted any major problems with the distribution system. It is assumed that the transmission line from the spring is also in good condition due to the recent upgrades. Any additional upgrades should meet state requirements and should not be less than 8 inches in diameter.

As mentioned earlier, there are areas in which the legal fire flow cannot be met with the current system. Utah's fire code requires that a fire flow of 1,000 gpm will be provided for buildings with 3,600 square feet or less. For buildings larger than 3,600 square feet, a fire flow of 1,500 will be required. For the majority, Clarkston consists of homes under 3600 square feet, although a fire flow of 1,500 gpm is desired. Currently there are 22 junctions that can provide 1,500 gpm or more, 9 junctions that can provide between 1,250 to 1,500 gpm, 3 junctions that can provide between 1,000 to 1,250 gpm, and 4 junctions that can provide between 500 to 1,000 gpm (depicted in Exhibit #2).

Maps for the Existing System can be found in Appendix A. Exhibit #1 shows the existing (2016) distribution network as well as the location and effective areas of all fire hydrants. Exhibit #2 shows the existing (2016) available flow at each fire hydrant. Exhibit #3 shows the existing (2016) static pressure at each junction within the system.

The following calculations illustrate the current and future required water distribution needs. The calculations below are derived from minimum state standards and are used to size the distribution piping to insure that distribution pipelines are able to supply the required firefighting flows.

### Existing Requirement

Indoor	$Q = 10.8 * N^{0.64}$ or $10.8 * (260)^{0.64}$	=	379 gpm
Outdoor	$\frac{7.92 \text{ gpm}}{\text{irrigated acre}} * 0.5 \text{ irrigated acre} * 260 \text{ conn}$	=	1,030 gpm
	Total	=	1,409 gpm

### Future Requirement

Indoor	$Q = 10.8 * N^{0.64}$ or $10.8 * (377)^{0.64}$	=	481 gpm
Outdoor	$\frac{7.92 \text{ gpm}}{\text{irrigated acre}} * 0.5 \text{ irrigated acre} * 377 \text{ conn}$	=	1,493 gpm
	Total	=	1,974 gpm

## **CLARKSTON WATER ANALYSIS**

This study also includes a model of the distribution system. The above calculations were included to inform the Town Council of the State requirement on the distribution system. The model aids in identifying areas of the system where improvements are needed to meet the above State requirements. It is recommended that in the future that the cast iron pipes in the system be checked for leaks and possible deterioration. In addition, the 4" piping should be upsized to increase the flow, this should be done on an individual basis.

### **8.0 RECOMMENDED FUTURE IMPROVEMENTS**

The following improvements are listed in priority, most important/time sensitive to least. Priority was established by the number of homes that would be affected by the improvement. Although Improvement #3 would impact more homes, it is listed as least important/time sensitive because North Fork and Big Birch Springs have plans to be redeveloped currently underway.

#### **8.1 DISTRIBUTION IMPROVEMENTS**

**Improvement #1:** Add a new 8" PVC pipe between 200 North and 100 North along 200 West.

**Improvement #2:** Replace the 4" PVC pipe between 200 West and 100 West along 100 South with an 8" PVC Pipe.

With the distribution improvements above, there will be 28 junctions that can provide 1,500 gpm or more, 4 junctions that can provide between 1,250 to 1,500 gpm, 4 junctions that can provide between 1,000 to 1,250 gpm, 1 junction that can provide between 500 to 1,000 gpm, and 1 junction that can provide less than 500 gpm and is located at 250 W and 200 S (depicted in Exhibit #4).

#### **8.2 SOURCE IMPROVEMENTS**

**Improvement #3:** Redevelop Mylar Spring. Deep rooted vegetation growing over the spring collection area has introduced organic matter in to the spring, which is considered a form of contaminant. The collection area needs to be cleaned routinely to eliminate contaminants and improve the spring collection. City Spring and Little Birch Spring have been redeveloped recently and North Fork and Big Birch have plans in place to be redeveloped. Mylar Springs is the last spring to be redeveloped.

#### **8.3 FIRE PROTECTION IMPROVEMENTS**

**Improvement #4:** Add two new fire hydrants at the corner of 200 W and 300 N and at the corner of 200 W and 200 N. As identified in Exhibit #1, these two areas are not covered by the current fire hydrants.

Exhibit #4 depicts the distribution improvements and can be found in Appendix A.

#### **8.4 COST ANALYSIS OF IMPROVEMENTS**

Listed below are the improvements along with their estimated costs. The construction totals include the estimated cost of construction and a 15% contingency. The professional services

## **CLARKSTON WATER ANALYSIS**

totals include the cost for engineering design, bidding, construction management, legal bounding, and easements.

<b>Improvement #1:</b>	Construction:	\$ 40,000
	<u>Professional Services:</u>	<u>\$ 7,000</u>
	Total:	\$ 47,000
<b>Improvement #2:</b>	Construction:	\$ 119,000
	<u>Professional Services:</u>	<u>\$ 22,000</u>
	Total:	\$ 141,000
<b>Improvement #3:</b>	Construction:	\$ 209,000
	<u>Professional Services:</u>	<u>\$ 38,000</u>
	Total:	\$ 247,000
<b>Improvement #4:</b>	Construction:	\$ 5,000
	<u>Professional Services:</u>	<u>\$ 0</u>
	Total:	\$ 5,000

Engineer Opinions of Probable Costs are included for improvements #1-#3 in **Appendix B**. Improvement #4 does not have an Engineer Opinions of Probable Costs due to the simplicity of the project. The addition of the two fire hydrants will cost approximately \$2,500 apiece.

### **8.5 CAPITAL COSTS AND FINANCING PLAN**

Several sources of funding are available for culinary water projects which may allow Clarkston to complete Improvements 1, 2, & 3. **Table 8-1** identifies several possibilities, along with typical requirements and interest rates.

**Table 8-1: Potential Funding Sources**

Funding Source	Typical Interest Rate	Term of Loan (years)	Grants Available?	Typical Additional Requirements
Utah Division of Drinking Water	0-3%	20	Based on ranking	Federal - Davis Bacon Wages and Water Quality report
Community Impact Board	0-3%	20	Based on ranking	Communities that have mineral resources have priority
Community Development Block Grant	N/A	N/A	50/50 match on Grant	Davis Bacon Wages
USDA Rural Development	4-6%	30-40	Have to have a Loan to get a Grant	Environmental Report, Preliminary Engineering Report, Davis Bacon Wages
Private Funding	4-7%	10-30	No	Depends on Bank/Lending Institution

## CLARKSTON WATER ANALYSIS

The capital costs for each alternative are shown in Table 8-2. Annual loan payments for each alternative were calculated using a 20-year term and a 3 percent Utah Division of Drinking Water loan interest rate. Three different scenarios for grant funding were presented. Grant funding will be based on need and funds available for any given year. Engineer Opinions of Probable Costs for each alternative are located in Appendix B.

**Table 8-2: Clarkston City Capital Costs**

Improvement	Capital Costs	No Grant Annual Payment (20 yrs @ 3%)	30% Grant Annual Payment (20 yrs @ 3%)	50% Grant Annual Payment (20 yrs @ 3%)
Improvement# 1	\$47,000	\$3,159	\$2,211	\$1,580
Improvement# 2	\$141,000	\$9,477	\$6,634	\$4,739
Improvement# 3	\$247,000	\$16,602	\$11,622	\$8,301
Improvement# 4	\$5,000	\$336	\$235	\$168

Below in Table 8-3, the monthly increase to rates of water users are shown. The below values are to be added to the current water rates. The calculations were based off of 260 connections with no future projection.

**Table 8-3: Monthly Increase of Rates**

Improvement	No Grant Annual Payment (20 yrs @ 3%)	30% Grant Annual Payment (20 yrs @ 3%)	50% Grant Annual Payment (20 yrs @ 3%)
Improvement# 1	\$1.01	\$0.71	\$0.51
Improvement# 2	\$3.04	\$2.13	\$1.52
Improvement# 3	\$5.32	\$3.73	\$2.66
Improvement# 4	\$0.11	\$0.08	\$0.06

\* Based on the 2016 Connection count of 260

***CLARKSTON WATER ANALYSIS***

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**Appendix A**

- I. Explanation of Maps**
- II. Maps of the Existing System**
  - 1. EXHIBIT 1: 2016 Distribution Network & Fire Hydrant Effective Areas**
  - 2. EXHIBIT 2: 2016 Available Flow at Fire Hydrants**
  - 3. EXHIBIT 3: 2016 Static Pressure at Junctions**
- III. Map of Future System with Recommended Improvements**
  - 1. EXHIBIT 4: 2040 Available Flow at Fire Hydrants**
- IV. Water Rights**

## **CLARKSTON WATER ANALYSIS**

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### **Explanation of Maps**

The first three maps are of the existing system. On the first map, Exhibit #1, all pipes are labeled with their diameter and what kind of pipe, PVC or Cast Iron. In addition to the piping network, this first map also shows the location of all the fire hydrants in Clarkston (indicated with a small red dot) with their effective area (red shaded area).

The second map, Exhibit #2, shows the existing network color coded by pipe diameter. The junctions are color coded according to the available flow at that junction: Black, flow less than 500 gpm; Red, flow between 500 – 1000 gpm; Orange, flow between 1000 – 1250 gpm; Yellow, flow between 1250 – 1500 gpm; and Green, flow greater than 1500 gpm.

The third map, Exhibit #3, also shows the existing pipes colored according to their diameter as well as the junctions color coded according to their static pressure: Red, pressure between 20 – 40 psi; Orange, pressure between 40 – 60 psi; Yellow, pressure between 60 – 80 psi; Green, pressure between 80 – 100 psi; Cyan, pressure between 100 – 120 psi; and Blue, pressure greater than 120 psi.

The fourth map, Exhibit #4, is of the future system with the recommended distribution improvements added in. The pipes have the same color code as the previous two maps. The junctions are also color coded according to available flow at the junction in the same manner as Exhibit #2.

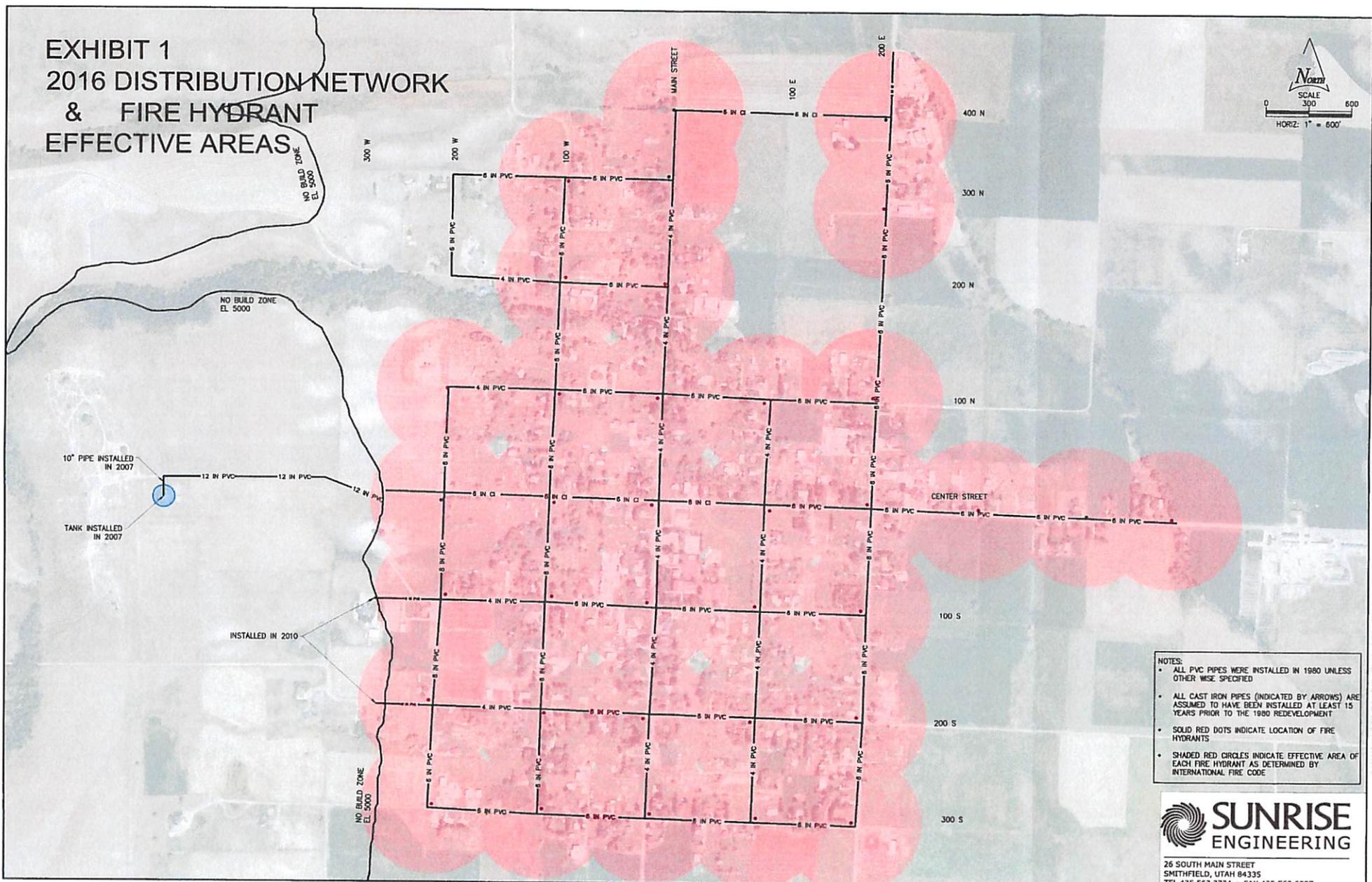
**CLARKSTON WATER ANALYSIS**

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**Maps of the Existing System**



# EXHIBIT 1 2016 DISTRIBUTION NETWORK & FIRE HYDRANT EFFECTIVE AREAS

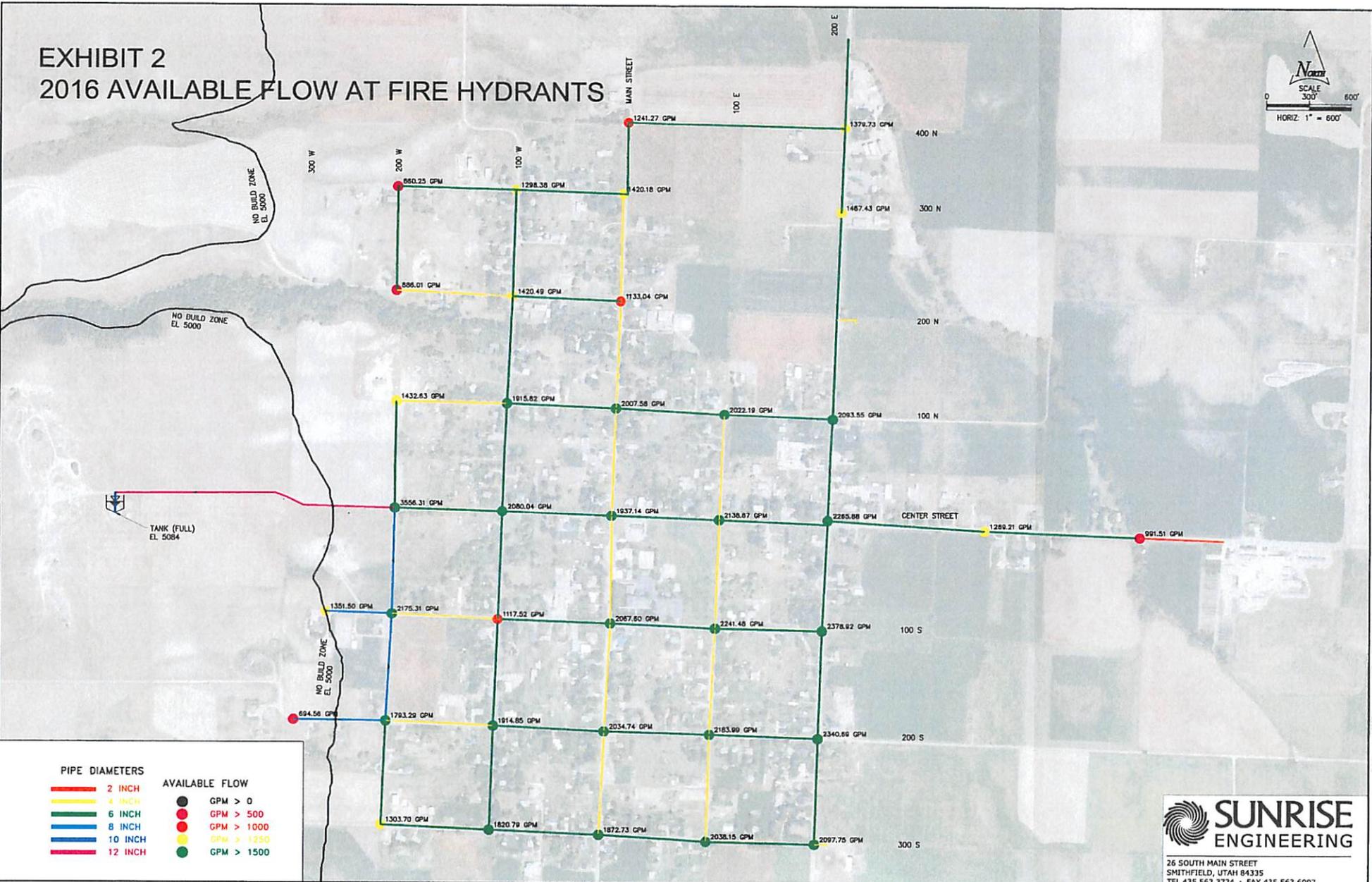
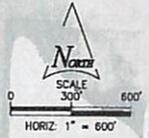


- NOTES:**
- ALL PVC PIPES WERE INSTALLED IN 1980 UNLESS OTHERWISE SPECIFIED
  - ALL CAST IRON PIPES (INDICATED BY ARROWS) ARE ASSUMED TO HAVE BEEN INSTALLED AT LEAST 15 YEARS PRIOR TO THE 1980 REDEVELOPMENT
  - SOLID RED DOTS INDICATE LOCATION OF FIRE HYDRANTS
  - SHADED RED CIRCLES INDICATE EFFECTIVE AREA OF EACH FIRE HYDRANT AS DETERMINED BY INTERNATIONAL FIRE CODE



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# EXHIBIT 2 2016 AVAILABLE FLOW AT FIRE HYDRANTS

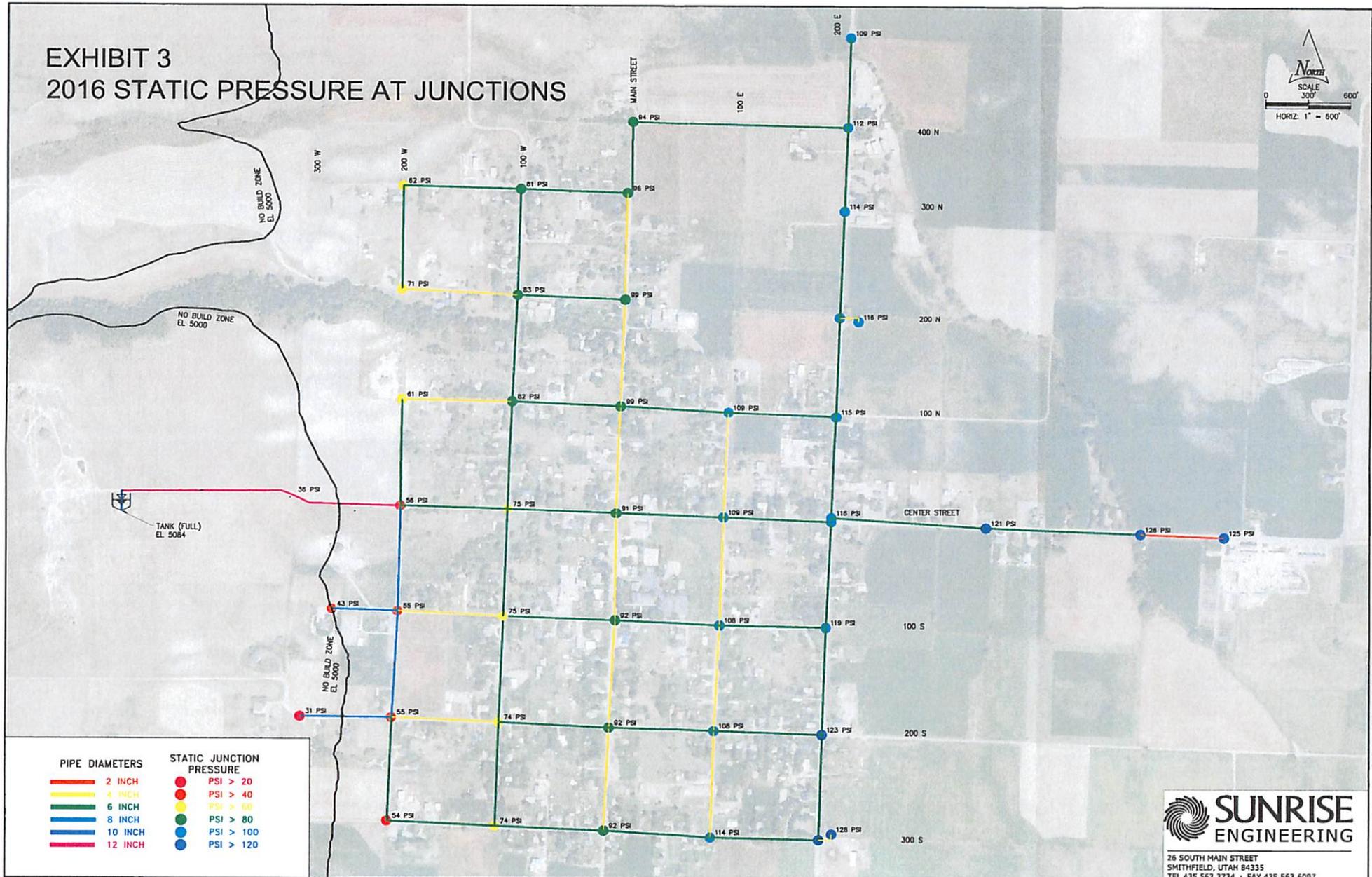
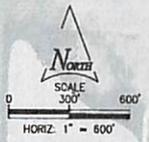


PIPE DIAMETERS		AVAILABLE FLOW	
2 INCH	Red line	● GPM > 0	Black dot
4 INCH	Yellow line	● GPM > 500	Red dot
6 INCH	Green line	● GPM > 1000	Orange dot
8 INCH	Blue line	● GPM > 1250	Yellow dot
10 INCH	Cyan line	● GPM > 1500	Light green dot
12 INCH	Magenta line		



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# EXHIBIT 3 2016 STATIC PRESSURE AT JUNCTIONS



PIPE DIAMETERS		STATIC JUNCTION PRESSURE	
Red line	2 INCH	Red dot	PSI > 20
Yellow line	4 INCH	Yellow dot	PSI > 40
Green line	6 INCH	Green dot	PSI > 60
Blue line	8 INCH	Blue dot	PSI > 80
Dark blue line	10 INCH	Dark blue dot	PSI > 100
Magenta line	12 INCH	Magenta dot	PSI > 120



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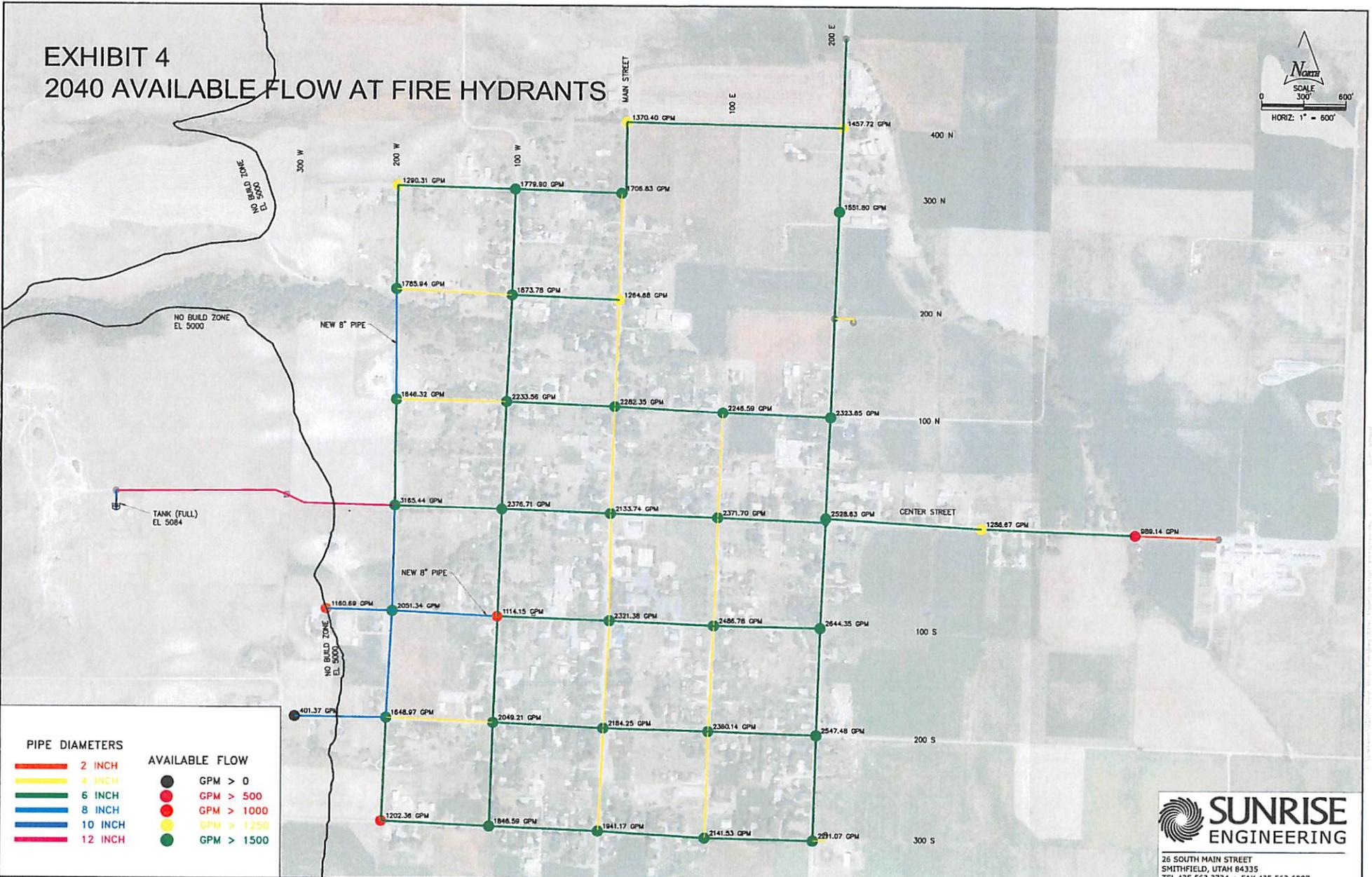
**CLARKSTON WATER ANALYSIS**

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**Map of Future System with Recommended Improvements**



# EXHIBIT 4 2040 AVAILABLE FLOW AT FIRE HYDRANTS



PIPE DIAMETERS		AVAILABLE FLOW	
2 INCH	(Red line)	(Black dot)	GPM > 0
4 INCH	(Yellow line)	(Red dot)	GPM > 500
6 INCH	(Green line)	(Red dot)	GPM > 1000
8 INCH	(Blue line)	(Yellow dot)	GPM > 1250
10 INCH	(Dark Blue line)	(Green dot)	GPM > 1500
12 INCH	(Magenta line)		



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**CLARKSTON WATER ANALYSIS**

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**Water Rights**





APPLICABLE USE: NORTH WEST QUARTER NORTH EAST QUARTER SOUTH WEST QUARTER SOUTH EAST QUARTER  
 SEC 34 T 14N R 24 S10W NM NE SM SE NM NE SM SE NM NE SM SE NM NE SM SE  
 GROUP AVERAGE TOTAL: 0.7100

SUPPLEMENTAL GROUP NO.: 2222, Water Rights Appurtenant to the following use(s):  
 25-8892(LMCK), 8891(LMCK), 8890(LMCK), 7201(LMCK), 7202(LMCK), 7203(LMCK)

INITIATION: Beneficial Use Amt: UNEVALUATED acres Group Total: 0.51  
 MC 4892 is limited to beneficial riparian aquifer of 0.5 acs.  
 PERIOD OF USE: 04/01 TO 10/31

APPLICABLE USE: NORTH WEST QUARTER NORTH EAST QUARTER SOUTH WEST QUARTER SOUTH EAST QUARTER  
 SEC 34 T 14N R 24 S10W NM NE SM SE NM NE SM SE NM NE SM SE NM NE SM SE  
 GROUP AVERAGE TOTAL: 0.5100

SUPPLEMENTAL GROUP NO.: 2222, Water Rights Appurtenant to the following use(s):  
 25-8892(LMCK), 8891(LMCK), 8890(LMCK), 7201(LMCK), 7202(LMCK), 7203(LMCK)

INITIATION: Beneficial Use Amt: UNEVALUATED acres Group Total: 0.49  
 PERIOD OF USE: 04/01 TO 10/31

APPLICABLE USE: NORTH WEST QUARTER NORTH EAST QUARTER SOUTH WEST QUARTER SOUTH EAST QUARTER  
 SEC 34 T 14N R 24 S10W NM NE SM SE NM NE SM SE NM NE SM SE NM NE SM SE  
 GROUP AVERAGE TOTAL: 0.4900

SUPPLEMENTAL GROUP NO.: 2222, Water Rights Appurtenant to the following use(s):  
 25-8892(LMCK), 8891(LMCK), 8890(LMCK), 7201(LMCK), 7202(LMCK), 7203(LMCK)

INITIATION: Beneficial Use Amt: UNEVALUATED acres Group Total: 35.34  
 PERIOD OF USE: 04/01 TO 10/31

APPLICABLE USE: NORTH WEST QUARTER NORTH EAST QUARTER SOUTH WEST QUARTER SOUTH EAST QUARTER  
 SEC 36 T 14N R 24 S10W NM NE SM SE NM NE SM SE NM NE SM SE NM NE SM SE  
 SEC 37 T 14N R 24 S10W 3.6600 6.8300  
 SEC 38 T 14N R 24 S10W 2.3400 4.1400 0.1200  
 GROUP AVERAGE TOTAL: 3.3400

SUPPLEMENTAL GROUP NO.: 2222, Water Rights Appurtenant to the following use(s):  
 25-8892(LMCK), 8891(LMCK), 8890(LMCK), 7201(LMCK), 7202(LMCK), 7203(LMCK)

INITIATION: Beneficial Use Amt: UNEVALUATED acres Group Total: 1300.0000  
 PERIOD OF USE: 04/01 TO 10/31

APPLICABLE USE: NORTH WEST QUARTER NORTH EAST QUARTER SOUTH WEST QUARTER SOUTH EAST QUARTER  
 SEC 26 T 14N R 24 S10W NM NE SM SE NM NE SM SE NM NE SM SE NM NE SM SE  
 GROUP AVERAGE TOTAL: 0.5000

SUPPLEMENTAL GROUP NO.: 2222, Water Rights Appurtenant to the following use(s):  
 25-8892(LMCK), 8891(LMCK), 8890(LMCK), 7201(LMCK), 7202(LMCK), 7203(LMCK)

INITIATION: Beneficial Use Amt: UNEVALUATED acres Group Total: 0.20  
 PERIOD OF USE: 04/01 TO 10/31

APPLICABLE USE: NORTH WEST QUARTER NORTH EAST QUARTER SOUTH WEST QUARTER SOUTH EAST QUARTER  
 SEC 34 T 14N R 24 S10W NM NE SM SE NM NE SM SE NM NE SM SE NM NE SM SE  
 GROUP AVERAGE TOTAL: 0.2000

SUPPLEMENTAL GROUP NO.: 2222, Water Rights Appurtenant to the following use(s):  
 25-8892(LMCK), 8891(LMCK), 8890(LMCK), 7201(LMCK), 7202(LMCK), 7203(LMCK)

INITIATION: Beneficial Use Amt: UNEVALUATED acres Group Total: 0.5  
 PERIOD OF USE: 04/01 TO 10/31

APPLICABLE USE: NORTH WEST QUARTER NORTH EAST QUARTER SOUTH WEST QUARTER SOUTH EAST QUARTER  
 SEC 34 T 14N R 24 S10W NM NE SM SE NM NE SM SE NM NE SM SE NM NE SM SE  
 GROUP AVERAGE TOTAL: 0.5000

SUPPLEMENTAL GROUP NO.: 2222, Water Rights Appurtenant to the following use(s):  
 25-8892(LMCK), 8891(LMCK), 8890(LMCK), 7201(LMCK), 7202(LMCK), 7203(LMCK)

INITIATION: Beneficial Use Amt: UNEVALUATED acres Group Total: 0.48  
 PERIOD OF USE: 04/01 TO 10/31

APPLICABLE USE: NORTH WEST QUARTER NORTH EAST QUARTER SOUTH WEST QUARTER SOUTH EAST QUARTER  
 SEC 34 T 14N R 24 S10W NM NE SM SE NM NE SM SE NM NE SM SE NM NE SM SE  
 GROUP AVERAGE TOTAL: 0.4800

SUPPLEMENTAL GROUP NO.: 2222, Water Rights Appurtenant to the following use(s):  
 25-8892(LMCK), 8891(LMCK), 8890(LMCK), 7201(LMCK), 7202(LMCK), 7203(LMCK)

INITIATION: Beneficial Use Amt: UNEVALUATED acres Group Total: 0.2  
 PERIOD OF USE: 04/01 TO 10/31

APPLICABLE USE: NORTH WEST QUARTER NORTH EAST QUARTER SOUTH WEST QUARTER SOUTH EAST QUARTER  
 SEC 27 T 14N R 24 S10W NM NE SM SE NM NE SM SE NM NE SM SE NM NE SM SE  
 GROUP AVERAGE TOTAL: 0.0900

























Select Related Information

(WARNING: Water Rights makes NO claims as to the accuracy of this data.) Run Date: 04/14/2016 Page 1
CHANGE: 621335 WATER RIGHT: 25-9822 CTR. NO.: RESERVATION? NO COUNTY TAX ID#:

NAME: Clariston Tom Corporation
ACORN: PO Box 181 SS South Main
CLARISTON UT 84395-0181

PROCEEDING: 08/27/1997 PROTESTED: [Name Redacted] [Address Redacted] SE ACTION: [Approved] [Action Date: 08/28/1998] PROOF DATE: 08/21/2013
PROBATION: 07/21/1997 PROBATION: 07/21/1997/LAW DECISION: 07/21/1997/LAW DECISION: 08/07/1997/HEARSAYER: The Herald Journal

STATUS: Approved
PROBATION: 07/21/1997 PROBATION: 07/21/1997/LAW DECISION: 07/21/1997/LAW DECISION: 08/07/1997/HEARSAYER: The Herald Journal

POINT: 0.2962 cfs ON 56.828 acre-feet
SOURCE: [Name Redacted] Well

COUNTY: Cache
POINT SURFACE: [Name Redacted] Well
APPLICANT: [Name Redacted]
NATURE OF USE AND PLACE OF USE:

POINT(S) OF DIVERSION: [Name Redacted]
POINT SURFACE:

COMMENT AS NOTED: (Click location link for details)
POINT SURFACE:

POINT SURFACE: [Name Redacted] Well
SOURCE: Springs & Underground Water Wells
COUNTY: Cache CON DESC: Clariston

POINT SURFACE: [Name Redacted] Well
SOURCE: [Name Redacted] Well

POINT SURFACE: [Name Redacted] Well
SOURCE: [Name Redacted] Well

POINT SURFACE: [Name Redacted] Well
SOURCE: [Name Redacted] Well

POINT SURFACE: [Name Redacted] Well
SOURCE: [Name Redacted] Well

POINT SURFACE: [Name Redacted] Well
SOURCE: [Name Redacted] Well



**CLARKSTON WATER ANALYSIS**

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**Appendix B**

- I. Engineer Opinions of Probable Costs**
- II. State Requirements for Design**



**CLARKSTON WATER ANALYSIS**

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**Engineer Opinions of Probable Costs**



**SUNRISE ENGINEERING, INC.**  
CONSULTING ENGINEERS AND SURVEYORS  
*Opinion of Probable Costs*

**SUNRISE**  
ENGINEERING

Project: Improvement #1: Pipeline Between  
Center St. and 100 N Along 200 W  
Owner: Clarkston Town

Project No: 05204  
Date: 20 May 2016  
By: SJA

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
<b>Construction</b>					
1	Mobilization	1	L.S.	\$ 3,000	\$ 3,000
2	8" PVC C900 Line	800	L.F.	\$ 24	\$ 20,000
3	Pipe Bedding	800	L.F.	\$ 10	\$ 8,000
4	8" Gate Valve	1	Each	\$ 1,800	\$ 2,000
5	Restoration	2,000	SQFT	\$ 0.30	\$ 1,000
6	Clear and Grub	1	Acres	\$ 1,750.00	\$ 1,000
	<b>Construction Subtotal</b>				<b>\$ 35,000</b>
7	Contingency			15%	\$ 5,000
	<b>Construction Total</b>				<b>\$ 40,000</b>
<b>Professional Services</b>					
8	Engineering Design	1	L.S.	\$ 3,000	\$ 3,000
9	Construction Management	1	L.S.	\$ 4,000	\$ 4,000
10	<b>Professional Services Total</b>				<b>\$ 7,000</b>
11	<b>TOTAL</b>				<b>\$ 47,000</b>

**SUNRISE ENGINEERING, INC.**  
CONSULTING ENGINEERS AND SURVEYORS  
*Opinion of Probable Costs*

**SUNRISE**  
ENGINEERING

Project Improvement #2: Pipeline-Between 100 W  
and 200 W Along 100 S  
Owner: Clarkson Town

Project No: 05204  
Date: 20 May, 2016  
By: SLA

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	AMOUNT
1	Mobilization	1	LS	\$ 8,000	\$ 8,000
2	8" C900 Pipe	800	LNFT	24	\$ 19,200
3	Asphalt Removal	8,000	SOFT	1	\$ 4,000
4	Asphalt Repair (3' Depth)	300	SOYD	18	\$ 5,400
5	Base Course	1,800	CUYD	25	\$ 45,000
6	Landscape Repair (Developed Area)	4,800	SOFT	2	\$ 11,000
7	Landscape Repair (Un-Developed Area)	2,000	SOFT	0.75	\$ 1,500
8	Bedding	800	LNFT	10	\$ 8,000
9	8" Gate Valves	1	Each	\$ 1,800	\$ 2,000
	Subtotal				\$ 103,000
10	Contingency (15%)	1	LS	\$ 16,000	\$ 16,000
	Construction Total				\$ 119,000
	Professional Services				
11	Engineering Design	1	LS	\$ 12,000	\$ 12,000
12	Construction Management	1	LS	\$ 10,000	\$ 10,000
	Professional Services Total				\$ 22,000
	TOTAL				\$ 141,000

**SUNRISE ENGINEERING, INC.**  
CONSULTING ENGINEERS AND SURVEYORS  
*Opinion of Probable Costs*

**SUNRISE**  
ENGINEERING

Project: Improvement #3: Mylar Spring  
Redevelopment  
Clarkston Town

Project No: 03204  
Date: 20 May, 2016  
By: SLA

ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE		AMOUNT
1	Mobilization	1	L.S.	\$	20,875	\$ 20,875
2	Spring Collection Box	1	Each	\$	15,000	\$ 15,000
3	Clear & Grub Spring Collection Area	1.25	Acre	\$	5,000	\$ 6,250
4	8" Concrete Cut-off Wall with Footing	170	Ln.Ft.	\$	100	\$ 17,000
5	3/4" Drain Gravel	1,360	Cu. Yds.	\$	30	\$ 40,800
6	Imported Clay Material	1,275	Cu. Yds.	\$	20	\$ 25,500
7	40 Mill Poly Liner	850	Sq. Yd.	\$	5	\$ 4,300
8	8" PVC Pipe	255	Ln.Ft.	\$	30	\$ 8,000
9	8" Perforated Collection Lines	425	Ln.Ft.	\$	25	\$ 11,000
10	8" Overflow Pipe	170	Ln.Ft.	\$	25	\$ 5,000
11	8" Gate Valve	2	Each	\$	2,200	\$ 5,000
12	Air/Vac Assembly	1	Each	\$	2,500	\$ 3,000
13	Surface Drainage Dish	235	Ln.Ft.	\$	20	\$ 6,000
14	Re-Seed CRP Mix	1.25	Acre	\$	650	\$ 1,000
15	8" Mylar By-Pass Line	212	Ln.Ft.	\$	25	\$ 6,000
16	Drain/Overflow Assembly	1	Each	\$	2,500	\$ 3,000
17	Silt Fence	850	Ln.Ft.	\$	2	\$ 2,000
	<b>Subtotal</b>					<b>\$ 181,000</b>
18	Contingency (15%)	1	L.S.	\$	28,000	\$ 28,000
	<b>Construction Total</b>					<b>\$ 209,000</b>
<b>Professional Services</b>						
19	Engineering Design	1	L.S.	\$	21,000	\$ 21,000
20	Construction Management	1	L.S.	\$	17,000	\$ 17,000
	<b>Professional Services Total</b>					<b>\$ 38,000</b>
	<b>TOTAL</b>					<b>\$ 247,000</b>

**CLARKSTON WATER ANALYSIS**

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**State Requirements for Design**



**\R309. Environmental Quality, Drinking Water.  
R309-510. Facility Design and Operation: Minimum Sizing  
Requirements.**

**R309-510-1. Purpose.** This rule specifies the minimum requirements for the sizing of public drinking water facilities such as sources (and their associated treatment facilities), storage tanks, and pipelines. It is intended to be applied in conjunction with R309-500 through R309-550. Collectively, these rules govern the design, construction, operation and maintenance of public drinking water system facilities. These rules are intended to assure that such facilities are reliably capable of supplying adequate quantities of water which consistently meet applicable drinking water quality requirements and do not pose a threat to general public health.

**R309-510-2. Authority.** This rule is promulgated by the Drinking Water Board as authorized by Title 19, Environmental Quality Code, Chapter 4, Safe Drinking Water Act, Subsection 104(1)(a)(ii) of the Utah Code and in accordance with Title 63G, Chapter 3 of the same, known as the Administrative Rulemaking Act.

**R309-510-3. Definitions.** Definitions for certain terms used in this rule are given in R309-110 but may be further clarified herein.

**R309-510-4. General.**

(1) This rule provides minimum quantities and flow rates that shall be used in the design of new systems and in the evaluation of water source, storage facility, and pipeline capacities, unless a public water system has obtained a capacity reduction per R309-510-5. Water demand may vary significantly depending on water system size, type, land use, urbanization, location, precipitation, etc. Therefore, public water systems may submit system-specific water use data to justify alternative sizing requirements in accordance with R309-510-5.

(2) When designing a public water system, the sizing requirements for indoor water use, irrigation, and fire suppression (as required by the local fire code official) shall be included as appropriate.

(3) Local authorities may impose more stringent design requirements on public water systems than the minimum sizing requirements of this rule.

(4) Public water systems shall consider daily, weekly, monthly, seasonal, and yearly variations of source capacity and system demand and shall verify that the capacities of drinking water facilities are sufficiently sized.

(5) The Director may modify the sizing requirements based on the unique nature and use of a water system.

**R309-510-5. Reduction of Sizing Requirements.**

(1) Water systems that want to use system-specific design criteria that are below the state's minimum sizing requirements may submit a request for a reduction to the Director. Each request shall

include supporting information justifying the reduction in source, storage, or pipeline sizing.

(2) Depending on the reduction being sought, the supporting information may include actual water use data representing peak day demand, average day demand for indoor and irrigation uses, fire flow requirements established by the local fire code official, etc. Each reduction request and supporting information will be reviewed on a case-by-case basis because of the wide variety of factors to be considered, such as water system configuration and size, built-in redundancy, water user type, safety factors, method and quality of data collected, water losses, reliability of the source, etc.

(3) Prior to collecting or compiling water use data for a reduction request, a public water system shall consult with the Division of Drinking Water to identify the information needed for a reduction request and to establish a data collection protocol.

(4) The data submitted for a source reduction request shall be sufficient to account for daily, seasonal, and yearly variations in source and demand.

(5) If data justifying a reduction are accepted by the Director, the sizing requirements may be reduced. The requirements shall not be less than the 90th percentile of acceptable readings.

(6) If a reduction is granted on the basis of limited water use, enforceable water use restrictions must be in place, shall be consistently enforced by the water system or local authority, and shall be accepted by the Director.

(7) The Director may re-evaluate any reduction if the nature or use of the water system changes.

#### **R309-510-6. Water Conservation.**

Drinking water systems shall use the water resources of the state efficiently. The minimum sizing requirements of this rule are based on typical water consumption patterns in the State of Utah. Where legally-enforceable water conservation measures exist, the sizing requirements in this rule may be reduced on a case-by-case basis by the Director.

#### **R309-510-7. Source Sizing.**

(1) Peak Day Demand and Average Yearly Demand.

Sources shall legally and physically meet water demands under two conditions:

(a) The water system's source capacity shall be able to meet the anticipated water demand on the day of highest water consumption, which is the peak day demand.

(b) The water system's source capacity shall also be able to provide one year's supply of water, which is the average yearly demand.

(2) Indoor Water Use.

Tables 510-1 and 510-2 shall be used as the minimum sizing requirements for peak day demand and average yearly demand for indoor water use unless a public water system has obtained a reduction per R309-510-5.

TABLE 510-1

Source Demand for Indoor Use

Type of Connection	Peak Day Demand	Average Yearly Demand
Year-round use		
Residential Equivalent Residential Connection (ERC)	800 gpd/conn	146,000 gal./conn
Seasonal/Non-residential use		
Modern Recreation Camp	60 gpd/person	(See Note 1)
Semi-Developed Camp		
a. with pit privies	5 gpd/person	(See Note 1)
b. with flush toilets	20 gpd/person	(See Note 1)
Hotel, Motel, and Resort	150 gpd/unit	(See Note 1)
Labor Camp	50 gpd/person	(See Note 1)
Recreational Vehicle		
Park	100 gpd/pad	(See Note 1)
Roadway Rest Stop	7 gpd/vehicle	(See Note 1)
Recreational Home Development (i.e., developments with limited water use) (See Note 2)	400 gpd/conn	(See Note 1)

NOTES FOR TABLE 510-1:

Note 1. Average yearly demand shall be calculated by multiplying the number of days in the designated water system operating period by the peak day demand unless a reduction has been granted in accordance with R309-510-5.

Note 2. To be considered a Recreational Home Development (i.e., developments with limited water use) as listed in Table 510-1, dwellings shall not have more than 8 plumbing fixture units, in accordance with the state-adopted plumbing code, and shall not be larger than 1,000 square feet. For a new not-yet-constructed development to be considered as a development with limited water use, it must have enforceable restrictions in place that are enforced by the water system or local authority and are accepted by the Director.

TABLE 510-2

Source Demand for Indoor Use -  
Individual Establishments (Note 1)

Type of Establishment	Peak Day Demand (gpd) (Notes 2 and 3)
Airports	
a. per passenger	3

b. per employee	15	
Boarding Houses		
a. for each resident boarder and employee	50	
b. for each nonresident boarder	10	
Bowling Alleys, per alley		
a. with snack bar	100	
b. with no snack bar	85	
Churches, per person	5	
Country Clubs		
a. per resident member	100	
b. per nonresident member present	25	
c. per employee	15	
Dentist's Office		
a. per chair	200	
b. per staff member	35	
Doctor's Office		
a. per patient	10	
b. per staff member	35	
Fairgrounds, per person	1	
Fire Stations, per person		
a. with full-time employees and food prep.	70	
b. with no full-time employees and no food prep.	5	
Gyms		
a. per participant	25	
b. per spectator	4	
Hairdresser		
a. per chair	50	
b. per operator	35	
Hospitals, per bed space		
Industrial Buildings, per 8 hour shift, per employee (exclusive of industrial waste)	250	
a. with showers	35	
b. with no showers	15	
Laundrette, per washer	580	
Movie Theaters		
a. auditorium, per seat	5	
b. drive-in, per car space	10	
Nursing Homes, per bed space		
Office Buildings and Business Establishments, per shift, per employee (sanitary wastes only)	280	
a. with cafeteria	25	
b. with no cafeteria	15	
Picnic Parks, per person (toilet wastes only)	5	
Restaurants		
a. ordinary restaurants (not 24 hour service)	35	per seat
b. 24 hour service	50	per seat
c. single service customer utensils only	2	per customer
d. or, per customer served (includes toilet and kitchen wastes)	10	
Rooming House, per person	40	
Schools, per person		
a. boarding	75	
b. day, without cafeteria, gym or showers	15	

c. day, with cafeteria, but no gym or showers	20
d. day, with cafeteria, gym and showers	25
Service Stations	
a. per vehicle served, or	
b. per gas pump	10
Skating Rink, Dance Halls, etc., per person	250
a. no kitchen wastes	10
b. Additional for kitchen wastes	3
Ski Areas, per person (no kitchen wastes)	10
Stores	
a. per public toilet room	500
b. per employee	11
Swimming Pools and Bathhouses, per person	10
(Note 4)	
Taverns, Bars, Cocktail Lounges, per seat	20
Visitor Centers, per visitor	5

NOTES FOR TABLE 510-2:

Note 1. When more than one use will occur, the multiple uses shall be considered in determining total demand. Small industrial plants maintaining a cafeteria or showers and club houses or motels maintaining swimming pools or laundries are typical examples of multiple uses. Uses other than those listed above shall be considered in relation to established demands from known or similar installations.

Note 2. Source capacity must at least equal the peak day demand of the system. Determine this by assuming the facility is used to its maximum, e.g., the physical capacity of the facility.

Note 3. To determine the average day demand for establishments listed in Table 510-2, divide the peak day demand by 2, unless alternative data are accepted by the Director.

Note 4. Or Peak Day Demand = 20 x (Water Area (ft<sup>2</sup>)/30) + Deck Area (ft<sup>2</sup>)

(3) Irrigation Use.

If a water system provides water for irrigation, Table 510-3 shall be used to determine the peak day demand and average yearly demand for irrigation water use. The following procedure shall be used:

(a) Determine the location of the water system on the map entitled Irrigated Crop Consumptive Use Zones and Normal Annual Effective Precipitation, Utah as prepared by the Soil Conservation Service (available from the Division). Find the numbered zone, one through six, in which the water system is located (if located in an area described "non-arable" find nearest numbered zone).

(b) Determine the net number of acres which may be irrigated.

(c) Refer to Table 510-3, which assumes direct application of water to vegetation, to determine peak day demand and average yearly demand for irrigation use.

(d) Consider water losses due to factors such as evaporation, irrigation delivery method, overwatering, pipe leaks, etc. Apply a safety factor to the irrigation demand in the design accordingly.

TABLE 510-3

Source Demand for Irrigation

Map Zone	Peak Day Demand (gpm/irrigated acre)	Average Yearly Demand (AF/irrigated acre) (Note 1)
1	2.26	1.17
2	2.80	1.23
3	3.39	1.66
4	3.96	1.87
5	4.52	2.69
6	4.90	3.26

NOTE FOR TABLE 510-3:

Note 1. The average yearly demand for irrigation water use (in acre-feet per irrigated acre) is based on 213 days of irrigation, e.g., April 1 to October 31.

(4) Variations in Source Yield.

(a) Water systems shall consider that flow from sources may vary seasonally and yearly. Where flow varies, the number of service connections supported by a source shall be based on the minimum seasonal flow rate compared to the corresponding seasonal demand.

(b) Where source capacity is limited by the capacity of treatment facilities, the maximum number of service connections shall be determined using the treatment plant design capacity instead of the source capacity.

R309-510-8. Storage Sizing.

(1) General.

Each public water system, or storage facility serving connections within a specific area, shall provide:

- (a) equalization storage volume, to satisfy average day demands for water for indoor use and irrigation use,
- (b) fire flow storage volume, if the water system is equipped with fire hydrants intended to provide fire suppression water or as required by the local fire code official, and
- (c) emergency storage, if deemed appropriate by the water supplier or the Director.

(2) Equalization Storage.

(a) All public drinking water systems shall provide equalization storage. The amount of equalization storage varies with the nature of the water system, the extent of irrigation use, and the location and configuration of the water system.

(b) Table 510-4 lists required equalization storage for indoor use. Storage requirements for non-community systems not listed in this table shall be determined by calculating the average day demands from the information given in Table 510-2.

TABLE 510-4

Storage Volume for Indoor Use

Type	Volume Required (gallons)
Community Systems	
Residential; per single resident service connection	400
Non-Residential; per Equivalent Residential Connection (ERC)	400
Non-Community Systems	
Modern Recreation Camp; per person	30
Semi-Developed Camp; per person	
a. with pit privies	2.5
b. with flush toilets	10
Hotel, Motel and Resort; per unit	75
Labor Camp; per unit	25
Recreational Vehicle Park; per pad	50
Roadway Rest Stop; per vehicle	3.5
Recreational Home Development (i.e., developments with limited water use); per connection (See Note 2 in Table 510-1)	400

(c) Where a drinking water system provides water for irrigation use, Table 510-5 shall be used to determine the minimum equalization storage volumes for irrigation. The procedure for determining the map zone and irrigated acreage for using Table 510-5 is outlined in R309-510-7(3).

TABLE 510-5

Map Zone	Storage Volume for Irrigation Use (gallons/irrigated acre)
1	1,782
2	1,873
3	2,528
4	2,848
5	4,081
6	4,964

- (3) Fire Flow Storage.
- (a) Fire flow storage shall be provided if fire flow is required by the local fire code official or if fire hydrants intended for fire flow are installed.
  - (b) Water systems shall consult with the local fire code official regarding needed fire flows in the area under consideration. The fire flow information shall be provided to the Division during the plan review process.
  - (c) When direction from the local fire code official is not

available, the water system shall use Appendix B of the International Fire Code, 2015 edition, for guidance. Unless otherwise approved by the local fire code official, the fire flow and fire flow duration shall not be less than 1,000 gallons per minute for 60 minutes.

(4) Emergency Storage. Emergency storage shall be considered during the design process. The amount of emergency storage shall be based upon an assessment of risk and the desired degree of system dependability. The Director may require emergency storage when it is warranted to protect public health and welfare.

**R309-510-9. Distribution System Sizing.**

(1) General Requirements. The distribution system shall be designed to ensure adequate flow and that minimum water pressures as required in R309-105-9 exist at all points within the distribution system.

(2) Peak Instantaneous Demand for Indoor Water Use.  
 (a) Large or complex water systems may determine peak instantaneous demand using hydraulic modeling. The hydraulic model must either apply an instantaneous peaking factor to account for peak instantaneous demand or use actual peak instantaneous water flow data.  
 (b) Alternatively, the peak instantaneous demand for a single pipeline shall be calculated for indoor use using the following equation:

$$Q = 10.8 \times N^{.64}$$

where N equals the total number of ERC's, and Q equals the total flow (gpm) delivered to the total connections served by that pipeline.  
 (c) For Recreational Vehicle Parks, the peak instantaneous flow for indoor use shall be based on the following:

**TABLE 510-6**

Peak Instantaneous Demand for Indoor Water Use for Recreational Vehicle Parks

Number of Connections	Formula
0 to 59	$Q = 4N$
60 to 239	$Q = 80 + 20N^{.5}$
240 or greater	$Q = 1.6N$

**NOTES FOR TABLE 510-6:**

Q is total peak instantaneous demand (gpm). N is the maximum number of connections. However, if the only water use is via service buildings, the peak instantaneous demand shall be calculated for the number of plumbing fixture units as presented in the state-adopted plumbing code.

(d) For small non-community water systems, the peak instantaneous demand for indoor water use shall be calculated on a per-building basis for the number of plumbing fixture units as presented in the state-adopted plumbing code.

(3) Peak Instantaneous Demand for Irrigation Use. Peak instantaneous demand for irrigation use is given in Table

510-7. The procedure for determining the map zone and irrigated acreage for using Table 510-7 is outlined in R309-510-7(3).

TABLE 510-7

Peak Instantaneous Demand for Irrigation Use

Map Zone	Peak Instantaneous Demand (gpm/irrigated acre)
1	4.52
2	5.60
3	6.78
4	7.92
5	9.04
6	9.80

(4) Fire Flow.

(a) Distribution systems shall be designed to deliver needed fire flow if fire flow is required by the local fire code official or if fire hydrants intended for fire flow are provided. The distribution system shall be sized to provide minimum pressures as required by R309-105-9 to all points in the distribution system when needed fire flows are imposed during peak day demand in the distribution system.

(b) The water system shall consult with the local fire code official regarding needed fire flow in the area under consideration. The fire flow information shall be provided to the Division during the plan review process.

(c) If direction from the local fire code official is not available, the water system shall use Appendix B of the International Fire Code, 2015 edition, for guidance. Unless otherwise approved by the local fire code official, the fire flow and fire flow duration shall not be less than 1,000 gallons per minute for 60 minutes.

**KEY: drinking water, minimum sizing, water conservation**  
**Date of Enactment or Last Substantive Amendment: July 15, 2015**  
**Notice of Continuation: March 13, 2015**  
**Authorizing, and Implemented or Interpreted Law: 19-4-104**



# CACHE COUNTY SHERIFF'S OFFICE

D. CHAD JENSEN, SHERIFF

Matt Bilodeau, Chief Deputy

Brian Locke, Lieutenant

Doyle Peck, Lieutenant

Mike Peterson, Lieutenant

EMPATHY

FAIRNESS

INTEGRITY

PROFESSIONALISM

RESPECT

RESPONSIBILITY

TRUSTWORTHINESS

July 7, 2016

Dear Mayor,

As we finished the Independence Day celebrations this week, the Sheriff's Office deputies noticed some safety issues during the parades which cause concern every year.

With the valley growing and every event seeing increased spectator attendance, it has been extremely difficult to keep crowds, especially small children, from running into the parade route.

One extreme example this year was a small child ran into the parade route, clung to the wheel lug nuts on a large tractor and rode the tire as it made a rotation. The people in the tractor were throwing candy to the crowd.

We have noticed with so many spectators at these events, as soon as we get the crowd pushed back, they collapse back into the road when the deputies pass through.

Safety is our highest priority when we work these events. It seems the biggest issue with the crowds is the candy and other items being thrown from vehicles, which entice the children to run into the parade route.

I have consulted with some other agencies, and I offer this suggestion: Make a safety rule for the parade entries. An example is below.

### Safety

Safety is our highest priority. Unsafe or reckless operations of vehicles will not be tolerated. Entries that plan to distribute candy and/or other giveaways during the parade must assign someone to walk the parade route in order to safely distribute items to spectators. Participants are not allowed to hang off the sides of vehicles during the parade, and all vehicles must remain in the travel lane of the parade.

Some cities and towns have made this a rule that each entry must agree to and sign prior to entering the parade. If this was implemented as a rule, the Sheriff's Office could assist you in enforcing the parade rules and providing the public safety we all want to enjoy.



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Please let us know what your feelings are regarding this proposal by calling or emailing me, Lt. Mike Peterson, or your S.T.A.R. deputy.

Sheriff Chad Jensen: (435) 755-1006 or (435) 757-5850; [cjensen@cachesherriff.com](mailto:cjensen@cachesherriff.com)

Lt. Mike Peterson: (435) 755-1040 or (435) 994-0930; [mpeterson@cachesherriff.com](mailto:mpeterson@cachesherriff.com)

I know that parades are a wonderful way to bring a community together. We want to work with you to make your city celebration great!

Sincerely,

A handwritten signature in blue ink, appearing to read "D. Jensen", is written over a light blue horizontal line.

D. Chad Jensen, Sheriff

## Report Criteria:

Invoices with totals above \$0.00 included.  
Only paid invoices included.

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
<b>GENERAL FUND</b>							
<b>ADMINISTRATION</b>							
<b>10-44-130 EMPLOYEE BENEFITS</b>							
218	UTAH UNEMPLOYMENT COMP	071816	QUARTERLY CONTRIBUTION	06/30/2016	29.68	29.68	07/18/2016
<b>10-44-210 INSURANCE</b>							
215	UTAH LOCAL GOVERNMENTS	1529809	ANNUAL FEE-LIABILITY,PROPE	07/11/2016	17,969.37	17,969.37	07/19/2016
<b>10-44-220 Mileage</b>							
440	KRISTI HIDALGO	072116	Mileage	07/21/2016	75.18	75.18	07/21/2016
<b>10-44-230 TRAVEL &amp; TRAINING</b>							
128	CASELLE, INC.	73744	ANNUAL SUPPORT FEE	07/01/2016	940.50	940.50	07/19/2016
<b>10-44-240 OFFICE SUPPLIES &amp; EXPENSE</b>							
206	STAPLES CREDIT PLAN	18394	supplies	07/08/2016	253.86	253.86	07/21/2016
348	THE CLEAN SPOT	57563	JANITORIAL SUPPLIES	07/12/2016	118.98	118.98	07/19/2016
<b>10-44-250 EQUIPMENT - SUPPLY/MAINT</b>							
657	ALLTECH RESOURCES	A3290	ANTIVIRUS	07/01/2016	36.00	36.00	07/19/2016
<b>10-44-270 UTILITIES</b>							
724	BEELINE DIGITAL	7870	FAX SERVICE	07/01/2016	12.50	12.50	07/19/2016
578	CENTURYLINK	071816	PHONE	07/04/2016	90.75	90.75	07/19/2016
246	COMCAST	071816	INTERNET	07/11/2016	125.84	125.84	07/19/2016
219	ROCKY MOUNTAIN POWER	071816	UTILITIES	07/12/2016	64.99	64.99	07/19/2016
<b>10-44-280 PLANNING &amp; ZONING</b>							
651	CHRISTINA ATKINSON	072116	MILEAGE	07/21/2016	59.65	59.65	07/21/2016
622	DIVISION OF OCCUPATIONAL A	071816	QUARTERLY BUILDING PERMIT	06/30/2016	113.44	113.44	07/18/2016
<b>10-44-305 LEGAL/PROFESSIONAL</b>							
184	OLSON & HOGGAN, PC	140550	LEGAL SERVICES/ JEFF HOUS	06/30/2016	237.00	237.00	07/18/2016
<b>10-44-620 MISC SUPPLIES/SERVICES</b>							
255	UTAH LEAGUE OF CITIES AND	071816	MEMBERSHIP FEE	07/01/2016	288.27	288.27	07/19/2016
305	UTAH MUNICIPAL CLERKS ASS	071816	UMCA MEMBERSHIP DUES	07/18/2016	150.00	150.00	07/19/2016
Total ADMINISTRATION:					20,566.01	20,566.01	
<b>LAW ENFORCEMENT</b>							
<b>10-51-110 ANNUAL CONTRACT/SERVICES</b>							
280	CACHE COUNTY CORPORATIO	0718160	LAW ENFORCEMENT CONTRA	07/18/2016	4,707.41	4,707.41	07/19/2016
<b>10-51-390 ANIMAL CONTROL</b>							
260	CACHE COUNTY CORPORATIO	071816	ANIMAL CONTROL SERVICE C	07/18/2016	3,200.00	3,200.00	07/19/2016
Total LAW ENFORCEMENT:					7,907.41	7,907.41	
<b>FIRE &amp; RESCUE</b>							
<b>10-53-240 FIRE SUPPLIES &amp; EXPENSE</b>							
196	SAM'S CLUB MC/SYNCB	0620164	PONY EXPRESS - F.D. BREAKF	06/22/2016	539.26	539.26	07/20/2016
<b>10-53-250 FIRE &amp; RESCUE EQUIPMENT</b>							
302	ITTY BITTY EQUIPMENT	22224	FIRE TRUCK REPAIR	06/23/2016	383.10	383.10	07/18/2016
196	SAM'S CLUB MC/SYNCB	0720162	FIRE DEPT- EQUIPMENT	06/20/2016	325.61	325.61	07/20/2016
<b>10-53-270 FUEL/OIL &amp; UTILITIES</b>							
246	COMCAST	0718161	INTERNET	07/11/2016	104.84	104.84	07/19/2016
234	R. L. MILLER ENTERPRISES IN	4688	Fuel Usage	06/23/2016	44.94	44.94	07/18/2016
234	R. L. MILLER ENTERPRISES IN	4690	Fuel Usage	06/23/2016	39.01	39.01	07/18/2016
234	R. L. MILLER ENTERPRISES IN	6643	Fuel Usage	06/04/2016	106.20	106.20	07/18/2016
234	R. L. MILLER ENTERPRISES IN	9738	Fuel Usage	06/28/2016	86.80	86.80	07/18/2016
219	ROCKY MOUNTAIN POWER	0718164	UTILITIES	07/12/2016	230.92	230.92	07/19/2016
196	SAM'S CLUB MC/SYNCB	0620165	FIRE DEPT. - FUEL	06/22/2016	93.60	93.60	07/20/2016

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
<b>10-53-550 VENDING</b>							
185	PEPSI OF LOGAN	196	VENDING MACHINE POP	06/14/2016	657.00	657.00	07/18/2016
185	PEPSI OF LOGAN	97	VENDING MACHINE POP	06/01/2016	90.00	90.00	07/18/2016
624	SWIRE COCA-COLA, USA	12212382126	VENDING MACHINE POP	06/13/2016	564.78	564.78	07/18/2016
Total FIRE & RESCUE:					3,266.06	3,266.06	
<b>ROADS &amp; STREETS DEPARTMENT</b>							
<b>10-60-420 ROAD UTILITIES/STREET LIGHTS</b>							
219	ROCKY MOUNTAIN POWER	0718163	UTILITIES	07/12/2016	536.16	536.16	07/19/2016
<b>10-60-730 CAPITAL OUTLAY - IMPROVEMENTS</b>							
468	CDC CONSTRUCTION	14-136	ROAD REPAIR PREPARATION	07/10/2016	20,002.50	20,002.50	07/19/2016
739	ROCKY MOUNTAIN LANDSCAP	1524	TRUCK RENTAL	07/01/2016	3,905.00	3,905.00	07/19/2016
Total ROADS & STREETS DEPARTMENT:					24,443.66	24,443.66	
<b>PARKS &amp; RECREATION</b>							
<b>10-70-250 PARK GENERAL</b>							
175	LOWES	071816	PARKS MISC	06/07/2016	38.35	38.35	07/18/2016
219	ROCKY MOUNTAIN POWER	0718161	UTILITIES	07/12/2016	18.92	18.92	07/19/2016
196	SAM'S CLUB MC/SYNCB	0620167	PARKS - EQUIPMENT	06/22/2016	180.70	180.70	07/20/2016
<b>10-70-420 SPORTS</b>							
737	CAMILLE GODFREY	071816	BASEBALL EQUIPMENT	07/07/2016	70.45	70.45	07/19/2016
738	JAXSON CURTIS	071816	UMPIRE PAY	07/07/2016	30.00	30.00	07/19/2016
<b>10-70-440 PONY EXPRESS</b>							
196	SAM'S CLUB MC/SYNCB	0620168	PONY EXPRESS KIDS GAMES	06/22/2016	326.22	326.22	07/20/2016
196	SAM'S CLUB MC/SYNCB	0720161	PONY EXPRESS YOUTH COUN	06/24/2016	54.03	54.03	07/20/2016
196	SAM'S CLUB MC/SYNCB	0720163	PONY EXPRESS - MUD RUN	06/22/2016	192.42	192.42	07/20/2016
<b>10-70-465 TOWN FLOAT</b>							
196	SAM'S CLUB MC/SYNCB	072016	TOWN FLOAT	06/12/2016	87.50	87.50	07/20/2016
<b>10-70-820 CIVIC CENTER UTILITIES</b>							
219	ROCKY MOUNTAIN POWER	0718165	UTILITIES	07/12/2016	35.75	35.75	07/19/2016
Total PARKS & RECREATION:					1,034.34	1,034.34	
Total GENERAL FUND:					57,217.48	57,217.48	
<b>WATER UTILITY FUND</b>							
<b>WATER DEPARTMENT</b>							
<b>51-81-230 WATER TRAVEL &amp; TRAINING</b>							
128	CASELLE, INC.	737441	ANNUAL SUPPORT FEE	07/01/2016	940.50	940.50	07/19/2016
<b>51-81-240 OFFICE SUPPLIES &amp; EXPENSE</b>							
206	STAPLES CREDIT PLAN	018394	supplies	07/08/2016	253.86	253.86	07/21/2016
<b>51-81-250 WATER DEPT EQUIP-SUPPLY/MAINT</b>							
657	ALLTECH RESOURCES	071816	ANTIVIRUS	07/01/2016	36.00	36.00	07/19/2016
383	FERGUSON WATERWORKS #1	0992004	Drill	07/15/2016	2,300.40	2,300.40	07/21/2016
<b>51-81-270 UTILITIES</b>							
724	BEELINE DIGITAL	78700	FAX SERVICE	07/01/2016	12.50	12.50	07/19/2016
219	ROCKY MOUNTAIN POWER	0718162	UTILITIES	07/12/2016	96.86	96.86	07/19/2016
<b>51-81-350 CONTRACT SERVICES</b>							
279	BLUE STAKES OF UTAH	UT201601602	CONTRACT SERVICES	06/30/2016	40.92	40.92	07/18/2016
<b>51-81-370 WATER SAMPLING</b>							
114	BEAR RIVER HEALTH DEPT.	161980	WATER SAMPLING	07/04/2016	20.00	20.00	07/19/2016
<b>51-81-720 WATER SYSTEM REPAIRS &amp; MAINT</b>							
594	PETERSEN PLUMBING SUPPLY	1704826	WATER SUPPLIES	06/30/2016	95.00	95.00	07/18/2016
594	PETERSEN PLUMBING SUPPLY	1712150	WATER SUPPLIES	07/18/2016	53.59	53.59	07/19/2016
<b>51-81-740 RESTRICTED/CAPITAL IMPROVEMENT</b>							
207	SUNRISE ENGINEERING, INC.	0082033	WATER MASTER PLAN	07/01/2016	3,840.00	3,840.00	07/19/2016

Vendor	Vendor Name	Invoice Number	Description	Invoice Date	Net Invoice Amount	Amount Paid	Date Paid
Total WATER DEPARTMENT:					7,689.63	7,689.63	
Total WATER UTILITY FUND:					7,689.63	7,689.63	
<b>CEMETERY PERPETUAL CARE FUND</b>							
<b>PERPETUAL CARE DEPARTMENT</b>							
<b>71-40-710 MAINTENANCE</b>							
420	JERRY GODFREY	072116	MILEAGE	07/21/2016	70.33	70.33	07/21/2016
175	LOWES	0718161	CEMETERY MISC	06/20/2016	120.47	120.47	07/18/2016
407	RANDY'S SERVICE CENTER	3794	Tire Repair	07/01/2016	20.96	20.96	07/19/2016
196	SAM'S CLUB MC/SYNCB	0620166	CEMETERY - PARTS	06/22/2016	77.00	77.00	07/20/2016
619	SPRINKLER SUPPLY COMPANY	K51327	CEMETERY PARTS	07/19/2016	205.81	205.81	07/21/2016
Total PERPETUAL CARE DEPARTMENT:					494.57	494.57	
Total CEMETERY PERPETUAL CARE FUND:					494.57	494.57	
Grand Totals:					65,401.68	65,401.68	

Dated: 8/2/16Mayor: Kameron GodfreyCity Council: Ed. CalhounElaine GoodreySt. JohnRyan L. HooperCity Recorder: Kristi Hidalgo

## Report Criteria:

Invoices with totals above \$0.00 included.

Only paid invoices included.